

Beginning
2006-2011



Career Development Events

Handbook



National FFA
Organization

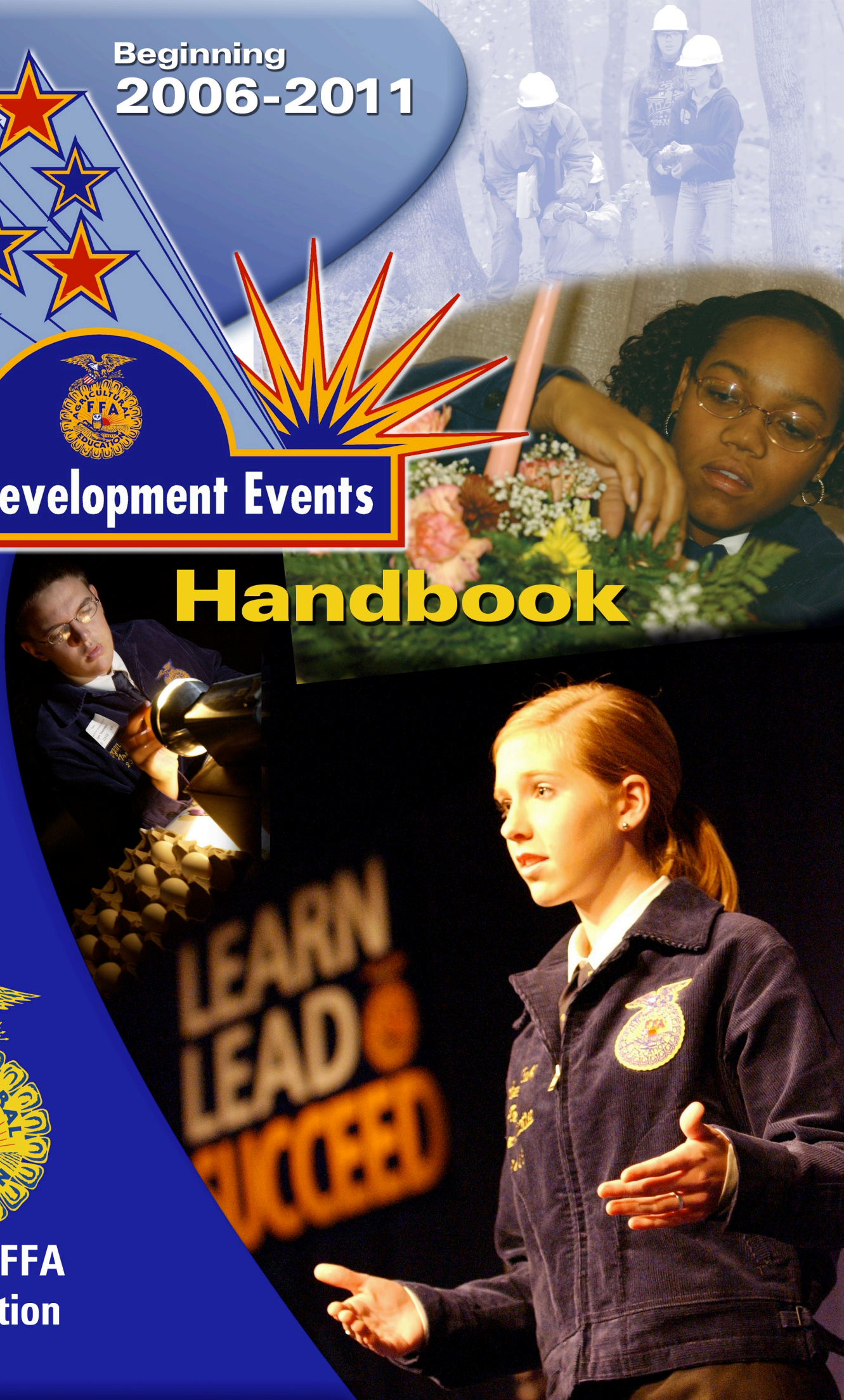


TABLE OF CONTENTS

General Information	4	Extemporaneous Public Speaking.	151
Philosophy for National FFA		Farm Business Management	157
Career Development Events	5	Floriculture	165
General Rules and Policies	5	Food Science and Technology	195
Selection and Certification	7	Forestry	203
Team and Individual Awards	11	Horse Evaluation.	219
Agricultural Communications.	17	Job Interview	223
Agricultural Issues Forum.	35	Livestock Evaluation	235
Agricultural Mechanics	43	Marketing Plan	241
Agricultural Sales.	61	Meats Evaluation and Technology	247
Agronomy	73	Nursery/Landscape	263
Creed Speaking	99	Parliamentary Procedure.	281
Dairy Cattle Evaluation.	103	Poultry Evaluation.	293
Dairy Cattle Handlers' Activity	121	Prepared Public Speaking	305
Dairy Foods.	125	Appendix	311
Environmental and Natural Resources.	133		

FFA makes a positive difference in the lives of students by developing their potential for **premier leadership, personal growth and career success** through agricultural education. National FFA Online, www.ffa.org, FFA's Internet web site, can provide information about the National FFA Organization.

Prepared and published by the National FFA Organization. The National FFA Organization is a resource and support organization that does not select, control or supervise state association, local chapter or individual member activities except as expressly provided for in the National FFA Organization Constitution and Bylaws. The National FFA Organization affirms its belief in the value of all human beings and seeks diversity in its membership, leadership and staff.

©Copyright, National FFA Organization, 2006

GENERAL INFORMATION

Contact Career Development Events
Education Specialist
National FFA Center
PO Box 68960
Indianapolis, Indiana
46268-0960
(317) 802-4288

Technical Writer Carol L. Herl
51 Snowbird Trail
Fairfield, PA

The National FFA Career Development Events are educational activities organized by the National FFA Organization and sponsored through the National FFA Foundation and special industry sponsors.

This is your copy of the official rules and regulations for National FFA Career Development Events for 2006–2010. Please retain this manual throughout the five-year period. Refer to the Local Program Resource CD-ROM or FFA online for the most up-to-date edition of the Career Development Event Handbook.

CDE Event	Superintendent	Phone	E-mail
Agricultural Communications	Mr. Richard Gearhart	805-305-3944	rgearhar@calpoly.edu
Agricultural Issues Forum	Dr. Jerry Peters	765-494-8423	peters@purdue.edu
Agricultural Mechanics	Mr. Von Peavy	229-386-3868	vpeavy@gaaged.org
Agricultural Sales	Mr. Troy Selman	936-661-9195	TLSelman@gmail.com
Agronomy	Mr. Harold Brown	614-836-7694	hbrown@synagro.com
Creed Speaking	Dr. Kimberly Bellah	254-968-9202	bellah@tarleton.edu
Dairy Cattle Evaluation	Mr. Jim Ertl	651-582-8347	jim.ertl@state.mn.us
Dairy Cattle Handlers' Activity	Ron Tilford	513-293-4180	rtilfordconsultant@hotmail.com
Dairy Foods	Dr. Freddie Scott	479-575-2035	FScott@uark.edu
Environmental and Natural Resources	Mr. Billy Sumrall	601-785-9602	glbbeef@yahoo.com
Extemporaneous Public Speaking	Mr. Dennis Wallace	360-458-6543	dennis_wallace@ycs.wednet.edu
Farm Business Management	Mr. Colby Blair	859-576-2428	colby@burleytobacco.com
Floriculture	Mr. David Kercheval	254-854-2952	KerchBar3@aol.com
Food Science and Technology	Dr. Lori Moore		llmoore@tamu.edu
Forestry	Mr. Marion Fletcher	501-682-2561	marion.fletcher@arkansas.gov
Horse Evaluation	Mr. Joe Cunningham	918-479-6221	jcunningham@lg.k12.ok.us
Job Interview	Ms. Linda Story	270-733-4173	ljstory@bellsouth.net
Livestock Evaluation	Mr. Van Smith	(205) 755-1629	vsmith@autaugacountyschool.org
Marketing Plan	Ms. Gail Kiley Sanders	(802) 649-3869	gkileys@aol.com
Meats Evaluation and Technology	Dr. Randy Harp	254-968-9212	harp@tarleton.edu
Nursery/Landscape	Dr. Alan McDaniel	540-231-5781	alanmcd@vt.edu
Parliamentary Procedure	Dr. James Connors	614-292-3386	jconnors@uidaho.edu
Poultry Evaluation	Dr. Jason Emmert	479-575-3595	jemmert@illinois.edu
Prepared Public Speaking	Mr. Dustin DeVries	703-727-9866	ddevries@falconpro.net

■ PHILOSOPHY FOR NATIONAL FFA CAREER DEVELOPMENT EVENTS

Students are important customers of agricultural education and FFA who recognize quality and value in products and activities. When provided an opportunity to fashion their educational experiences, they generally make wise decisions based on needs. Perceptions, images and opinions of others influence students. They value change based on their perceived personal needs as well as the needs of others. They sometimes value change for the sake of variety. Adults are concerned about the experiences of students and want to help organize experiences that will meet the future needs of students while accomplishing the purposes of agricultural education and the National FFA Organization. The National FFA Organization should assume the leadership role in developing and continuously improving relevant FFA career development events. Although the National FFA Organization should be aware of the needs of state associations and should react to those needs, it should help initiate opportunities that reflect relevant and emerging technology. National FFA Career Development Events should be developed with significant input from FFA members, teachers, partners, respective industry sponsors and others involved in agricultural education.

National career development events should reflect instruction that currently takes place in the entire agricultural education program, including classroom instruction, laboratory instruction, individualized instruction, and/or supervised agricultural experience. However, it is appropriate for the national organization to develop career development events and awards that stimulate instruction in emerging areas that reflect both current and future community, national and global work force needs. The authority for insuring the relevance of an FFA

activity is ultimately vested in the National FFA Board of Directors.

The national organization should promote career development events. Career development events that include team activities should be based on cooperation and teamwork while recognizing the value of competition and individual achievement. The role of career development events is to motivate students and encourage leadership, personal growth, citizenship and career development.

Students should be recognized for achievement in career development events. Quality standards should be used as a basis for achievement. The national organization should ensure that the recognition is appropriate and meaningful. Recognition for achievement should be reflective of the total effort required by the chapter/team/individual and should take place at all levels of participation.

The National FFA Organization shall encourage accessibility and provide opportunities for achievement and recognition for students with diverse backgrounds. High expectations should be consistently communicated to those who are involved in career development events and awards.

■ GENERAL RULES AND OFFICIAL POLICIES

Violations of any of the following rules may be grounds for the event superintendent to disqualify the participants.

National FFA staff and event superintendents will use the published rules and procedures to organize and implement the National FFA Career Development Events. Event activities may not be conducted, modified or substituted due to lack of necessary materials, expertise or extreme impact to event budgets. Every effort will be taken to

maintain the quality and integrity of the event. In this case notification will be provided at the team orientation meeting. Teams that qualify to compete will be mailed the current format for the specific event in a team orientation packet prior to the convention for which they have qualified.

Team Activities

The primary goal of career development events is to develop individual responsibilities, foster teamwork and promote communications while recognizing the value of ethical competition and the value of individual achievement. Where appropriate team activities will be included that requires two or more members from one chapter working cooperatively. Career development events and awards are intended to be an outgrowth of instruction.

Career development events should:

- include problem solving and critical thinking.
- promote an appreciation for diversity by reducing barriers to participation.
- promote new directions and focus on future needs of members and society.
- include cooperative activities, where appropriate.
- encourage broad participation among members and recognize excellence within levels of experience.
- recognize individual and team achievement, develop general leadership and recognize levels of ability.
- provide local recognition for superior performance at the state and national level.

Eligibility of Participants

1. Each participant must be a current bona fide dues paying FFA member in good standing

with the local chapter, state FFA association and the National FFA Organization at the time of his/her certification and at the time of the national career development event in which he/she participates.

If the participant's name is not on the chapter's official roster for the years in which the dues were payable to the National FFA Organization, a past due membership processing fee of \$25, in addition to the dues must be paid **prior** to certification.

2. The participant, at the time of his/her certification as a national team member:
 - a. must be a *high school* FFA member, (a graduating senior is considered eligible to compete in state and national career development events up to and including his/her first national convention following graduation). (High school refers to grades 9–12.)
 - b. must have qualified as either a 7th, 8th or 9th grade member to compete in the creed speaking event.
 - c. while in school, must be enrolled in at least one agricultural education course during the school year and/or follow a planned course of study; either course must include a supervised agricultural experience program, the objective of which is preparation for an agricultural career.

The National FFA Constitution provides flexibility to meet the needs of students enrolled in non-traditional programs. For this purpose a student needs to be enrolled in at least one agricultural education course during the year they qualified for the event.
 - d. must have qualified as a state representative in a respective career development event; if he or she moves to a

different chapter or a different state, they may be allowed to compete in the national event with the school they qualified with during the qualifying year. Certification forms submitted to the national FFA will be the list that will be accepted.

3. A student may not participate more than once in the same official National FFA Career Development Event. No student may participate in more than one National FFA Career Development Event each year.
4. CDE participants who start an event and do not complete the event without notifying event officials at the time of departure will be disqualified. This can affect the overall team rank and position. In some events this will also disqualify the entire team.

Official Dress

1. Participants are expected to observe the National FFA Code of Ethics and the Proper Use of the FFA Jacket during the career development events. (Please see the latest edition of the Official FFA Manual.) Official dress is highly recommended for all participants where appropriate and is required for the awards presentation and recognition.

SELECTION AND CERTIFICATION OF STATE TEAMS

1. Each state team may be composed of four members except for agricultural communications, agricultural issues, marketing plan and parliamentary procedure. The members of a state team must be from the same chapter. Members must qualify in the career development event in which they are to participate at the national level. With extenuating circumstances a teacher may substitute another

student from the chapter who may not have participated at a state qualifying event.

2. Each team will be composed of the number of members determined by the specific event committee. See chart on next page for number of team members and number of scores used to comprise the team score.
3. Teams must be selected at a state or interstate career development event held between the immediate previous National FFA Career Development Event Convention and prior to the National FFA Convention in which they are participating. States that qualify more than one year out must request and submit a written waiver for approval at least 110 days prior to the national event.
4. Each state will submit a team declaration form by June 1st prior to the national FFA convention. A \$35 entry-processing fee will be charged for participation in each declared event with the exception of the Dairy Cattle Handlers' Activity. Processing fee must be paid in conjunction with certification of each team.
5. The state supervisor of agricultural education or the executive secretary must certify that participants are eligible. If an ineligible student participates in any career development event, the member will be disqualified and may result in the disqualification of the team as well.
6. All students must be certified by the designated deadline. Once original certification has been completed, no member may be added without first deleting a member.
7. Electronic certification forms will be made available each year to the state supervisor of agricultural education and the executive secretary through the National FFA CDE Website. States must declare teams by June 1, and the declared teams must be certified to the National FFA Organization by July 1.

OFFICIAL DRESS RECOMMENDATIONS, NUMBER OF PARTICIPANTS AND NUMBER OF SCORES FOR TEAM TOTAL

Event	Official Dress Appropriate	Number of Participants Allowed(per team)	Number of Scores for Team Total
Agricultural Communications	Yes	5	5
Agricultural Issues	Optional	3-7	Team Score Event
Agricultural Mechanics	No	4	Top 3 Scores
Agricultural Sales	Yes	4	4
Agronomy	Yes	4	4
Creed Speaking	Yes	1	N/A
Dairy Cattle	Yes	4	Top 3 Scores
Dairy Handler	Yes	1	N/A
Dairy Foods	Yes	4	Top 3 Scores
Environmental and Natural Resources	Yes	4	4
Extemporaneous Speaking	Yes	1	NA
Farm Business Management	Yes	4	Top 3 Scores
Floriculture	Yes	4	4
Food Science and Technology	Yes	4	4
Forestry	No	4	Top 3 Scores
Horse	Yes	4	Top 3 Scores
Job Interview	Yes	1	N/A
Livestock	Yes	4	Top 3 Scores
Marketing Plan	Yes	3	Team Score Event
Meats Evaluation and Technology	No	4	Top 3 Scores
Nursery/Landscape	Yes	4	Top 3 Scores
Parliamentary Procedure	Yes	6	Team Score Event
Poultry	Yes	4	Top 3 Scores
Prepared Speaking	Yes	1	N/A

For teams that qualify after the July 1 deadline, names and certification forms must be submitted at least 10 business days prior to the official start (Wednesday) of the national FFA convention. Certification forms will only be accepted via e-mail in the original Excel format. The names of all participants must be submitted at least 10 business days prior to the official start (Wednesday) of the national FFA convention in which they are to participate.

8. Any additions or deletions of participants must be submitted by noon (EST) on Tuesday before the official start (Wednesday) of the national FFA convention.

- No member may be added without deleting a member listed on the certification form.
- All add/delete and waiver forms must be received by the CDE staff at the National FFA Center via e-mail or hard-copy mail up to 10 business days prior to the official start (Wednesday) of the national FFA convention. Faxes will not be accepted due to unreliable delivery.
- During the 10 business days prior to the official start (Wednesday) of the convention, add/delete and waiver forms may be submitted via e-mail to the national FFA CDE staff until noon (EST) on Tuesday before the official start of national FFA convention. If not submitted electronically, advisors may submit add/delete and waiver forms in person at a CDE convention registration desk during CDE registration hours on the Monday and Tuesday before the official start of the national FFA convention (refer to team orientation packets for exact registration dates, locations and hours).

- **Membership:** National FFA membership will be verified for all added participants upon receipt of add/delete forms. If the added participant does not meet membership eligibility requirements, his/her chapter will be invoiced for the appropriate dues. These participants must also meet all other requirements of eligibility printed in this handbook including previous participation in the same national event. If a member is found to have participated previously in the same national event, he/she will be disqualified.

- **State Staff Approval:** Participants listed on add/delete forms submitted within the 10 business days prior to the convention will have state staff approval verified after the convention. If at that time a member is not approved by state staff, the team will be disqualified if the member who is in question had an effect on the team placing. Regardless, the member in question will be disqualified.

9. Each member participating in a National FFA Career Development Event must submit the proper Waiver, Release of Liability and Consent to Medical Treatment Form. The form must be sent to the National FFA Center within 30 days prior to the event. If a team does not qualify for participation in the national event until after this deadline, the waiver form must be submitted with the certification form. Participants who do not submit this form will not be allowed to participate.

National FFA staff highly recommend that all liability waiver forms be submitted with the event certification form prior to the certification deadline. Liability waivers must be submitted with all add/delete forms.

Emergency Conditions

1. Under emergency conditions, a state team participating in a National FFA Career Development Event may be made up of less than the required members. States must still certify teams prior to the national FFA convention, but fewer than the required number could compete if an emergency condition such as illness, death in the family or an act of God would occur. Those individuals competing would still be eligible to qualify for individual awards.
2. Event committees will strive to divide teams into groups so that no two participants from a team will be in the same group. In any case no two members will be placed side-by-side.

Disqualification

1. Any communication, verbal or non-verbal, between participants during a career development event will be sufficient cause to eliminate the team member involved from the career development event. The only exception to this would be communication between team members during the team activity portion of a given career development event.
2. Teams or participants arriving after the career development event has begun may be disqualified or penalized.
3. Any assistance given to a team member from any source other than the career development event officials or assistants will be sufficient cause to eliminate the team from the career development event.
4. Event superintendents may stop any participant if they deem their manner to be hazardous either to themselves or others. Such stoppage shall deem the individuals disqualified for that section of the career development event.

5. CDE participants who start an event and do not complete the event without notifying event officials at the time of departure will be disqualified. This can affect the overall team rank and position. In some events this will also disqualify the entire team.
6. Participants will not be allowed to utilize personal electronic communication devices, other than those approved by the event officials, during the entire course of the event. Participants who access personal electronic communication devices without prior approval of the event officials will be disqualified.
7. No team, participant, advisor or coach shall visit the event facilities from September 1 to the end of the event. Any team, participant, advisor or coach reported and proven to do so will cause the elimination or disqualification of that team from the national event.
8. Assess a penalty of 10% of the total points allotted for the written documents postmarked after the postmarked deadline in the following events; Agricultural Communications, Agricultural Issues, Job Interview, Marketing Plan and Prepared Public Speaking. If the document is still not received seven days after the postmarked deadline, the team/individual may be subject to disqualification.

Waiver of FFA Rules

Any local chapter seeking a waiver of a National FFA Board Policy or Procedure must submit in writing to the chapter's state FFA association office. If the request is approved at the state level, it must be forwarded, under the signature of the state FFA advisor or executive secretary, to the national FFA advisor. After study by the appropriate staff, the waiver request must be submitted to the national FFA staff at least 30 days prior to the scheduled event or due date for which the

waiver is requested. This policy does not supersede any current FFA policy for appeals already established for a particular FFA program.

Rules Committee of the National FFA Award, Recognition and Career Development Events Advisory Committee

1. The committee will meet only when needed at the national FFA convention and will make all final decisions on interpretation of the rules and regulations of the National FFA Career Development Events. The committee will be chaired by the National FFA Awards, Recognition and Career Development Events Advisory Committee chairperson who will in turn appoint a representative of each of the following organizations: National Association of Supervisors of Agricultural Education (NASAE), National Association of Agricultural Educators (NAAE) and the American Association for Agricultural Education, (AAAE). The program manager responsible for career development events will also serve. All five committee members will have one vote each.
2. The rules committee will resolve detailed written appeals associated only with scoring errors. Official judges' decisions are final. The announced results are the official results and awards may be duplicated as a result of the appeal. The written appeal must be filed with the education division staff responsible for career development events within seven (7) calendar days of the results announcement and accompanied with a \$50 filing fee. The fee will be returned if the appeal is justified.

Additional Operational Procedures and Policies

Check-in

Participants will check-in at the individual event sites at the national FFA convention as indicated in the annual team orientation packet. Dates, hours and location will be sent annually to the state supervisor of agricultural education and to each team advisor in the team orientation packet. All participants will be given an identification number by which they will be designated throughout the event.

Assistants, Group Leaders and Officials

Each state agricultural education department is encouraged to provide staff and students to help administer and conduct specific National FFA Career Development Events. *States with prepared, extemporaneous and creed speaking participants must provide a judge.* States entering a team may recommend a person or persons to serve as an assistant in the career development event in which a team will participate. These persons may be supervisors, teacher educators, teachers of agriculture or other qualified individuals. A person designated as an assistant, group leader or official for a career development event must neither be the coach, advisor or agricultural instructor of a team/individual in that same career development event; nor shall they have had any direct part in training/coaching the team/individual in preparation for the event after qualification for nationals has occurred. If an individual wishes to train/coach their team/individual, they must excuse themselves from the committee and event preparation for that convention year.

Special Need

Accessibility for all students—All special needs requests and appropriate documentation as outlined in the special needs request procedure must be submitted with appropriate career development event certification form by certification deadline. National FFA staff and the event superintendent will be responsible for scheduling assistance from a different state association to assist participants.

Scoring

Continuous revisions of scoring sheets, due to computer scoring, will be necessary. Copies of any revised sheets will be sent to the state supervisor/executive secretary of agricultural education 60 days prior to the career development event.

TEAM AND INDIVIDUAL AWARDS

The ranking of teams and individuals in each of the career development events will be on the basis of three logical groups within the total range of scores. These groups will be designated as gold emblem, silver emblem and bronze emblem. Teams and individuals participating in each of the career development events will be rated gold, silver and bronze emblem through a specific procedure that will be predetermined. However, officials will honor natural breaks in scores. In the final written announcement of results, teams and individuals will be ranked from top to bottom in the order of their placing. Awards will be distributed to the winning teams and individuals at award programs following the completion of the career development events.

1. All awards will be provided by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.
2. The team having the highest ranking in each career development event will receive an

award and members will receive individual high team awards provided they are present at the time of the awards ceremony.

3. The high individual in each of the National FFA Career Development Events will be announced at the time the awards are distributed and presented with a special award.
4. Results of all National FFA Career Development Events will be released through the education division, National FFA Organization office at the appropriate event award ceremonies.

Career Development Event Scholarships

1. Scholarships may be awarded in the National FFA Career Development Events, *as funding is available*.

Scholarships will be held for a full year beyond the student's graduation date. If the scholarship is not requested within one year after graduation from high school, the scholarship will be forfeited. Information on availability of scholarships will be sent annually along with the "Program for National FFA Career Development Events" to state participating teams and state agricultural education officials. Only one career development event scholarship may be awarded per student per year.

2. Additional scholarships may be available to top FFA members who have participated in National FFA Career Development Events at local, state and/or national levels through the National FFA Collegiate Scholarship Program. Students must meet the criteria for each specific area as outlined in the national scholarship application and complete the application that is mailed to each chapter in order to be considered for these scholarships.

3. Farm Business Management Career Development Event Fellows Program is for the advisors of the top two National FFA Farm Business Management Career Development Event teams. The advisor of the first place team will receive a \$1,500 award and the advisor of the 2nd place team will receive a \$1,000 award. The advisors may use the awards for **a)** in-service or continuing education **b)** farm business management instructional materials **c)** a scholarship fund for the local FFA chapter. The Fellows awards will be awarded on an “as available” basis. Fellows awards may only be awarded to a FFA advisor for a total lifetime amount of \$2,500. These awards are provided by the National FFA Organization through National FFA Foundation sponsorship by the career development event sponsor.

Written Tests

All written tests used in National FFA Career Development Events will be available for sale through the National FFA Catalog effective the January following each career development event. Please request Item NCQ (year).

Career Development Events Additions/Deletions

- a. National FFA staff in cooperation with the National FFA Board of Directors is expected to be proactive in developing new or initiating changes within existing career development events to ensure they meet the needs of FFA members.
- b. Three years following the initiation of a new career development event, 15 states should be participating and 26 states should be participating after the next three-year period in order to retain the event at the national level.
- c. In addition, if 15 state supervisors/executive secretaries develop a proposal for a new

career development event, the national FFA staff will conduct a study for the validity of the career development event and make a recommendation to the National FFA Board of Directors. Representatives of these states must be from each of the FFA regions. The same process may be used to eliminate a national career development event.

- d. The national organization will certify National FFA Career Development Event winners for international competition when states request, with the understanding that the state team will provide their own travel expenses.
- e. The National FFA Board of Directors and national officers shall approve all changes in the general plan, rules and methods of selecting winners.

NATIONAL FFA AWARD, RECOGNITION AND CAREER DEVELOPMENT EVENTS ADVISORY COMMITTEE

Purpose: To advise the National FFA Board of Directors on issues impacting both National FFA Career Development Events and Awards to ensure:

1. all activities are consistent with industry needs.
2. all activities are available to all members.
3. all activities are conducted openly, fairly and in a quality manner.
4. cooperation among various activities occurs, to the degree possible, to promote the interconnectedness of agriculture (i.e. forestry and agricultural mechanics or farm business management and dairy or livestock) and agricultural education (classroom, SAE, FFA).

5. new and innovative activities are being put forward for consideration.
6. as many students as possible have the opportunity to participate.
7. a constant process of local advisor in-service on proper use of these activities as tools for learning is being championed.
8. all activities are operated consistently with national FFA board policy.
9. activities are conducted within available budgets approved by the FFA board and, if appropriate, FFA foundation board.

Membership

1. Two members of the National FFA Board of Directors, selected by the board, one of which will be a state supervisor (preference may be given for the second position to be held by the teacher acting as the USDE representative).
2. Two members, who are agricultural education instructors, selected by National Association of Agricultural Educators, (NAAE) through a process of their choosing.
3. Two members, who are state staff, selected by National Association of Supervisors of Agricultural Education, (NASAE) through a process of their choosing.
4. Two members, who are teacher educators, selected by American Association of Agricultural Education, (AAAE) through a process of their choosing.
5. Two FFA members who are or were delegates selected by the FFA national officers through a process of their choosing.
6. One member who is a career development event superintendent selected by the CDE superintendents through a process of its choosing.

Consultants

The current superintendent of each FFA career development event area will serve as a consultant.

Term

Members serve a three-year term except for the two FFA member representatives who will serve a one-year term.

Chair

The chair of the national advisory committee on awards and career development events will be the state staff member selected by the National FFA Board of Directors.

Meeting Schedule

1. Annual national convention meeting will be held to report on the completion of activities at convention and provide input into the winter meeting agenda.
2. The annual winter meeting will allow for most of the committee's work to be conducted as a whole group and in sub-groups focused on specific issues or specific types of activities (e.g., team career development events, individual awards, chapter awards).

Costs for all official members and consultants:

- convention meeting cost is borne by each participant.
- the winter meeting cost will be borne by the National FFA Organization, education division budget and the National FFA Foundation special project budgets for career development events.

National FFA Career Development Event Committee Responsibilities

The National Career Development Event Committee should:

1. broadly represent agriculture teachers, agriculture educators, subject matter specialists and industry personnel.
2. be appointed/confirmed by the chief operating officer with authority to manage the team activities and events.
3. build on the principles of volunteerism and individual members should be recognized for their contributions.
4. elect a superintendent to a five-year term that is confirmed by the FFA chief operating officer.
5. develop and propose a three-year budget to be approved by the appropriate FFA staff subject for submission to the National FFA Board of Directors.
6. develop committee assignments cooperatively with FFA staff.
7. be structured to encourage member development within the committee and be sensitive to, and represent the needs of diverse populations and cultures.

8. be large enough to adequately manage the team activities.
9. be responsible for the identification of the number of teams eligible to participate at the national level. They should encourage equal opportunity for members of teams to participate from across the states.

Conflict of Interest

Any career development event committee member who has a team qualify for or choose to train a team that qualifies for national competition in the event related to their committee assignment shall excuse themselves from their committee duties and event preparation for that convention year to eliminate the conflict of interest. It is the committee member's responsibility to inform the event superintendent and national FFA staff of their involvement with a team that has qualified for national competition. A person designated as an assistant, group leader or official for a career development event must neither be the coach, advisor or agricultural instructor of a team/individual in that same career development event; nor shall they have had any direct part in training/coaching the team/individual in preparation for the event, after qualification for nationals has occurred.

1 CHAPTER

NATIONAL FFA

AGRICULTURAL COMMUNICATIONS

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The purpose of the Agricultural Communications Career Development Event is to provide individuals with basic communications skills necessary to take advantage of career opportunities in agricultural communications. Public communications about agricultural products, practices and policies are essential to the future of agriculture. Students who are equipped with strong communication skills and who can use a variety of media to help the public understand issues related to the agricultural industry have a bright future in the job market.

II. EVENT FORMAT

A. Team Make-up

1. The event will consist of a five-member team.
2. Eligible participants in the National FFA Agricultural Communications Career Development Event will be students who are regularly enrolled in agricultural education during the calendar year, have a planned course of study, or who are still in high school but have completed all the agricultural education offered. When selected, participants must be active members of a chartered FFA chapter and the National FFA Organization. Members representing a state association may participate in the National FFA Agricultural Communications Event only once.

3. Ten copies of the communications project proposal must be sent to the Career Development Event Program Manager, National FFA Center postmarked on or before September 15th.
4. It is highly recommended that participants be in official FFA dress in each event.
5. The National FFA Agricultural Communications Career Development Event will be limited to one team per state.
6. All material will be student produced and verified by the state FFA executive secretary and/or the state FFA advisor in each state.
7. The event will include both written as well as oral communications presentations.
8. The National FFA Officers and National Board of Directors will be in charge of this event.
9. The judges will be selected from print and broadcast media, agriculture producers and other members of the agriculture communications community.

B. Equipment

1. Needed: Students must provide pens and pencils.
2. Provided: Specialized equipment
 - a. For team presentation- Easel, VCR/ TV monitor and projector screen.
 - b. For practicums- PC computer, tape recorder, cassettes, black and white or color photographs (5 × 7 prints), wax pencils, colored pencils, rulers, colored paper and 11 × 17 blue-line grid paper.

Note: Teams may bring additional equipment for project presentation as

long as they are able to set up and tear down equipment in the time allowed for the presentation.

C. Team Activities

Communications Project Proposal and Presentation (150 points/team)

Each team will prepare a communications project proposal for their chapter. The proposal will explain the communications activities planned to publicize an event/issue. Guidance on the event/issue is presented below. **Ten copies of the communications project proposal must be sent to the Career Development Event Program Manager, National FFA Center postmarked on or before September 15th.** A penalty of 10% will be assessed for documents received after the postmark deadline. If document is not received seven days after postmark deadline, the team may be subject to disqualification. States qualifying after the September 15th deadline will have seven days from state qualifying event date to submit their communications project proposal. At the National FFA Career Development Event, the team will make an oral presentation of the proposal.

1. Guidelines for Proposal

- The key to producing a good communications project proposal is to select a project that is specific enough that you will be able to do a good job with it.
- a. The proposal should be a maximum of 12 double-spaced typed pages (not including references or appendices) on 8.5 × 11 white bond paper using 1" margins and 12-point Times New Roman or Times as the font.
 - b. Staple the proposal in upper-left hand corner. **DO NOT** bind or place in folders, special binders or covers.

- c. Follow style established in the *Associated Press Stylebook and Libel Manual*.
- d. A cover page, which is not included in the 12 page limit, should give the title of the communications proposal, state, chapter name, team member names and date.
- e. The communications project proposal should include the following sections:
 1. rationale for selecting the project, including background information that helps provide judges with an understanding of the project and the situation or locale where it will be implemented.
 2. objectives of the project (What is the project to accomplish?).
 3. audiences to be targeted with this project.
 4. key messages or themes to communicate to the audiences.
 5. media (brochures, newspapers, signage, radio, etc.,) selected to accomplish the project.
 6. budget to produce and place communications materials.
 7. criteria upon which project will be evaluated (these criteria should result in some indication of how well the project accomplishes the stated objectives).

2. Topic for communications project proposal and presentation

The communications project proposal and presentation will be based on the same topic. The topic will be chosen by the team from a theme of possible topics provided by national FFA. The themes of topics will rotate from year to year (see table).

YEAR	PROJECT THEME	POTENTIAL TOPICS
2006 2010	LOCAL ENVIRONMENTAL ISSUES	Responsible production practices; environmentally-friendly lawn, landscape and gardening practices; hazardous household waste management; use of pesticides and fertilizers; soil testing by homeowners and producers.
2007	FFA RECRUITING AND EDUCATIONAL ACTIVITIES	Chapter recruitment campaigns; promotion of community or school-sponsored activities; promotion of chapter educational activities; alumni recruitment.
2008	SAFETY ISSUES	Tractor safety; pesticide/fertilizer applicator safety; livestock handling safety; ag mechanics safety; hunter safety; controlling noxious plants; ATV safety.
2009	FFA COMMUNITY INVOLVEMENT	Building local community support; publicizing community service projects; publicizing community and educational value of SAE's; FFA-sponsored community events.

3. Communications project presentation (150 points/team)

Each team will be allowed 15 minutes to present their communications project to a panel of judges. Five points will be deducted for each major fraction of a minute, over the 15 minutes allowed for the presentation. Following the presentation, judges will be allowed five minutes to ask questions. When making the presentation to the judges, the team should present based on the following:

- The presentation should follow and cover all of the items listed in section e of the Guidelines for Proposal.
- Include examples of materials that were (or would be) used in the execution of the proposal (ex. brochures, newsletters, news releases, photos, graphics, videos, radio tapes, etc.)
- Team members should not rely solely on equipment. Each team member must participate in the presentation.
- Teams will have a total of 10 minutes for setting-up and tearing-down equipment. (e.g., 5 minutes to set up and 5 minutes to tear down)

4. Presentation rounds

The communication presentation will be conducted in two rounds - preliminary (3–5 flights) and finals (1 flight). The top team from each preliminary flight will advance to the final round. Preliminary rounds will be seeded by proposal scores.

D. Individual Activities

1. Tests

a. Editing exercise

(25 points/individual; 125 points/team)

Because editing is a critical skill for all communicators, each team member

will complete an editing exercise. They will be given a printed document that contains 25 mistakes. In correcting the mistakes, team members will be required to use correct proofreader's marks (see Associated Press Stylebook and Libel Manual). Style, grammar, punctuation and spelling mistakes will be included. Team members will NOT be able to use the style manual or a dictionary during this exercise.

b. Communications quiz

(25 points/individual; 125 points/team)

Each team member will complete a quiz that covers basic elements important to the skill areas of journalistic writing and broadcasting, public relations writing and graphic design. Five questions will be written for each segment, which includes broadcast, public relations, news, visuals and ethics of communication. Team members will NOT be able to use the style manual or a dictionary during this exercise.

2. Practicums

(100 points individual/500 points per team)

The practicums will consist of five individual events. Each team should assign a member to one of the following activities **PRIOR** to arriving at the national event:

- a. Organizing and writing news story.
- b. Organizing and writing a press release.
- c. Developing and carrying out a broadcast.
- d. Preparing a graphic and photo editing for a news story.
- e. Developing a website.

All teams will meet in a central location for an orientation and press conference. Teams will be seated by practicum group (i.e., broadcasters, news writers, press release writers, graphic designers and web designers). All team members will be given an orientation at the beginning of the practicums to last no more than 10 minutes.

The press conference will be held following the orientation meeting. Each team member will receive a press packet with background information on the agricultural topic and expert to use during the event. An expert will speak on a timely agricultural topic for 20 minutes. Students will be provided with paper to take notes if they wish. After the 20-minute presentation, the broadcasters and graphic designers will be dismissed to a different area to complete their assigned tasks. (See detailed descriptions of assignments below.)

The news writers and press release writers will then be involved in a 10-minute question and answer period with the expert (speaker). Only the news writers will be allowed to ask the questions. Each news writer will stand to be recognized before asking a question. News writers may ask more than one question; however, the expert will attempt to address questions from as many different participants as possible. All news writers and press release writers may take notes during the question and answer period, but only news writers will be allowed to ask questions of the expert. Tape recorders will not be allowed during this portion of the event.

Upon completion of the 10-minute question and answer session, the news writers and press release writers will be dismissed to a computer room to complete their assigned tasks.

DESCRIPTION OF EACH TEAM MEMBER'S ASSIGNMENT

News Writers

Students are to write a news story based on information gathered at the news conference. It should be written for an agricultural publication (agriculture producer) audience. The story should be 250–350 words (12-point Times New Roman, double-spaced) and follow news or inverted pyramid style. It should have a strong focus and lead (opening paragraph). The story should provide answers to who, what, when, where and why. Students also should write a headline for their story. Each writer can use notes from the press conference, the Q&A session and from information in the press packet. After writers arrive in their designated area, they will have 60 minutes to compose their story. The story will then be word processed by the student on a computer, printed out and turned in to be scored. Judging will be based on written communication skills, accuracy, organization, style, creativity and grammar.

Press Release Writers

Each press release writer will use the press packet and the information gathered in the press conference to write a 200- to 300-word press release (12 point Times New Roman, double-spaced) excluding the words in the header. The release should be written as if the expert's company or organization was distributing it. After writers arrive in their designated area, they will have 60 minutes to compose their story. The story will then be word processed by the student on a computer, printed out and turned in to be scored. Judging will be based on written communication skills, accuracy, organization, style, creativity and grammar.

Broadcasters

Each broadcaster will use the press packet and information that was gathered in the press conference to write and carry out a two-minute radio broadcast. The message should be suitable to be aired on a radio station or radio network. After the participant has developed the story, he or she will use a standard cassette and tape recorder to broadcast the story. The cassette with the recorded broadcast will be turned in to be evaluated. Students will be able to listen to their recording prior to turning in the cassette if time allows. All tape recorders will be the same; therefore, recording quality will not be a factor in the evaluation process. Broadcasters will also develop and turn in five written questions that he or she would have asked the expert if they were given the opportunity to interview the expert after the press conference. These written questions will be turned in along with the cassette once the student has completed the tasks. After the broadcasters arrive in their designated room, they will have 60 minutes to complete their tasks.

Graphic Designers

Each graphic designer will complete exercises in graphic art, photo editing, photo caption writing and page layout. The objective is effective communication or information sharing through visual tools. After graphic designers arrive in their designated room, they will have 60 minutes to complete their four tasks. Each of these tasks is described below.

1. *Page layout exercise* - Each of the products from the following exercises will be combined into a layout format using a computer program that will be identified and shared with state staff annually. The layout should be a two-page feature story design for an agricultural magazine (e.g., *Successful Farming*,

FFA New Horizons) and should be appropriate for the topic. The layout will include a headline, reporter byline, photo(s) with captions, pull quote, graphic and text placeholders. Participants will be provided with dummy text, digital photos and other appropriate electronic materials for completing this exercise.

2. *Graphic art exercise* - Each student creates a chart or table on a computer that illustrates numeric data from the press packet. A press packet (including news release and data) is provided for each artist. Students are judged on their graphic art skill, understanding and use of statistics and creativity. The computer programs that will be available will be identified and shared with state staff annually. In the event that a different program is used, the changes will be announced. The final table or chart must be incorporated into the complete page layout described below.
3. *Photo editing exercise* - Students will receive a variety of digital black and white photos or color photos and will select photos to use in the layout based on information in the press packet. Each student should place the photos in the layout and make any appropriate adjustments (e.g., cropping or resizing). Each student is to choose one photo and provide three written reasons on why they selected it for the layout. These should include the photo's best qualities, its visual appeal to readers and how it helps communicate the story's message.
4. *Photo caption writing exercise* - Students are to write and place a two-line caption (approximately 25 words) for one of the photos they have selected into the layout. Students will be judged on accuracy of information, grammar, brevity, clarity, style and creativity of captions.

Web Designer

Each Web designer will use the press packet to design and develop a two-page Web site publicizing the issue presented at the press conference. Participants will use computer programs that will be identified and shared with state staff annually to develop their Web site. The Web site should be designed for the speaker's organization based on supplied specifications. These specifications may include but are not limited to external hyperlinks, internal hyperlinks, banners, background colors, logos, e-mail links, photographs and contact lists. Participants will be provided with appropriate electronic materials for completing this exercise. After Web designers arrive in their designated room, they will have 60 minutes to complete their tasks.

III. SCORING

Participants shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judge's ranking of each participant then shall be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low point method of selection). Weighted rank scoring will be implemented to maintain emphasis between individual activities, practicums and team events. The following rubrics will guide judges' evaluations:

COMMUNICATION PROJECT PROPOSAL: 14% OF TEAMS' FINAL WEIGHTED RANK

Rationale	25
Objectives of Project	25
Target Audiences to Address	20
Key Messages	15
Media Selection	20
Budget	10
Evaluation Criteria	15
Grammar, Punctuation, Spelling, Style	20

COMMUNICATION PROJECT PRESENTATION PRESENTATION: 14% OF TEAMS' FINAL WEIGHTED RANK

Professionalism	10
appearance (official dress), poise and posture, attitude/confidence, demeanor, ethical concerns	
Knowledge of Subject	15
Power of Expression/Verbal Skills	30
directness, sincerity, emphasis verbal communication with judges grammar and voice (quality, pitch, articulation, pronunciation, force)	
Presentation Skills	25
effectiveness of visual aids, use of visual aids, stage presence and organization of presentation following a logical order and flow	
Questions and Answers	50
ability to answer questions on the presentations which are asked by indicating originality, familiarity with subject and ability to think quickly	
Supporting Evidence	10
examples that document the materials used to develop the project	
Creativity and innovation	10

Tests

Communications Quiz	125
Equals 17% of individuals' and 11% of teams' final weighted rank	
(25 points per team member)	
Editing Exercise	125
Equals 17% of individuals' and 11% of teams' final weighted rank	
(25 points per team member)	

Practicums

News writer story: *Equals 66% of individual's' and 10% of teams' final weighted rank*

Lead/Focus	20
Organization, Clarity, Brevity, Conciseness and Clarity	15
Correct Style (AP)	10
Accuracy of Information and Quotes	20
Depth of Coverage/Creativity	10
Headline	10
Grammar, Spelling, Punctuation, and Word Choice	15

Press release writer: *Equals 66% of individual's' and 10% of teams' final weighted rank*

Lead/Focus	20
Organization, Brevity, Concise and Clarity ...	15
Correct Style (AP)	10
Accuracy of Information and Quotes	15
Creativity	10
Header/Headline	10
Grammar, Spelling, Punctuation and Word Choice	10
Company or Product Information	10

Broadcaster's recording: *Equals 66% of individual's' and 10% of teams' final weighted rank*

Voice Quality	10
Power of Expression	10
Lead/Focus	15
Clarity of Communication	10
Organization, Concise and Brevity	10
Creativity	10
Accuracy of Information and Quotes	15
Quality of Five Written Follow-up Questions	20

Graphic Designer: *Equals 66% of individual's' and 10% of teams' final weighted rank*

Overall Aesthetics of Layout	25
Use of Graphic Design Principles	15
Understanding and Use of Statistics in Informational Graphic	15
Neatness and Creativity	15
Choice, Justification, Placement and Cropping of Photo	15
Photo Caption Writing	15

Web Design: *Equals 66% of individual's' and 10% of teams' final weighted rank*

Appropriate Design (related to audience and topic)	15
Use of Web Design Principles	25
Adherence to Site Specifications	20
Neatness and Creativity	15
Functionality of Site (includes working hyperlinks)	15
Editing/Proofreading (grammar, spelling, punctuation, etc)	10

IV. TIEBREAKERS

1. Team tiebreakers will be settled in the following order:
 - a. Proposal rank
 - b. Practicum rank
 - c. Presentation rank
2. Individuals tiebreakers will be settled in the following order:
 - a. Practicum rank
 - b. Quiz rank
 - c. Editing exercise score

If tie exists after tiebreakers have been applied, ties will be broken on raw scores.

V. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project and/or by the general fund of the National FFA Foundation.

VI. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best

instructional materials available. The following list contains references that may prove helpful during event preparation.

Associated Press Stylebook and Libel Manual

Microsoft ® Office computer program

Bivins, T. Public Relations Writings: The Essentials of Style and Format, 4th edition. McGraw-Hill Higher Education, ISBN 0-844-20351-3

Calver, P. (editor). *The Communicator's Handbook*.. 4th edition. Maupin House, Gainesville, FL 32607 <http://www.maupinhouse.com>

Harrower, T. *Newspaper Designer's Handbook, 5th edition*. McGraw-Hill Higher Education. ISBN 0-07-249291-0

Kalbfeld, B. Associated Press Broadcast News Handbook. McGraw-Hill Higher Education, ISBN 0-07-136388-2

Agriculture Communications in the Classroom; Shannon Hartenstein, advised by Tracy A. Rutherford, Ph.D. Agricultural Communications and Journalism, Kansas State University on behalf of the National FFA Organization Copyright 2002, National FFA Organization. "

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

COMMUNICATION PROJECT PROPOSAL SCORECARD

	POSSIBLE SCORE	TEAM SCORE
Rationale	25	
Objectives of project	25	
Target audiences to address	20	
Key Messages	15	
Media Selection	20	
Budget	10	
Evaluation	15	
Grammar, punctuation, spelling, style	20	
Total Possible:	150	
Deduction for materials received after postmark deadline 10% or 15 points maximum		
Total		

Team Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

COMMUNICATION PROJECT PRESENTATION SCORECARD

	POSSIBLE SCORE	TEAM SCORE
Professionalism Appearance, poise, posture, attitude/confidence, demeanor, ethical concerns.	10	
Knowledge of Subject	15	
Power of Expression/Verbal Skills Directness, sincerity, emphasis, grammar, voice (quality, pitch, articulation, pronunciation, force).	30	
Presentation Skills Effectiveness of visual aids. Use of visual aids, stage presence and organization; presentation follows a logical order and flow.	25	
Questions and Answers Ability to answer judges' questions on the presentation. Responses indicate originality, familiarity with subject and ability to think quickly.	50	
Supporting Evidence Examples that document the materials used to develop the project.	10	
Creativity and Innovation	10	
Gross Total Possible:	150	
Less 5 points per each major fraction of a minute over the 15 minute time limit ()		

Team Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

NEWS WRITER STORY PRACTICUM

	POSSIBLE SCORE	MEMBER SCORE
Lead/Focus	20	
Organization, Clarity and Conciseness	15	
Correct Style (AP)	10	
Accuracy of Information and Quotes	20	
Depth of Coverage/Creativity	10	
Headline	10	
Grammar, Spelling, Punctuation and Word Choice	15	
Total Possible:	100	

Total Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PRESS RELEASE WRITER PRACTICUM

	POSSIBLE SCORE	MEMBER SCORE
Lead/Focus	20	
Organization, Brevity, Clarity and Conciseness	15	
Correct Style (AP)	10	
Accuracy of Information and Quotes	15	
Creativity	10	
Header/Headline	10	
Grammar, Spelling, Punctuation and Word Choice	10	
Company, Organization or Product Information	10	
Total Possible:	100	

Total Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

BROADCASTER'S RECORDING PRACTICUM

	POSSIBLE SCORE	MEMBER SCORE
Voice Quality	10	
Power of Expression	10	
Lead/Focus	15	
Clarity of Communication	10	
Organization, Concise and Brevity	10	
Creativity	10	
Accuracy of Information and Quotes	15	
Quality of Five Written Follow-up Questions	20	
Total Possible:	100	

Total Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

GRAPHIC DESIGNER PRACTICUM

	POSSIBLE SCORE	MEMBER SCORE
Overall aesthetics of layout	25	
Use of graphic design principles	15	
Understanding and use of statistics in informational graphics	15	
Neatness and creativity	15	
Choice, justification and placement/cropping of photo	15	
Photo caption writing	15	
Total Possible:	100	

Total Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

WEB DESIGN PRACTICUM

	POSSIBLE SCORE	MEMBER SCORE
Appropriate design – (related to audience and topic)	15	
Use of Web design principles	25	
Adherence to site specifications	20	
Neatness and creativity	15	
Functionality of site (includes working hyperlink)	15	
Editing/Proofreading – (grammar, spelling, punctuation, etc.)	10	
Total Possible:	100	

Total Score:

Judge's Name

Judge's Signature

Date

Agricultural Communications

Name: _____ Chapter: _____

State: _____ Team No.: _____

TEAM SCORECARD

	POSSIBLE SCORE	TEAM SCORE
Practicum Scores	500	
Communications Project Proposal	150	
Communications Project Presentation	150	
Test Scores <ul style="list-style-type: none"> • Communications Quiz - 125 pts. (25pts/member) • Editing Exercise - 125 pts. (25pts/member) 	250	
Total Possible:	1050	

Team Score:

Judge's Name

Judge's Signature

Date

2

CHAPTER

NATIONAL FFA

AGRICULTURAL ISSUES FORUM

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. OBJECTIVES

1. To provide an opportunity to expose a wide variety of students to the selection, research, planning and presentation of an agricultural issue.
2. To acquire knowledge and skills in community leadership for present and future use.
3. To become knowledgeable of, and familiar with a variety of local, state, national and international issues facing agriculture.
4. To understand the principles and fundamentals of agricultural issue analysis.
5. To further the awareness of agricultural issues in the local community.
6. To promote integration of agricultural issue analysis in local school academic subject matter areas.

7. To promote career choices by providing an opportunity for individuals to become acquainted with professionals in the industry.
8. To foster teamwork, leadership and communication skills.

II. EVENT RULES

1. The purpose of the agricultural issues forum is to present a current issue to a public audience; therefore, professional ethics and standards are to be considered. Ignoring truthful information, falsifying needed information, using unreliable sources and plagiarism are violation examples which could result in disqualification.
2. A minimum of three and a maximum of seven students who are actively participating, orally presenting and available to answer the judges' questions. To be eligible for scholarships

and awards each student must take an active role in the presentation to be eligible for scholarships and awards. This includes active participation in the presentation and making themselves available for questions from the judges in all rounds of competition.

3. Presentations may include official FFA dress, costumes, props, skits and other creative paraphernalia.
4. If there is not a state qualifying event, the date on which the state appoints the team to be the representative to the National FFA Agricultural Issues Forum will be considered as the state qualifying date. This must be substantiated by the state FFA advisor or other authorized individual from the state FFA association.
5. A minimum of three competent and unbiased judges will be provided. They will be instructed not to take sides on the issue(s). Professors and industry representatives are recommended. The superintendent of this CDE will adequately prepare the judges before the event competition.
6. Seating of teams in the preliminary rounds will be done by the event superintendent in a fair and impartial manner as determined by the event committee.

III. EVENT FORMAT

1. **EQUIPMENT PROVIDED-** Equipment provided by the event superintendent includes: two easels and a front projection screen. Other equipment is allowed, but the presenting team must provide it.
2. Each team will conduct a presentation on the issue developed and presented at the local level.

3. The issue will come from one of the following eight agricultural issue topic areas as listed in the Focusing on Agricultural Issues instructional materials:

- a. Environmental Issues
- b. Agricultural Technology Issues
- c. Animal Issues
- d. Agricultural Career Issues
- e. Economy and Trade Issues
- f. Agricultural Policy Issues
- g. Food Safety Issues
- h. Biotechnology

4. The same agricultural issue presentation and portfolio will not be used in subsequent years by the same chapter and/or advisor.
5. Research on the topic must be current and students must be involved in all the research of the topic and development of the portfolio.
6. The portfolio should include items described in a, b and c below, and will be limited to ten pages single sided or five pages double sided maximum not including cover page. The cover page will include the title of the issue, the date of the state qualifying event, name, address and phone number of the chapter. A maximum of ten (10) points will be deducted for exceeding the maximum amount of pages and /or for not including the cover page containing required information. **Ten copies of the portfolio must be sent to the Career Development Event Program Manager, National FFA Center postmarked by September 15th prior to the national FFA convention at which the issue is to be presented.** A penalty of 10% (2.5 points) will be assessed for documents received after the postmark deadline. If document is not

received seven days after postmark deadline, the team may be subject to disqualification. States qualifying after the September 15th deadline will have seven days from state qualifying event date to submit their portfolio.

- a) A maximum of two pages of the portfolio will include a summary of the issue, answering the questions that are most relevant to your topic:
 - List course(s) in which instruction occurred including the number of students involved in the instruction of the issue. (See Objective 6.)
 - Why is this issue important now?
 - What is the nature of the issue?
 - Who is involved in the issue?
 - How can the issue be defined?
 - What is the historical background of the issue?
 - What caused the issue?
 - What are the risks?
 - What are the benefits?
 - Is there strong disagreement on the issue?
- b) A bibliography of all resources and references cited which may include personal interviews and any other supporting material.
- c) Provide documentation that local forum(s) occurred prior to state qualifying event such as:
 - Letters from organizations
 - News articles
 - Photos showing attendance at forums
- d) Please state when, where and to whom the forum(s) were presented and indicate how many community members were in attendance at each of the forum(s).
- e) A chapter must have a minimum of five high quality public forums prior to their

state qualifying event in order to receive the maximum of 15 points. Forum presentations given after having won the state competition are encouraged, but will not count toward the portfolio score.

- Multiple organizations attending the same forum will count as one forum. If more than one forum is held on the same day, the starting time of each forum must be independently documented.
- Portfolio judges may take into consideration the quality and quantity of presentations made to audiences outside of the school. No points will be awarded for school presentations to teachers and students. In addition, no points shall be awarded for forums presented as any part of a local or state FFA competition.

***High quality forums** are those presentations made to community groups that would have an interest in the issue. Suggested procedures for setting up these presentations and examples of community groups have been provided in the Agricultural Issues Forum Presenter's Guide. High quality forums can also be with smaller numbers of individuals who hold elected, appointed or some other official position that will be making decisions on the issue.*

***Examples of low quality forums** would be dropping in at a local business and giving your presentation to the workers or going to the home of one of the parents to make a presentation. Low quality forums will receive zero or minimal points.*

7. Time Limits: Five minutes will be allowed for set up. The presentation will be a maximum of 15 minutes in length. The presenters will receive a signal at 10 minutes and 14 minutes. At 15 minutes the timekeeper will announce

that time is up, and the presentation will end. A maximum of seven (7) minutes for questions and answers will be allotted. Questions and answers will terminate at the end of seven (7) minutes. Three (3) minutes will be allowed for take down.

8. The presentations will be designed to be viewed by the judges. The audience at-large will not be of concern to the presenters.
9. The judges may ask questions of all individuals of the presenting team. Each individual is encouraged to respond to at least one question from the judges.

IV. SCORING

1. Team Presentation

- A. Introduction, Pro, Con and Summary of Pro and Con (20 points each, 80 points total)
There will be a 5-point deduction from the scorecard of any team that draws a conclusion supporting a pro or con viewpoint during the formal presentation.
- B. Overall presentation (participation of each member of the team, quality and power of the presentations, creativity, stage presence) (20 points)
- C. Questions (25 points)

2. Portfolio: 10 single sided pages maximum or 5 double sided pages. (Three parts, 25 points total)

- A. Summary of the Issue, 2 pages maximum (5 points).
- B. Bibliography (5 points).
- C. Documentation of local forums (15 points).

- i. Please state when, (date and time) where, and to whom the forums were presented. If you indicate that more than one forum was held on the same date, independent documentation of the time of day the forums were held must be provided.
- ii. Maximum of 10 points will be deducted for exceeding the maximum number of pages and/or not including cover page containing required information.

Prior to the event, the portfolios will be judged and scored by qualified individuals using the portfolio scorecard. Portfolio scores will be averaged and supplied to the presentation judges after they have scored the presentation. Portfolio comment cards will be completed by portfolio judges and presented to the teams at the awards function. Presentation judges will be furnished with copies of the team portfolio, which they may use to formulate questions.

3. Judges' ranking will be used to place teams.
4. Teams shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each team then shall be added, and the winner will be that team whose total ranking is the lowest. Other placings will be determined in the same manner (low rank method of selection).
5. Proper grammar, correct spelling, and proper editing of text are important. The most current edition of The American Psychological Association (APA) style guide should be used for all research citations. Adherence to these editorial guidelines is expected to receive maximum points for the Portfolio score.

■ V. TIEBREAKERS

Ties will be broken based on the greatest number of low ranks. Team's low ranks will be counted and the team with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the team's response to questions. The team with the greatest number of low ranks from the response to question will be declared the winner. If a tie still exists then the team's raw scores will be totaled. The team with the greatest total of raw points will be declared the winner.

■ VI. AWARDS

Awards will be presented at an awards ceremony. Plaques and scholarships will be awarded to the top four teams, based on the current year's availability. Plaques and medals will be presented to all teams participating, based on ranking. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

■ VII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Updated Focusing on Agricultural Issues Instructional Materials located at: <http://web.ics.purdue.edu/~peters/> or can be purchased through The Core Catalog, National FFA Organization.

Agricultural Issues: Ground Water Safety Video, The Core Catalog, National FFA Organization

Document entitled: "Helpful hints to give your students the best opportunity to do well in the Agricultural Issues Forum Career Development Event at the State and National FFA Conventions" can be found on the Agricultural Issues Instructional Materials website listed above and the National FFA Website at the following link: http://www.ffa.org/programs/cde/documents/cde_agissues_resources.pdf

Agricultural Issues Forum

Name: _____

State: _____

The *portfolio* should include items described in Section 6a, 6b and 6c of the Guidelines, and is limited to ten pages single-sided [5 pages double-sided] maximum.

Ten copies of the portfolio must be sent to the Career Development Event Program Manager, National FFA Center postmarked by September 15th prior to the National FFA Convention at which the issue is to be presented.

PORTFOLIO

	POSSIBLE POINTS	15 – 11	10 – 6	5 – 1
1. Summary of the Issue (2 pages maximum)	5			
2. Bibliography	5			
3. Documentation of Local Forums	15			
Subtotal:	25			

Team Sub Total:

• Deduction for exceeding the maximum number of pages and incomplete cover page [10 pts. Max]:	Deduction:	()
• Deduction for portfolios received after postmark deadline [2.5 points Max]	Deduction	()

Total Score:

Judge's signature

Agricultural Issues Forum

Name: _____ State: _____

Flight: _____

TEAM PRESENTATION

	POSSIBLE POINTS	25 – 21	20 – 15	14 – 10	9 – 5	4 – 0
1. Introduction Statement of the issue and its importance	20					
2. Pro View Point	20					
3. Con View Point	20					
4. Summary of Pro and Con	20					
5. Overall Presentation	20					
6. Questions	25					
7. Portfolio	25					
Total:	150					
Deduction for Presenting a Conclusion During Teams' 15 minute presentation	(5)					(____)

Team Presentation Total:

Judge's signature

3 CHAPTER

NATIONAL FFA

AGRICULTURAL MECHANICS

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

Technological advances in America continue to influence the way students must prepare for their futures. Students entering the workforce need a strong knowledge base and the ability to comprehend the interaction of complex systems. Employers want productive workers and managers that can access and use a broad range of information. The most sought after employees are those who communicate effectively, continue to stay current with modern technology and work successfully as individuals and as team members. Students with these skills and abilities are more competitive in the job market, receive financial rewards and are selected for advancement.

An agricultural mechanics education is comprised of strong technical content and complimented by the development of practical, hands-on skills. The subject matter areas and skill development prac-

tices have been grouped into five 'systems' areas, so named because of the complex interaction and synergistic processes common to agriculture mechanics. The term 'system' is used to emphasize the interactive relationship between each area of agricultural mechanics. These five systems areas are described and examples appear on the pages that follow.

Each agricultural mechanics activity is in response to a problem or need encountered in the workplace. The solving of such problems is dependent upon how each decision or solution, imposed on one component, will influence the other system components. Solving one component of a problem without using a 'systems approach' can, and often does, result in additional problems. An example of where this has occurred is observed in the many obstacles that agricultural producers currently face regarding environmental pollution, ground water contamination and stricter

governmental regulations. Decisions and solutions made earlier in this century have impacted the environment negatively and resulted in a new set of problems.

The National FFA Agricultural Mechanics Career Development Event recognizes students with agricultural mechanics competencies important to the modern workplace. The technical content and required skills continue to include all traditional areas of agricultural mechanics. Additionally, the operation of modern equipment, the application of new management strategies and the mastering of advanced technologies are increasingly emphasized. This career development event selects and awards those students and teams that demonstrate: (1) mastery of the subject matter and skills common to the systems areas (2) effective communication skills (3) superior problem solving techniques (4) an understanding of modern technology (5) the ability to function as team members working together and as individuals working alone.

Information specific to each annual event is available on the National FFA Agricultural Mechanics Event web page at <http://web.missouri.edu/~pavt0689/natcon.html>. This web site is updated in June, August and November of each year.

II. EVENT FORMAT

A. Team Make-Up

Teams may consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team. Teams having fewer than three members, for whatever reason(s), are not eligible for team awards, but students may receive individual awards.

B. Equipment

1. Needed- Safety Materials Students Must Provide

Each event participant must adhere to the safe practices and work habits appropriate when performing required activities. Participants are responsible and must provide all personal safety equipment including:

a. *Industrial-quality eye protection*

INDIVIDUALS MUST WEAR STYLE B (SEE BELOW)

INDUSTRIAL-QUALITY EYE PROTECTION during the team activity and the skill/problem solving activities. Those with prescription eyewear that is not Style B must also wear safety glasses or goggles while participating in this event.

Safety glasses do not have to be worn while completing the written exam. Acceptable spectacles or goggles must adhere to the American National Standard Practice for Occupational and Education Eye and Face Protection, Z87.1-1979 (or Z87.1-1968) and revisions approved by ANSI. Descriptions of style A, B, and C Industrial Quality Eye Protection are as follows:

Style A. NOT ACCEPTABLE for use in the event. These are safety spectacles without side shields. They are for limited-hazard use requiring only frontal protection. The addition of accessory side shields that are not firmly secured does not upgrade style A to a style B or C.

Style B. Safety spectacles with wire mesh, perforated plastic or non-perforated side shields. The side shields shall be tapered, with an anatomical periphery extending at

least halfway around the circumference of the lens frame. Industrial-quality eye protection for those not wearing prescription glasses shall be style B.

Style C. NOT ACCEPTABLE for use in the event. Safety spectacles with semi- or flat-fold shield that must be firmly secured to the frame. style C glasses do not provide maximum protection from the top and bottom angles.

b. Clothing

Each individual shall furnish and wear appropriate clothing such as long pants and long sleeved cotton shirt, coveralls, etc. for this event. Clothing must be in good repair and fit properly. Oversized or loose fitting clothing is dangerous around agricultural equipment and is not allowed. Long-sleeves must be worn when welding or oxy-fuel cutting.

c. Other Materials

Each participant must have a clipboard, two sharpened No. 2 pencils and an electronic calculator. Calculators used in this event should be battery operated and silent.

d. Computers

Each state team is required to provide a laptop computer and printer for the team activity. Minimum computer specifications will be determined.

2. Provided- Specialized safety equipment

- a. Necessary equipment such as helmets, shields, gloves, welding leathers, hearing protection devices, etc., will be provided by the National

FFA Agricultural Mechanics Career Development Event Committee.

- b. All tools and equipment will be furnished for the event. Individuals are allowed to use only the tools and equipment furnished by the national event committee.
- c. If a team member needs modified equipment due to physical size and stature, the student must supply this equipment. The team member or coach must present the student supplied equipment to the event superintendent prior to the start of the event for approval. Team members who need specialized or modified equipment due to disability as defined by the American Disabilities Act must submit the appropriate special needs request form and documentation with the team's certification form.

C. Event Areas

The National FFA Agricultural Mechanics Career Development Event is divided into the following five systems areas. Each system includes a broad range of information and performance skills common to agricultural mechanics.

1. **Machinery and Equipment Systems:**
repair and maintenance, materials handling, processing, adjustments, metal fabrication

2. **Industry and Marketing Systems:** customer relations, accounting, communication, economics, service, sales, reading and interpreting regulations, safety, operating instructions, manufacturer's recommendations
3. **Energy Systems:** mechanical power, electrical power, chemical power, wind power, solar power, hydraulic power, engine operation, maintenance, troubleshooting, repair
4. **Structural Systems:** structures, storage, concrete, masonry, plumbing, electrical, construction, building materials, ventilation, heating, air conditioning
5. **Environmental-Natural Resource Systems:** water quality, sustainable agricultural practices, soil and water conservation, waste handling

D. Team Activities

The individuals on each state team will work together and be evaluated as a team while solving complex, multi-system agricultural problems. The problem scenario is presented to the team on the day of the events and members utilize the materials and equipment provided to undertake and prepare a written, computer mechanics generated solution. Teams organize themselves, assigning duties and completing tasks together or separately depending on individual skills and abilities. Each team receives a score, and each team member receives one-third of the total team score.

E. Individual Activities

1. Individual problem solving and skill development activities

Each student is individually evaluated in each of the five systems areas. The specific activities occurring in each event are not publicized prior to the event. Each student is allowed 20 minutes to complete each of the five activities (100 minutes total).

2. Written examination

Each student completes an examination that consists of 100 multiple-choice questions. There are 20 questions from each of the five agricultural mechanics systems areas. Students will have 70 minutes to complete this portion of the career development event.

F. Schedule of Theme Announcement

Agricultural mechanics theme for the career development event will be selected one year in advance. This information is published and distributed through the National FFA Organization, and posted at <http://web.missouri.edu/~pavt0689/natcon.html>, the agricultural mechanics web site. The theme for each year will be determined by the National FFA Agricultural Mechanics Career Development Event Committee. The event superintendent will notify the National FFA Program Manager for Career Development Events of the theme selected for the next year's event following the completion of the current year's event.

The specific theme for each year is posted on the web site during November of the previous year and information specific to each year's event is updated periodically throughout the year. Updates generally occur during June and August. The schedule for announcing event information and details on equipment selection is governed by equipment availability and late changes by equipment manufacturers, dealers and contributors. It is the committee's hope that the theme examples listed below will provide direction for students and their advisors. This short list should not stifle or limit the learning or instructional process as students and advisors prepare themselves to solve integrated system problems in the workplace of today and tomorrow.

THEMES

The schedule for agricultural mechanics themes is:

Animal Production Systems	2006
Materials Handling Systems	2007
Processing Systems	2008
Plant production Systems	2009
Integrated Pest Management	2010

An example of the *integrated pest management* theme appears on page 57 at the end of this section. This example illustrates the complex interaction between systems in a typical theme. An individual solving a pesticide application problem must consider numerous variables and make a variety of decisions. The following list includes some of the systems competencies needed during the planning, preparation and implementation of the problem solution. Many other competencies exist and identical competencies may be required in more than one system.

Machinery and Equipment Systems- application and equipment calibration, and nozzle selection, equipment testing and maintenance

Industry and Marketing Systems- mixing, loading, and transport safety, economics, understanding and following label instructions, governmental regulations

Energy Systems- power requirements, variable rate applications, and electronically controlled equipment, and valves, pumps and pressure regulators

Structural Systems- storage, mixing and loading requirements, fire safety, temperature control, ventilation, construction requirements

Environmental and Natural Resource Systems- pesticide and pesticide container disposal, pesticide handling, drift control, impact on non-target plants, animals and insects

III. SCORING

Event participants are evaluated as follows:

INDIVIDUAL SCORING

Written examination	100
Individual activities (5 at 30 points each) . . .	150
Team activity (1/3 of total team score)	83.3
Total Possible Individual Score	333.3

TEAM SCORING

Top three written examinations	300
All individual activities for top three.	450
Team activity	250
Total Possible Team Score (top three). . . .	1000

IV. TIEBREAKERS

The team score for the event will be determined by summing the points earned by the top-three team members. The following activities are used to break a tie between teams or individuals. The win goes to the individual or team with the highest written examination score(s). If still tied, the win goes to the highest problem-solving/skill scores. If still tied, the win goes to the highest team problem-solving score.

V. AWARDS

The top five individuals and the top five teams in each of the five systems areas will be recognized with a certificate. The scores used to award this recognition include the exam questions and individual problem-solving/skill activity associated with each system area.

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a Special Project, and/or by the general fund of the National FFA Foundation.

VI. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The goal of the National FFA Agricultural Mechanics Career Development Event is to guide and promote quality instructional programs in agricultural mechanics. The following list contains references that may prove helpful during event preparation. The multiple-choice test questions are written to be generic in nature and are selected from a variety of sources. It is the intent of the national event committee to reflect current technological practices, common to the agricultural production industry.

FOS. John Deere.

FMO John Deere

Agricultural Power and Machinery.(CD format)
CEV Multimedia. LTD.

Mechanics in Agriculture. Interstate Publishers.

Agricultural Mechanics Fundamentals and Applications. Delmar Publishers.

Modern Agricultural Mechanics. Interstate Printers and Publishers.

Developing Shop Safety Skills. American Association for Vocational Instructional Materials.

Power Tool Safety and Operation. Hobar.

Agricultural Mechanics I Lesson Plans. UMC-IML.

Agricultural Mechanics II Lesson Plans. UMC-IML

Agricultural Buildings and Structures. Reston Publications.

Practical Farm Buildings. Interstate Publishers.

National Electrical Code (latest edition). NFPA.

Agricultural Structures, Volumes I and II. UMC-IML.

National FFA Agricultural Mechanics website:

<http://web.missouri.edu/~pavt0689/natcon.html>

VII. EXAMPLES

A. Event-Related Competencies

The following list of statements with specific understandings and performances are provided as examples for the systems areas identified. Examination questions are primarily developed from “problem solving” categories. The “skills” categories are the basis for performance activities. Problem-solving activities are developed from both “problem solving” and “skills” categories. In each systems area, the requirements for effective communication, problem solving activities and the application of modern technology - specifically computers and computer software - are strongly emphasized. Industry has recently identified important skills, abilities and competencies needed by new employees. These important attributes are described following the list of system competencies.

1. Machinery/Equipment Systems Competencies

Problem Solving

1. Identify safe machinery operation practices for field and highway conditions.
2. Identify the recommended service and maintenance operations from the operator’s manual.
3. Select lubricants for machinery and equipment.
4. Identify functions of machinery components.
5. Identify parts and functions of hydraulic systems.
6. Identify and compute harvest losses.
7. Prepare machinery for storage.

8. Identify and select reduced tillage and conservation tillage equipment.
9. Explain principles of machinery management.
10. Describe functions of chemical application, fertilizing, harvesting, materials handling, processing, planting, seeding and tillage equipment.
11. Select arc welding machines and accessories.
12. Read drawings and welding symbols.
13. Control distortion in arc welding.
14. Select appropriate electrodes and wires.
15. Select hard surfacing alloys.
16. Prepare materials and equipment for arc welding.
17. Test weld quality and strength.
18. Select shielding gases.
19. Describe the science of the welding processes.
20. Select gas welding, plasma arc and cutting equipment and supplies.
21. Assemble gas welding, plasma arc and cutting equipment.
22. Check equipment for leaks.
23. Select welding rods and fluxes.
24. Select hard surfacing alloys
25. Start-up and shut down of welding equipment.
26. Select shielding gases.
27. Describe the science of welding and cutting processes.
28. Describe cylinder sizes and gas flow extraction rates. Calculate the volume of acetylene that can be delivered per cylinder per hour.
29. Explain the functions of flashback arresters and reverse flow check valves.
30. Identify appropriate shapes of tool and equipment cutting edges.
31. Select abrasives for grinding and sharpening.
32. Describe the application of simple machines to cutting edges.
33. Identify safe adjustment [level] on power equipment.
34. Identify kinds of metal used in tool construction.
35. Identify various types and shapes of metals.
36. Select soldering equipment and tools.
37. Prepare metals for soldering.
38. Identify hand metal working tools by types and sizes.
39. Determine tap and drill sizes.
40. Select files and saw blades.
41. Read metal working plans and prints.
42. Identify metal alloys and their strength.
43. Identify and select power shears, benders, brakes and saws.
44. Calculate materials costs.
45. Identify pipe, valves and fittings by type.
46. Select pipe threading and cutting tools.
47. Select types of pipe and tubing.
48. Calculate lengths of pipe.
49. Joining dissimilar plumbing materials.
50. Select pipe sizes to meet pressure and flow requirements.
51. Select valves and controllers for turf and drip irrigation systems.
52. Identify and select pipe sealants.
53. Identify characteristics and applications of fiberglass and plastic.
54. Identify types of damage that can occur to fiberglass and plastic.
55. Identify repair procedures and techniques.
56. Select repair material needed for specific jobs.
57. Identify the appropriate tools to use when welding plastics.
58. Identify the types and properties of plastics.

Skills

1. Check and adjust driveline components.
2. Adjust equipment hitches and drives.
3. Install, adjust and service belt and chain drives.
4. Select and use test equipment including meters, tachometers and timing devices to determine proper machine operation.
5. Adjust and/or calibrate chemical application, seeding, fertilizing, harvesting, processing and materials handling machinery.
6. Operate, test and maintain machine systems.
7. Install, adjust and evaluate machine systems.
8. Inflate tires to proper air pressure to carry the heaviest load.
9. Adjust equipment to field and crop condition.
10. Identify different types of metals.
11. Layout and prepare metal for arc welding.
12. Recommending metals based on load bearing strength
13. Weld basic joints in all positions.
14. Join pipe for welding.
15. Prepare for and apply hard surfacing alloys.
16. Adjust cutting machines for different metals, joints and thickness.
17. Start-up and shut down for welding equipment.
18. Light and adjust the torch flame for specific welding or cutting operations.
19. Layout and prepare metal for welding or cutting.
20. Fuse and braze welding basic joints on mild steel and cast iron.
21. Cut mild steel, including pipe, all shapes.
22. Join steel pipe, tubing or shapes by welding.
23. Estimate and calculate welding materials costs.
24. Adjust machines for various types of thickness of metal.
25. Identify the type of metals used in agricultural instruction.
26. Cut metal with plasma cutting unit.
27. Prepare grinding and sharpening equipment.
28. Recondition hand tools such as hammers, twist drills, chisels, punches and screwdrivers.
29. Recondition keen edge wood cutting tools.
30. Recondition keen edge metal cutting tools.
31. Recondition chain saw, horticultural and turf cutting tools.
32. Recondition rotary lawn mower blades.
33. Adjust bed knife on reel mowers.
34. Solder copper joints and sheet metal.
35. Solder electrical connections.
36. Join metals with appropriate fasteners.
37. Cut threads with taps and dies.
38. Layout and drill holes with twist drill.
39. Operate power tools such as nibblers, drills and saws.
40. Operate hand tools such as saws and files.
41. Bend sheet and strap steel to angles or shapes.
42. Repair damaged threads.
43. Select appropriate metals for projects (strength).
44. Shape hot and cold metals using power shears, benders, brakes and saws.
45. Cut and assemble plastic pipe.
46. Cut, thread and assemble steel pipe.
47. Connect flare and compression fittings.
48. Solder copper fittings and tubing.
49. Assemble dissimilar plumbing materials.

50. Installing and setting programmable timers.
51. Select tools and materials for specific repair jobs.
52. Repair structural or cosmetic damage using proper materials.
53. Select and use appropriate safety equipment.
54. Fuse plastic parts using plastic welding processes.
55. Construct plastic projects.
56. Compile thermoplastic welds.
57. Weld plastic using hot air method.
58. Identify the types of plastics to be welded.
59. Describe the methods of welding plastics.
60. Select and use plastic welding equipment.
61. Identify weldable plastic by burn tests.
62. Weld plastics using the basic weld parts.

2. Industry and Marketing Systems Competencies

Problem Solving

1. Complete and interpret pre-delivery and delivery instructions.
2. Describe importance of customer relations and communications.
3. Comprehend cab and environment controls (air conditioning and heating).
4. Compare costs of ownership, lease, rental and custom agreements.
5. Interpret and follow recommended service and maintenance schedules.
6. Determine proper practices and procedures for storing an engine.
7. Use of operator's manuals.
8. Identify safe machinery operating practices.
9. Select machinery parts using manufacturer's catalogs, microforms, microfiche or computers.
10. Evaluate building warranties.

11. Determine finance and insurance needs.
12. Identify and be able to describe safety practices.
13. Read and interpret drawings, plans, symbols and figuring of bill of materials.

Skills

1. Adhere to safe operating practices during the completion of all activities.
1. Perform pre-delivery setup and adjustment.
2. Demonstrate interaction with customer/fellow employee.
3. Identify and use international operator symbols.
4. Adjust operator controls for best fit.
5. Select appropriate tools and equipment.

3. Energy Systems Competencies

Problem Solving

1. Identify safe machinery operation practices for field and highway conditions.
2. Identify the recommended service and maintenance operations from the operator's manual.
3. Describe how to repair a specific component or system.
4. Select fuels, lubricants, hydraulic fluids and coolants for proper operation.
5. Identify importance of oil analysis as a management tool.
6. Operation and interpretation of circuit diagrams and flowcharts for: electrical, hydraulic, fuel, oil, cooling, intake and exhaust systems.
7. Identify the function and operating principles of clutches, transmissions, control devices and brakes.
8. Explain and describe principles of power transmission.

9. Identify the parts and functions of electrical, hydraulic, lubrication, cooling, governor and fuel systems.
10. Interpret horsepower, torque and other power measurement criteria.
11. Identify and use OECD (Organization for Economic Cooperation and Development) *and/or Nebraska Tractor Test results*.
12. Interpret metric units in measurements.
13. Select proper ballast and machinery weighting.
14. Compare costs of alternative machine uses.
15. Understand interactive electronic components.
16. How to use load/inflation table for tires (*constant deflection table*).
17. Describe operating principles of two-stroke and four-stroke spark or compression ignition engines.
18. Identify the use and function of engine repair tools.
19. Evaluate engine performance under load and no-load operation.
20. Evaluate engine parts or short blocks for replacement or servicing.
22. Determine hydraulic cylinder force and speed.
23. Use appropriate standards for agricultural applications, including the National Electrical Code (NEC), Electrical Testing Laboratory (ETL), Factory Mutual, Underwriters Laboratory (UL), Canadian Standard Association (CSA) and/or OSHA standards.
24. Plan safe electrical circuits.
25. Select conductor type and size for specific applications.
26. Calculate voltage drop.
27. Determine electrical power requirements.
28. Identify the characteristics of single and three-phase circuits.
29. Plan and evaluate proper grounding systems and ground-fault protection.
30. Determine volt, amp and ohm relationships (Ohm's and other application laws).
31. Select adequate and appropriate lighting fixtures.
32. Make connections in a computer-simulated wiring task.
33. Select motors based upon type of application.
34. Interpret electric motor nameplate data.
35. Service electric motors.
36. Identify electric motors and motor parts.
37. Identify methods of providing electric motor protection.
38. Interpret power (horsepower, kilowatt), power factor, torque and other motor selection criteria.
39. Select, size and isolate standby power generators.
40. Calculate heating and cooling loads.
41. Interpret wiring diagrams.
42. Identify and describe basic principles of controls including thermostats; humidistat; photoelectric; magnetic relays; programmable controllers; proximity switches and sensors; ultrasonics; timers and other time-delay equipment; and pressure, motion, limit, float and sail switches.
43. Select controls from supply catalogs, microforms, microfiche or computers.
44. Select controls for electrical applications.
45. Use low-voltage electrical control equipment.
46. Identify and select devices for automated systems.
47. Select aquaculture air delivery systems.
48. Select aquaculture water heating devices.

49. Determine water filtration needs.
50. Establish ballast and tire pressures.
51. Use safe wiring practices for specific applications.
52. Select standby power generators and isolation equipment for specific applications.
53. Match tractors to implements.

Skills

1. Connect electrical and hydraulic motor drives.
2. Conduct a pre-operation inspection of a tractor.
3. Starting, stopping and operating machinery engines.
4. Perform recommended periodic service jobs (as found in operator's manuals).
5. Use measuring tools and test instruments such as: micro metering and telescoping gauges, dial indicator, compression tester, torque wrench, VOA (volt-ohm-amp)-meter, DMM (digital multi-meter), timing devices, tachometer and dynamometer for determining test procedures.
6. Test and troubleshoot electronic sensing devices.
7. Remove, service and replace electrical components.
8. Test and service batteries, charging, lighting, warning and cranking systems.
9. Test and service cooling systems.
10. Make hitch and PTO adjustments to the implement.
11. Adjust wheel tread spacing.
12. Adjust steering linkage.
13. Match tractors to implements.
14. Conduct on-board tractor monitor checks as identified in operator's manual.
15. Test and service air conditioning systems.
16. Test engine for emissions.
17. Select and use engine overhaul equipment, including valve, cylinder, piston, seal and bearing tools.
18. Service and maintain fuel, air intake and exhaust, cooling and lubrication systems.
19. Operate engine and adjust or check ignition timing, engine speed and carburetor adjustments.
20. Read schematics and sketch wiring circuits.
21. Attach conductors to terminals.
22. Install plugs and cord connector bodies.
23. Make proper splices and connections.
24. Troubleshoot electrical circuits using proper testing equipment and measuring devices.
25. Measure electrical circuits for voltage, amperage, resistance and wattage.
26. Install service entrance for single phase 120/240 V service or three-phase power.
27. Wire 120/240V service outlets.
28. Install electrical circuits, switching devices and appliances.
29. Install ground-fault circuit interrupters.
30. Make connections in a computer-simulated wiring task.
31. Troubleshoot electric motor circuits using proper testing equipment.
32. Connect a dual voltage motor to power source.
33. Change the direction of electric or hydraulic motor rotation.
34. Disassemble and reassemble an electric motor.
35. Provide suitable motor over-current protection.
36. Service and lubricate and electric motor.
37. Check the running amperage and voltage of a motor.
38. Select and mount an electric motor on a machine.
39. Connect electric motor controls.

40. Install timer circuits and automation devices.
41. Install thermal and solid-state delay/relay controls.
42. Install a low-voltage motor control system.
43. Install sensing devices including thermostats, humidistat; photoelectric; magnetic relays; programmable controllers; proximity switches and sensors; ultrasonic; timers and other time delay equipment; and pressure, motion, limit, float and sail switches.
44. Wire devices that are capable of providing artificial heat.
45. Select and install aquaculture control and sensing systems.

4. Environmental and Natural Resources Systems Competencies

Problem Solving

1. Identify environmental problems in livestock and crop handling and processing buildings.
2. Read and interpret maps including conservation, land use, soils, topographic, aerial and remote sensing and geological surveys.
3. Describe principles involved in appropriate conservation and/or land use planning.
4. Read legal land descriptions.
5. Determine land areas.
6. Identify the types and parts of leveling instruments.
7. Determine the difference in elevation of two or more points.
8. Determine cuts, fills, cut/fill ratios and volumes.
9. Describe the characteristics of a profile-leveling plot.
10. Identify water quality criteria for aquaculture.
11. Read and interpret a topographic map.
12. Select terracing and water diversion options for soil conservation.
13. Selecting strip-cropping principles and practices.
14. Select water management techniques including grassed waterways, parallel terrace outlets, tile outlet systems and erosion control structures.
15. Determine types of vegetative cover and mulch for erosion stabilization.
16. Determine and select appropriate cultural tillage or mechanical practices of equipment for specific soil type and residue management.
17. Compare effects of traffic patterns on soil compaction.
18. Calculate soil loss using universal equations and determine effects of the components of the equations.
19. Determine practices to improve or maintain water quality and recharge.
20. Determine appropriate types, locations and uses of erosion and sedimentation control basins.
21. Determine appropriate types, locations and uses of water impoundment structures.
22. Describe surface and subsurface drainage and irrigation techniques.
23. Calculate subsurface drainage and irrigation requirements.
24. Determine if drainage or irrigation is economically and physically feasible.
25. Select appropriate drainage including open drainage, closed gravity and pumping systems.
26. Determine land shaping and grading requirements.

27. Determine economics of alternative systems.
28. Determine water needs.
29. Select irrigation systems for specific conditions.
30. Select irrigation equipment and techniques.
31. Determine soil moisture and temperature.
32. Select surface and subsurface irrigation systems for specific application.
33. Identify and select fittings for irrigation systems.
34. Identify size system components.
35. Determine power requirements and pump size for specific applications.
36. Calculate irrigation system requirements.
37. Make water management choices.
38. Understand water quality impacted by drainage and irrigation.
39. Understand pressure, flow and head.
40. Select pumps and power sources and compare efficiencies.
41. Interpret pump characteristics curves.
42. Determine appropriate waste disposal methods.

Skills

1. Set up and level the surveying instrument.
2. Take rod readings.
3. Measure distance with tape and/or instruments.
4. Lay out corners using instruments.
5. Determine direction by use of a compass.
6. Record field notes for differential, profile and topographic leveling.
7. Lay out contour lines.
8. Lay out grade stakes for cut/fills.
9. Determine soil types and selecting appropriate structures or practices.
10. Use automatic leveling and laser equipment.
11. Use water-testing equipment.
12. Lay out and mapping contour lines.
13. Measure crop residue on the land.
14. Determine soil losses.
15. Measure cross-sectional areas of a grass waterway, drainage ditch and earthen embankment.
16. Determine field slope and length.
17. Identify soil limitations and determine the effects on land use.
18. Use maps to make selection and determine location of conservation practices or land use changes.
19. Assemble turf irrigation equipment.
20. Determine soil moisture.
21. Estimate soil permeability and infiltration rates.
22. Determine and compare evaporation losses.
23. Install drainage systems or components.
24. Determine cuts, fills and grade lines.
25. Lay out contour ditches, basins, borders, contour levees, furrow and corrugation systems for irrigation.
26. Determine proper waste disposal procedures.
27. Layout and assemble solid-set, lateral move, center-pivot and traveling gun irrigation systems and components.
28. Layout and assemble trickle and drip irrigation systems or components including mainlines, lateral lines, control devices, valves, pressure regulators, gauges and filters.
29. Select and install components of irrigation systems for specific applications.
30. Calculate well capacity and demand.
31. Determine delivery rates of pumps.
32. Select pumps and power units.
33. Calculate chemical injection rates.
34. Determine percent of slope or grade.

5. Structures Systems Competencies

Problem Solving

1. Select and evaluate building sites.
2. Determine the size, specifications and layout of building.
3. Select appropriate framing, siding, roofing, insulation and vapor barrier materials.
4. Develop a bill of materials.
5. Interpret plans and working drawings.
6. Identify structural components of buildings.
7. Select preservatives for building materials.
8. Evaluate building construction techniques.
9. Select hand, electric and pneumatic tools.
10. Estimate handling materials, cost and construction time.
11. Plan footings, foundations and concrete finishing.
12. Identify and select materials for concrete form construction.
13. Determine quantity and cost of materials for concrete and masonry jobs.
14. Determine the appropriate water-cement ratio and aggregate for concrete masonry construction.
15. Select materials for concrete and masonry construction.
16. Order “ready-mix” concrete.
17. Identify procedures for mixing and placing concrete in cold or hot weather.
18. Identify materials and techniques to reinforce concrete and masonry construction.
19. Identify techniques for placing, finishing and curing concrete and masonry units.
20. Identify concrete additives to increase strength and reduce cracking.
21. Identify concrete additives to control hydration rate.
22. Identify and select masonry materials.
23. Describe and select masonry mortar.
24. Identify and select tools and equipment for concrete and masonry construction.
25. Interpret lumber and manufactured wood product grade stamps.
26. Determine ventilation air inlet size based on exhaust fan capacity.
27. Identify alternative construction styles (stud frame, post frame, rigid arch and stressed skin).
28. Identify structural components for each alternative construction style.
29. Specify materials for the construction of wood foundation systems.
30. Develop plans for selected enterprises.
31. Calculate and compare the installation and maintenance costs of crushed rock and concrete materials in the construction of feedlot surfaces.
32. Determine size and quality of aggregates and materials.
33. Select aggregates, concrete and mortar-mixes and prepare a trial mix.
34. Calculate masonry units needed for a given application.
35. Use traditional, electronic and laser tools in concrete and masonry construction.
36. Evaluate building systems and construction practices based on standards provided in one of the following model building codes: UBC, BOCA or SBC.
37. Specify and plan windbreak structures for livestock protection and reduction of snow accumulation in feedlot and farmstead drive areas.

Skills

1. Lay out a building foundation.
2. Identify, select and apply construction fasteners.

3. Use and maintain hand, electric and pneumatic tools and measuring instruments for building construction.
4. Construct buildings or building components.
6. Layout and cut structural components.
7. Install composition shingles, metal and fiberglass roofing materials.
8. Apply paint and other finishing materials.
9. Prepare a site for concrete and masonry construction.
10. Construct forms.
11. Calculate concrete or mortar mix.
12. Determine moisture content in sand.
13. Mix concrete or mortar on the job site.
14. Conduct and evaluate a slump test.
15. Place concrete or masonry reinforcement.
16. Lay out and make isolation, control and construction joints.
17. Place, consolidate, finish and cure concrete.
18. Place and finish concrete masonry units.
19. Produce special finishes on concrete.
20. Use and maintain concrete and masonry tools and equipment.
21. Calculate types and amount of concrete or mortar mix for a job.
22. Adjust ventilation air inlet openings.
23. Fabricate and install reinforcing steel bar and welded wire mesh.
24. Specify and use admixtures that entrain air, retard set, reduce water requirements and/or improve concrete mix workability in concrete mixes.
25. Set-up manufactured form systems for poured-in-place foundation walls.
26. Select and apply appropriate framing, siding, roofing, insulation and vapor barrier materials.

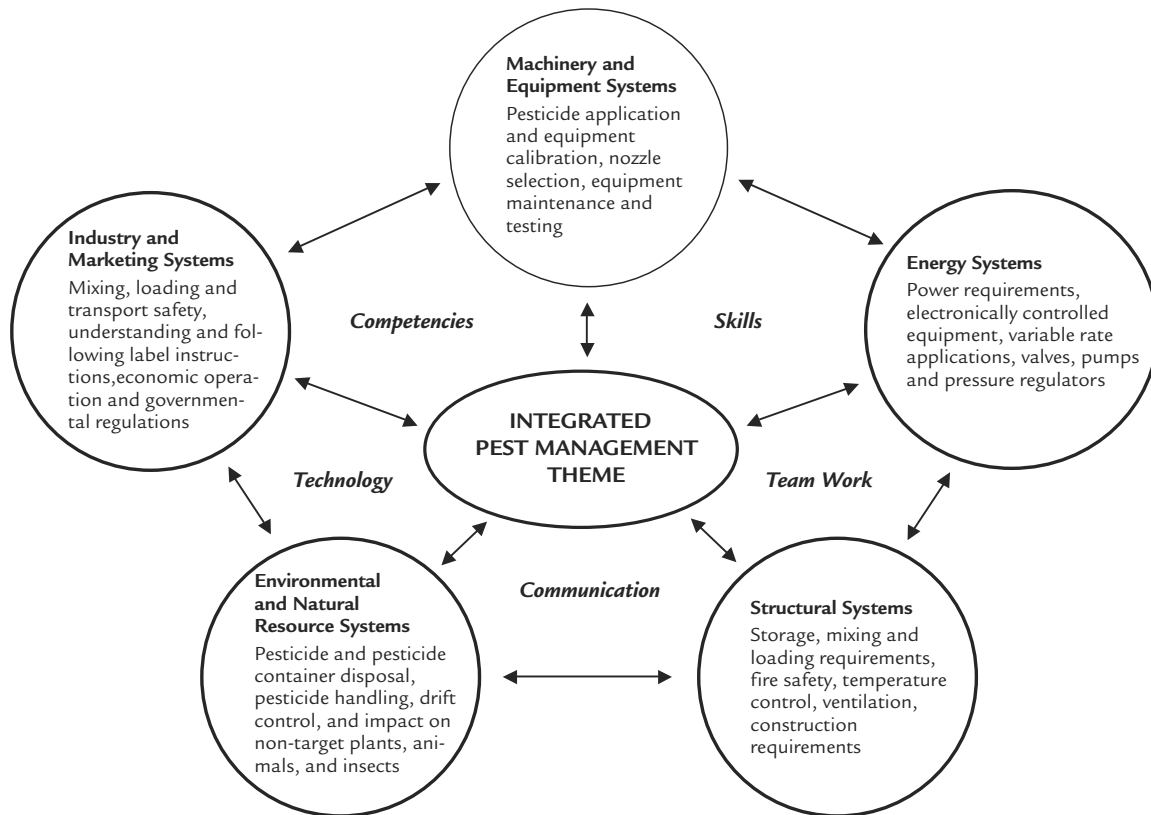
B. General Skills

1. Strong interpersonal communication abilities.
2. Knowledge combined with leadership qualities and the ability to delegate responsibilities .
3. People skills to deal with customers, the public and large groups.
4. Identify and interpret the correct resources to make an educated decision.
5. Understand and apply principles of mathematics, economics, biology and physics.
6. Have a high level of common sense, logic and critical thinking skills.
7. Be an independent thinker with an analytical mind.
8. Ability to understand and follow detailed instruction - written and oral.
9. Motivated to learn and having the ability to learn from various methods of instruction.
10. Be literate and remain literate in current technologies - computers, electronics, mechanical systems, etc.
11. Know how to calculate cost per units, per hour, per bushel, per acre, etc.
12. Know how to estimate value of equipment and recommend future buying decisions.
13. Know how to use technology to eliminate waste of time and resources.
14. Know about computer hardware, software, Internet, etc.
15. Know how to be productive with time, money and people.
16. Be knowledgeable with global agriculture - encompassing planning, production, marketing and finance.
17. Understand how cash flow is critical for business planning and operation.
18. Know how to measure and estimate costs and develop plans for business/industry improvements.

19. Be able to write annual goals with specific objectives and measurement tools for review.
20. Have skills in business operations and management.
21. Have experience with general accounting and cash flow management.
22. Be able to effectively implement the use of technology in the workplace.
23. Understand how to use a systematic approach to diagnose equipment problems.
24. Know how to service and maintain equipment so that productivity can be maintained.
25. Understand on-board computerized systems that monitor, test, store and report equipment operation.
26. Be familiar with computerized recognition of crop productivity and quality, field conditions and pests.
27. Understand electrical circuits - amperage, watts, voltage, resistance and transistors.
28. Understand hydraulic system operation - flow, resistance and temperature.
29. Understand mechanical system operation - mechanical advantage, material specifications and gear design.
30. Have experience in reading schematics, replacing components – including control modules.
31. Know how to diagnosis electrical, computer, mechanical and hydraulic systems.
32. Have experience in analyzing mechanical system failures.
33. Have experience with CAD software and know how to produce mechanical drawings.

National FFA Agricultural Mechanics Career Development Event

SAMPLE THEME



This chart illustrates an integrated pest management problem that depicts interaction between all five agricultural mechanics systems. Alternative themes would emphasize related competencies and other versions of an integrated pest management theme could include other competencies. Individuals and teams must possess knowledge and skills in all systems areas to determine acceptable problem solutions.

A number of other issues also influence the systems associated with integrated pest management. Such things as: turf versus agriculture applications, non-restricted versus restricted use pesticides and recent changes in governmental regulations are just a few of the additional concerns that affect the planning, preparation and completion of this activity. The complexity of this theme is further compounded by the number of competencies and skills involved in the solving of such intricate problems. Given the complexity of such problems, individuals are better prepared when they have information/knowledge, experience and expertise within several of the systems areas.

4 CHAPTER

NATIONAL FFA

AGRICULTURAL SALES

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The purpose of the Agriculture Sales Career Development Event is to provide an individual with the basic skills to take advantage of the career opportunities offered in the agricultural sales field. Sales are an essential part of a market economy. Agricultural products benefit from sales skills, both for inputs for production and the marketing of the products.

II. OBJECTIVE

The objective is to develop the skill sets necessary to be successful in sales. These would include the following:

A. Communication Skills

1. Verbal Communication.
2. Written Communication.

3. Interactive Communication - to be able to listen and question in order to gather information.

B. Product Knowledge

1. Features and benefits of a product.
2. Identifying potential customer objections.
3. Knowledge of proper product use.

C. Sales Process

1. Identifying prospective customers through marketing data.
2. Developing an approach that introduces your product to your prospective customer.
3. Develop a sales call that determines and addresses customers needs and objections.
4. Attempt trial closes to confirm customer interest.

5. Understand the basic business structure necessary to sell and deliver a product.
6. Attempt to close the sale by asking the customer to make a buying decision.

D. Maintaining Customers

1. Establish and build customer confidence in you and your product.
2. Address customer complaints including:
 - a. Defective merchandise.
 - b. Maintain customer contact and place additional orders for sales.
 - c. Review product performance.

III. EVENT RULES

1. **Team Make-up-** The event will be a team event consisting of four students. All four students' scores count toward the team total. A team may compete with less than four members.

IV. EVENT FORMAT

The model agricultural sales event will consist of four parts:

Team Sales Situation
Written Test
Sales Call
Sales Situation

All team members will participate in the written test and sales call components of the event. Using the team approach, each team competes as a group in the team sales. One of the following sales situations will be conducted each year for all participants. Those sales situations are:

Customer Relations
Order Taking/Customer Service
Customer Prospecting

A. Team Sales Situation (200 Points)

The Team Sales Situation is the team activity. Team members work together to demonstrate group dynamics, problem solving, data analysis, decision making and oral and written communication skills.

The following information will be provided to the team as if they were a group of professional salespeople:

1. A product (including features and price - if applicable)
2. Market situation (including competition)
3. Several potential customers

The team will then develop all the strategy necessary to prepare to sell the product in a face to face sales call. This strategy should include but not be limited to:

1. Determining potential customer needs and wants.
2. Identifying features and benefits of the products to address customers' needs and wants.
3. Identifying potential customer objections and prepare to address them.
4. Identifying potentially related products and suggested selling strategies.
5. Developing a sales plan and goals for each customer.

It is critical to remember that in addition to the final presentation being judged, teamwork and equal involvement of all team will also be judged. Also it is critical to not only state what you chose to do, but why you chose to do it. In selling there are no absolute right or wrong answers. Demonstrating the basic fundamentals necessary to accomplish your goal is essential. Members will be expected to participate. The judges will act as the audience, but will not engage in dialog during the presentation. Participants may utilize any

materials provided in the team event for the presentation. It is important that all team members speak up during the entire process so that the judges can hear what is being said, and so they can observe how the team is working together.

Each team will be given twenty-five (25) minutes to examine all information provided, discuss and develop ideas and prepare a presentation. Teams may bring a laptop computer and utilize PowerPoint for their presentations. If a laptop computer is utilized, the presentation will be presented on the laptop screen. Projectors will not be allowed. Desktop computers will not be allowed. Each team will be responsible for the power supply for their computer. Each team will then have ten (10) minutes with an eight (8) minute warning to make their presentation followed by five (5) minutes for questions.

Scoring Criteria for Team Sales Situation

1. **Teamwork Evaluation (50 points), 25%**
 - a. Leadership roles easily perceived.
 - b. Participation by each member of the team.
 - c. Members demonstrated effective listening and communication skills.
2. **Analysis of the information (40 points), 20%**
 - a. Clearly identify the product features and the market for that product.
 - b. Provided information and data is analyzed and utilized.
 - c. Demonstrate the use of basic sales skill.s
3. **Quality of the Team's Solution (70 points), 35%**
 - a. Identify sales goal for each customer and or market segment.
 - b. Identify the key benefits of the product.
 - c. Identify potential customer objections and develop strategies to address those objections.

- d. Possible solutions are discussed and analyzed.
- e. Justify decisions

4. **Presentation (20 points) 10%**

- a. Presents team's solution.
- b. Overall delivery professional and well thought out.
- c. Presentation is clear and effective.
- d. All team members participated.

5. **Questions are Taken From: (20 points) 10%**

- a. Teamwork evaluation.
- b. Analysis of the information.
- c. Presentation

TOTAL - 200 POINTS

B. Individual Activities

1. **Objective Written Test (100 points)**

The objective test of the Agricultural Sales Career Development Event is designed to evaluate an individual participant's knowledge of the basic sales skills. Using the listed references as a resource, a twenty-five (25) question test will be administered with four points awarded for each correct answer for a possible score of one hundred (100) points. Each participant will have forty (40) minutes to complete the test. True/False, multiple choice, essay and short answer questions may be utilized.

2. **Sales Call (100 points)**

- a. The participant will select an agricultural product representing one of the seven instructional areas:
 1. Agricultural Mechanics
 2. Agricultural Production
 3. Agricultural Products and Processing
 4. Agricultural Supplies and Services
 5. Forestry
 6. Natural Resources and Rural Recreation
 7. Ornamental Horticulture

- b. The size of any props and products will not exceed what an individual participant can handle and will fit on a standard 30 inch x 48 inch folding table. In the event more than one team member sells the same product, each individual team member must have their own props allowing all team members can compete at the same time.

Note: No flammable or corrosive materials can be brought into the event area.

- c. The participant will give three copies of the participant's project summary sheet (see "d") to the judges before beginning their Sales Presentation. The judges will inform the participant when they are ready to begin.
- d. The product summary sheet will be **one page, single sided and 12 pt. font (Times, Times New Roman or Arial)**. Participant's name and state will be in the upper left-hand corner. The product summary sheet should clearly state the role of the customer (event judge). Examples include dairy farmer, purchasing agent, etc. The summary sheet should include the following:

Representation (company/chapter)
Role customer is to play
Product to be sold
Features of the product
Method of demonstration
Sales call objective
Product or service price
Examples of two or more competing products and their prices

- e. Each participant will be allowed fifteen (15) minutes for his/her sales call with a time warning at twelve (12) minutes.

The sales call will conclude at fifteen (15) minutes. The sales call will be interactive between the participant and all judges.

- f. No two team members will be judged by the same set of judges.

3. **Practicums - Sales Situations (100 Points /Individual)**

All participants will compete in the same sales situation. One of the following three sales situations will be selected and announced at the team orientation meeting. The sales situation will be worth a total of one hundred (100) points per team member. The sales situations are:

Customer Relations
 Order Taking /Customer Service
 Prospecting for New Customers

Sales situations will follow the rotational theme schedule as listed below.

Sales Situation Theme Rotational Pattern

2006 Animal Industry
 2007 Crop Industry
 2008 Natural Resources
 2009 Agriculture Mechanics
 2010 Horticulture Industry

a. **Customer Relations (100 Points)**

The event officials will select a realistic scenario portraying a customer relations problem that may occur in agricultural sales. The participant will be evaluated primarily on their sales and human relation skills, and secondly on their technical knowledge of the subject matter. The sales person (participant) will be provided with the company policy or philosophy concerning merchandise return and refunds prior to performing the sales situation. It is possible the salesperson will have to develop a solution independently if the company policy does not specify one for the particular scenario. In this case the salesperson will be evaluated on their

creativity, judgment and application of the philosophy of the company. The participant will have to obtain the majority of the information necessary to solve the problem by interaction with the customer.

Examples of problems that may be used are:

1. Return of defective merchandise sold.
2. Lack of understanding in use of merchandise.
3. Calming and regaining trust of a dissatisfied customer.

The participants will be given a scenario containing the guidelines for the situation. The participants will be allowed ten (10) minutes to look over the information. The participants may make notes as needed on the scenario and use the notes throughout the judging. They must return the scenario to the event staff before they exit the area.

Twelve (12) minutes will be allowed for the participants to demonstrate their customer relations skills. There will be ten (10) minute warning. The sales situation will be interactive with all judges and their scores will be averaged.

b. Order Taking/Customer Service (100 Points)

The participants will demonstrate the skills used when taking an order and incorporating problem solving and/or suggestive selling of additional product(s).

The event officials will select a scenario typical for an agricultural supply company. The participants will be provided with a promotional flyer, catalog or other promotional material that has been mass mailed to select agricultural prospects and customers. Participants will also be provided with an order form and any updated information since the mailing of the promotional material. This

may include such information as out of stock or price updates.

Participants will be given the scenario and supportive materials ten (10) minutes before the event and will have twelve (12) minutes to demonstrate the skills interactively with all judges with at ten (10) minute warning.

c. Prospecting for New Customers (100 Points)

The event officials will select a sales situation. The participants will be given a product description. The participants will then approach a customer and through interaction with that customer determine if they are a prospect. The participants will then attempt to sell that product to the customer or gain an appointment for a future sales call, whichever is appropriate for the scenario. The participants will have ten (10) minutes to read over the product description and the sales situation. Twelve (12) minutes will be allowed with a ten (10) minute warning to interact with the judges. The situation will be interactive with all judges.

V. SCORING

Team Sales Situation

Teamwork Evaluation (25%) 50

- Leadership roles easily perceived.
- Participation by each member of the team.
- Members demonstrated effective listening and communication skills.

Analysis of the information (20%) 40

- Clearly identify the product features and the market for that product.
- Provided information and data is analyzed and utilized.
- Demonstrate the use of basic sales skills.

Quality of the Team's Solution (35%) 70

- Identify sales goal for each customer and or market segment.
- Identify the key benefits of the product.
- Identify potential customer objections and develop strategies to address those objections.
- Possible solutions are discussed and analyzed.
- Justify decisions.

Presentation (10%) 20

- Presents team's solution.
- Overall delivery professional and well thought out.
- Presentation is clear and effective.
- All team members participated.

Questions are Taken From: (10%) 20

- Teamwork evaluation.
- Analysis of the information.
- Presentation.

TOTAL POINTS 200

Sales Call

Pre-call Planning. 15

- Anticipating customer needs, Product knowledge

Approaching the Customer. 10

- First Impression, Create customer attention
- Establish Rapport

Determining Customer's Wants & Needs . 15

- Ask leading questions
- Demonstrate good listening skills

Demonstration 20

- Product features and benefits relevant to customer's wants
- Allow customer to participate.

Customer Objections 20

- Identify and handle customer objections

Closure 20

- Confirming customer interest trial close
- Recognize closing opportunities
- Ask for a buying decision

TOTAL POINTS 100

Individual Sales Situations

Customer Relations Activity

Introduction 10

- Identify yourself, Purpose of call if applicable
- Establish rapport

Attitude 20

- Pleasant, Friendly, Professional, Empathetic

Information via Customer Interaction . . . 25

- Probing to determine and clarify the problem

Develop Solution. 30

- Evidence of product knowledge
- Overcome customer objectives

CLOSING 15

- Get customer agreement, Review and closure

TOTAL POINTS 100

Order Taking/Customer Service

Introduction 10

- Identify yourself, Establish rapport

Attitude 20

- Pleasant, Friendly, Professional, Empathetic

Clarify and confirm the order. 30

- Repeat each item, Confirm availability
- Include product numbers if appropriate

Suggestive/consultative selling. 25

- Suggest related products, Note items on special, Offer substitutes for no stocks

Close the order	15
Repeat the order, Ask for other needs	
Confirm delivery date	
TOTAL POINTS	100

Prospecting for New Customers

Introduction	10
Identify yourself, Establish rapport	

Attitude	20
Pleasant, Friendly, Professional,	
Empathetic	

Qualify the prospect	25
Probing for customer needs	
Demonstrate good listening skills	

Provide features and benefits	25
Describe features and benefits	
appropriate to the prospects needs	

Closing	20
Ask for a buying decision, i.e., the order	
or appointment	
Review the order or commitment	

TOTAL POINTS	100
-------------------------------	------------

Total Team Score Possible

Team Sales Situation scores.	200
Sales Calls	400
Individual Sales Situations scores	400
Test scores	400
TOTAL POSSIBLE	1400

VI. TIEBREAKERS

Should a tie occur in the individual scores, the highest sales call score will break the tie. If the tie cannot be broke using the sales call score, the highest written test score will be used. If a tie still exists, the highest sales situation score will be used to break the tie. Should a tie occur in the team scores, the highest team sales situation will break the tie. If the teams are still tied then in order the sales call, written test and then the sales situations will be used.

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsors as a special project, and/or by the general fund of the National FFA Foundation.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

CRISP Publications, 1200 Hamilton Court,
Menlo Park, CA 94025-1427 1-800-442-7477)
FAX 650-323-5800)

- *Professional Selling*, Rebecca L. Morgan
ISBN 0-931961-42-4
- *Sales Training Basics*, Elwood N. Chapman
ISBN 1-56052-119-8
- *Closing*, Virden J. Thorton
ISBN 1-56052-318-2
- *Calming Upset Customers*,
Rebecca L. Morgan
ISBN 1-56052-384-0
- *Telephone Courtesy & Customer Service*,
Loyd Finch
ISBN 1-56052-064-7

Sales and Service, Mike Martin

Ditzenberger and Kidney. *Selling- Helping Customers Buy*. South-Western Publishing Company, Cincinnati, Ohio, 1992,
1-800-543-7972) ISBN 0538605316

Agricultural Sales

Chapter: _____ State: _____

TEAM SALES SITUATION

CATEGORY	POSSIBLE	SCORE
Teamwork Evaluation <ul style="list-style-type: none"> Leadership roles easily perceived Participation by each member of the team Members demonstrated effective listening and communication skills 	50	
Analysis of the Information <ul style="list-style-type: none"> Clearly identify the product features and the market for that product Provided information and data is analyzed and utilized Demonstrate the use of basic sales skills. 	40	
Quality of the Team's Solution <ul style="list-style-type: none"> Identify sales goal for each customer and/or market segment Identify the key benefits of the product Identify potential customer objections and develop strategies to address them Possible solutions are discussed and analyzed Justify decisions 	70	
Presentation <ul style="list-style-type: none"> Presents team's solution Overall delivery professional and well thought out Presentation is clear and effect 	20	
Questions are Taken From: <ul style="list-style-type: none"> Teamwork evaluation Analysis of the information Presentation 	20	
Total Score:	200	

Judge's Signature: _____ Date: _____

Agricultural Sales

Name: _____

Contestant No.: _____

Chapter: _____

State: _____

SALES CALL

CATEGORY	POSSIBLE	SCORE
Pre-call Planning <ul style="list-style-type: none"> Anticipating customer needs (5) Product Knowledge (10) 	15	
Approaching the Customer <ul style="list-style-type: none"> First Impression Create Customer Attention Establish Rapport 	10	
Determining Customer's Wants and Needs <ul style="list-style-type: none"> Ask Leading Questions Demonstrate good listening skills 	15	
Demonstration <ul style="list-style-type: none"> Product Features and Benefits relevant to customer's wants Allow Customer to Participate 	20	
Customer Objections <ul style="list-style-type: none"> Identify Customer Objections Handle Customer Objections 	20	
Closure <ul style="list-style-type: none"> Confirming Customer Interest (trial close) Recognize Closing Opportunities Ask for a buying decision 	20	
Total Score:	100	

Judge's Signature: _____

Date: _____

Agricultural Sales

Name: _____

Contestant No.: _____

Chapter: _____

State: _____

CUSTOMER RELATIONS ACTIVITY

CATEGORY	POSSIBLE	SCORE
Introduction <ul style="list-style-type: none"> Identify yourself Purpose of call (if applicable) Establish Rapport 	10	
Attitude <ul style="list-style-type: none"> Pleasant Friendly Professional Empathetic 	20	
Information via Customer Interaction <ul style="list-style-type: none"> Probing to Determine the Problem Clarify the Problem 	25	
Develop Solution <ul style="list-style-type: none"> Evidence of Product Knowledge Overcome customer objections 	30	
Closing <ul style="list-style-type: none"> Get customer agreement Review and closure 	15	
Total Practicum Score:	100	

Judge's Signature: _____

Date: _____

Agricultural Sales

Name: _____ Contestant No.: _____

Chapter: _____ State: _____

ORDER TAKING/CUSTOMER SERVICE PRACTICUM

CATEGORY	POINTS POSSIBLE	SCORE
Introduction <ul style="list-style-type: none"> Identify yourself Establish rapport 	10	
Attitude <ul style="list-style-type: none"> Pleasant Friendly Professional Empathetic 	20	
Clarify and confirm the order <ul style="list-style-type: none"> Repeat each item Include product numbers (if appropriate) Confirm availability 	30	
Suggestive/consultative selling <ul style="list-style-type: none"> Suggest related products Note items on special Offer substitutes for no stocks 	25	
Close the order <ul style="list-style-type: none"> Repeat the order Ask for other needs Confirm delivery date 	15	
Total Practicum Score:	100	

Judge's Signature: _____ Date: _____

Agricultural Sales

Name: _____ Contestant No.: _____

Chapter: _____ State: _____

PROSPECTING FOR NEW CUSTOMERS

CATEGORY	POSSIBLE	SCORE
Introduction <ul style="list-style-type: none"> Clearly yourself Establish rapport 	10	
Attitude <ul style="list-style-type: none"> Pleasant Friendly Professional Empathetic 	20	
Qualify the prospect <ul style="list-style-type: none"> Probing for customer needs Demonstrate good listening skills 	25	
Provide features and benefits <ul style="list-style-type: none"> Describe features and benefits appropriate to the prospects needs 	25	
Closing <ul style="list-style-type: none"> Ask for a buying decision, i.e., the order or appointment Reviewing the order or commitment 	20	
Total Practicum Score:	100	

Judge's Signature: _____ Date: _____

5 CHAPTER

NATIONAL FFA AGRONOMY

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

To create interest and promote understanding in agronomy by providing opportunities for recognition through the demonstration of skills and proficiencies.

II. OBJECTIVES

1. To demonstrate basic knowledge of agronomic sciences.
2. To explore career opportunities, skills and proficiencies in the agronomy industry.
3. To determine the ability to identify agronomic:
 - Crops
 - Weeds
 - Seeds
 - Insects
 - Diseases
 - Plant Nutrient Deficiencies
 - Plant Disorders
 - Crop Grading and Pricing
 - Equipment
4. To evaluate a scenario and develop a crop management plan including crop selection, production and marketing.
5. To demonstrate understanding of sustainable agriculture and environmental stewardship through the use of integrated pest management and best management practices.

III. EVENT RULES

1. **Team Make-up-** Team size shall be four members. All four members will be scored and all four scores will count toward the team total.

2. It is highly recommended that participants be in official FFA dress in each event.
3. All participants will be given an identification number by which they will be designated throughout the event.
4. Under no circumstance will any participant be allowed to handle any of the items in the identification portion of the practicums. Any infractions of this rule will be sufficient to eliminate a team from the event.
5. Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.
6. Written Material: All written material will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the site.
7. All general rules will apply to this event.
8. The National FFA Officers and National Board of Directors will be in charge of this event.
9. The event will include:
 - Team Activity
 - Exam
 - Practicums

IV. EVENT FORMAT

A. Equipment

Materials students must provide- Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils and an electronic calculator. The calculators used with the event are to be battery operated, non-programmable, silent with large keys and large displays. The calculators should only

have these functions- addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event. Laptop computers may be used in future events. These laptop computers may or may not be provided. Coaches will be notified in the team orientation packet if computers will be used in the event and if they will be provided or must be supplied by the team.

B. Team Activity (1000 Points)

The team will be provided a scenario of an agronomic situation and will be asked to develop a management plan in one hour. The team will be required to develop both an oral presentation and a written plan that addresses the question in the scenario. The team will submit their written plan at the end of their oral presentation.

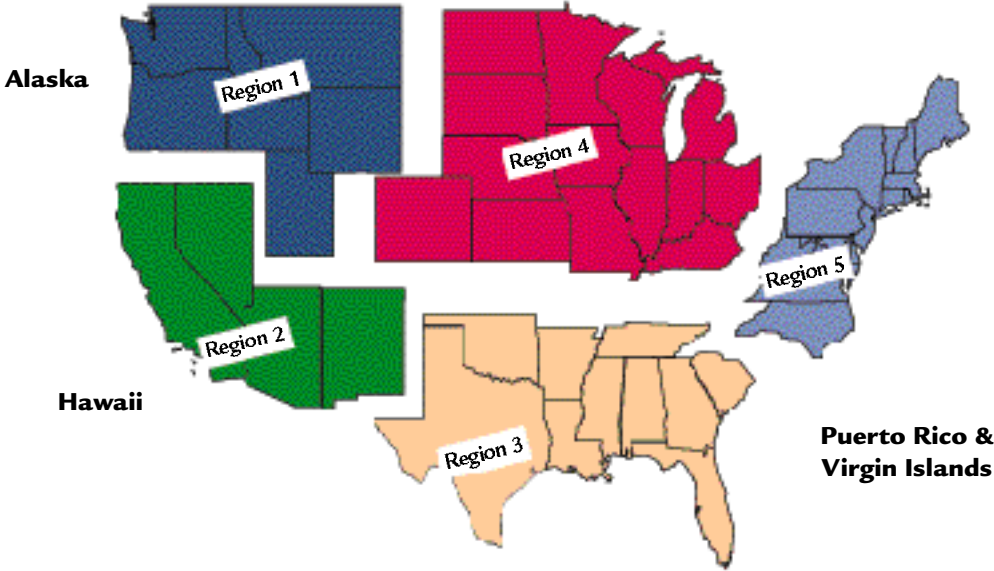
The team will have ten (10) minutes to prepare for their oral presentation. After preparation the team will be required to give an oral presentation justifying decisions made by the team. (Eight minutes maximum in length). All team members are expected to participate in the presentation. The team will then be required to answer questions from judges in regards to the decisions reached by their team. (Five minutes maximum)

Cost information may be utilized for various practices such as irrigation, machinery, harvesting, seedbed preparation, storage and loan interest rates, as well as fertilizers and chemicals (This list is not conclusive.) The students may be asked to figure profit or loss based on this information.

Each year the team event scenario will be chosen from a cropping region of the country. The rotation and crops list follows.

An example of the team activity can be found in Section VIII at end of Agronomy CDE area.

NATIONAL FFA AGRONOMY CDE REGIONAL AREAS



REGION 1
TEAM EVENT CROP LIST
2006

- Potatoes
- Wheat, HRW
- Barley
- Hops
- Dry edible beans
- Peas
- Alfalfa
- Corn, sweet
- Ryegrass
- Peppers
- Fescue
- Sugarbeet

REGION 2
TEAM EVENT CROP LIST
2007

- Cotton
- Bermudagrass
- Melons
- Lettuce
- Tomato
- Onion
- Pepper
- Corn, dent
- Strawberry
- Sudangrass
- Alfalfa
- Rice

REGION 3
TEAM EVENT CROP LIST
2008

- Peanuts
- Wheat, HRW
- Sugarcane
- Cotton
- Sorghum
- Rice
- Watermelon
- Corn, dent
- Alfalfa
- Bermudagrass
- Soybean
- Fescue

REGION 4
TEAM EVENT CROP LIST
2009

- Wheat, durum
- Wheat, HRS
- Corn, dent
- Soybeans
- Canola
- Flax
- Sunflower
- Barley
- Sorghum
- Sugarbeet
- Alfalfa
- Corn, pop

REGION 5
TEAM EVENT CROP LIST
2010

- Potatoes
- Cranberries
- Squash
- Watermelon
- Fescue
- Orchardgrass
- Alfalfa
- Corn, sweet
- Strawberry
- White clover
- Tobacco
- Sweet potato

An example of the team activity can be found in Section VIII at end of Agronomy CDE area.

C. Individual Activities

1. General Knowledge Examination (Total Possible 100 points) (50 questions)
Fifty objective multiple choice questions will be given to each participant.
Questions will come from the references listed at the conclusion of the document.

2. Identification – (150 points)

Students will identify 50 weed and/or crop plants and/or seeds. Plants may be presented in any stage of growth following emergence. The following is a list of possible specimens.

WEED PLANTS AND/OR SEEDS (USDA NOXIOUS WEEDS DENOTED BY *)–

ID #	Weed Name	Form	Botanical Name
100	barnyardgrass	plant and seed	<i>Echinochloa crus-galli</i>
101	black nightshade	plant and seed	<i>Solanum nigrum</i> or <i>Solanum ptycanthum</i>
102	broadleaf plantain	plant and seed	<i>Plantago major</i>
103	buckhorn plantain	plant and seed	<i>Plantago lanceolata</i>
104	bull thistle*	plant and seed	<i>Cirsium vulgare</i>
105	Canada thistle*	plant and seed	<i>Cirsium arvense</i>
106	cheat	plant and seed	<i>Bromus secalinus</i>
107	cogongrass	plant only	<i>Imperata cylindrica</i>
108	common chickweed	plant and seed	<i>Stellaria media</i>
109	common cocklebur	plant and seed as bur	<i>Xanthium strumarium</i>
110	common lambsquarters	plant and seed	<i>Chenopodium album</i>
111	common mallow	plant and seed	<i>Malva neglecta</i>
112	common milkweed	plant and seed	<i>Asclepias syriaca</i>
113	common mullein	plant and seed	<i>Verbascum thapsus</i>
114	common purslane	plant and seed	<i>Portulaca oleracea</i>
115	common ragweed	plant and seed	<i>Ambrosia artemisiifolia</i>
116	common sunflower	plant and seed	<i>Helianthus annuus</i>
117	crabgrass	plant and seed	<i>Digitaria spp.</i>
118	crown vetch	plant and seed	<i>Coronilla varia</i>
119	curly dock	plant and seed	<i>Rumex crispus</i>
120	dandelion	plant and seed	<i>Taraxacum officinale</i>
121	field bindweed*	plant and seed	<i>Convolvulus arvensis</i>
122	field dodder*	plant and seed	<i>Cuscuta spp.</i>
123	field pennycress	plant and seed	<i>Thlaspi arvense</i>

ID #	Weed Name	Form	Botanical Name
124	field sandbur	plant and seed	<i>Cenchrus incertus</i>
125	foxtail, giant	plant and seed	<i>Setaria faberi</i>
126	foxtail, green	plant and seed	<i>Setaria viridis</i>
127	foxtail, yellow	plant and seed	<i>Setaria glauca</i>
128	giant ragweed	plant and seed	<i>Ambrosia trifida</i>
129	ground cherry	plant and seed	<i>Physalis spp.</i>
130	horsenettle*	plant and seed	<i>Solanum carolinense</i>
131	jimsonweed	plant and seed	<i>Datura stramonium</i>
132	Johnsongrass*	plant and seed	<i>Sorghum halpense</i>
133	kochia	plant and seed	<i>Kochia scoparia</i>
134	leafy spurge*	plant and seed	<i>Euphorbia esula</i>
135	morningglory	plant and seed	<i>Ipomoea spp.</i>
136	nightshade, silver	plant and seed	<i>Solanum elaeagnifolium</i>
137	nutsedge*	plant and seed as Nutlet	<i>Cyperus spp.</i>
138	prickly lettuce	plant and seed	<i>Lactuca serriola</i>
139	prostrate knotweed	plant and seed	<i>Polygonum aviculare</i>
140	prostrate spurge	plant only	<i>Euphorbia supina</i>
141	puncturevine*	plant and seed	<i>Tribulus terrestris</i>
142	quackgrass*	plant and seed	<i>Agropyron repens</i>
143	redroot pigweed	plant and seed	<i>Amaranthus retroflexus</i>
144	Russian thistle	plant and seed	<i>Salsola pestifer</i>
145	shepardspurse	plant and seed	<i>Capsella bursa-pastoris</i>
146	smartweed	plant and seed	<i>Polygonum spp.</i>
147	sowthistle*	plant and seed	<i>Sonchus spp.</i>
148	tansy mustard	plant and seed	<i>Descurainia pinnata</i>
149	velvetleaf	plant and seed	<i>Abutilon theophrasti</i>
150	wild carrot	plant and seed	<i>Daucus carota</i>
151	wild mustard	plant and seed	<i>Brassica kaber</i>
152	wild oats	plant only	<i>Avena sativa</i>
153	wild onion/garlic	plant and seed	<i>Allium spp.</i>
154	wooly cupgrass	plant and seed	<i>Eriochloa gracilis</i>

Weeds marked with * are considered noxious weeds in at least eleven states as listed by the USDA.

CROP PLANTS AND/OR SEEDS –

ID #	Crop	Form	Botanical Name
200	Alfalfa	(plant or seed)	<i>Medicago sativa</i>
201	Barley	(plant or seed)	<i>Hordeum vulgare</i>
202	Bean (dry)	(plant only)	<i>Phaseolus vulgaris</i>
203	Bermuda grass	(plant or seed)	<i>Cynodon dactylon</i>
204	Broccoli	(plant only)	<i>Brassica oleracea var. italica</i>
205	Canola	(plant or seed)	<i>Brassica napus</i>
206	Cantaloupe	(plant or seed)	<i>Cucumis melo var. cantalupensis</i>
207	Cauliflower	(plant only)	<i>Brassica oleracea var. botrytis</i>
208	Chili pepper	(plant or seed)	<i>Capsicum annuum</i>
209	Corn	(plant only)	<i>Zea mays</i>
210	Cotton	(plant or seed)	<i>Gossypium hirsutum</i>
211	Cranberry	(plant only)	<i>Vaccinium macrocarpon</i>
212	Cucumber	(plant or seed)	<i>Cucumis sativus var. sativus</i>
213	Dent corn	(seed only)	<i>Zea mays</i>
214	Durham wheat	(seed only)	<i>Triticum turgidum</i>
215	Flax	(plant only)	<i>Linum usitatissimum</i>
216	Hops	(plant only)	<i>Humulus lupulus</i>
217	Kentucky bluegrass	(plant or seed)	<i>Poa pratensis</i>
218	Lettuce	(plant or seed)	<i>Lactuca sativa</i>
219	Lima beans	(seed only)	<i>Phaseolus lunatus</i>
220	Oats	(plant or seed)	<i>Avena sativa</i>
221	Onion	(plant or seed)	<i>Allium cepa</i>
222	Orchardgrass	(plant or seed)	<i>Dactylis glomerata</i>
223	Peanuts	(plant or seed)	<i>Arachis hypogaea</i>
224	Peas	(plant or seed)	<i>Pisum Sativum</i>
225	Pinto beans	(seed only)	<i>Phaseolus vulgaris</i>
226	Popcorn	(seed only)	<i>Zea mays</i>
227	Potato	(plant only)	<i>Solanum tuberosum</i>
228	Red bean	(seed only)	<i>Phaseolus vulgaris</i>
229	Red clover	(plant or seed)	<i>Trifolium pratense</i>
230	Red wheat	(seed only)	<i>Triticum aestivum</i>
231	Rice	(plant or seed)	<i>Oryza sativa</i>

ID #	Crop	Form	Botanical Name
232	Rye	(plant or seed)	<i>Secale cereale</i>
233	Safflower	(plant or seed)	<i>Carthamus tinctorius</i>
234	Sorghum	(plant or seed)	<i>Sorghum bicolor</i>
235	Soybeans	(plant or seed)	<i>Glycine max</i>
236	Sweet Corn	Plant only	<i>Zea mays</i>
237	Squash	(plant or seed)	<i>Curcubita pepo</i>
238	Strawberry	(plant only)	<i>Fragaria virginiana</i>
239	Sudangrass	(plant or seed)	<i>Sorghum bicolor</i>
240	Sugar beets	(plant or seed)	<i>Beta vulgaris</i>
241	Sugar cane	(plant only)	<i>Saccharum sp.</i>
242	Sunflower	(plant or seed)	<i>Helianthus annuus</i>
243	Sweet potato	(plant only)	<i>Ipomoea batatas</i>
244	Sweetclover	(plant or seed)	<i>Melilotus albus</i>
245	Tall fescue	(plant or seed)	<i>Festuca arundinacea</i>
246	Timothy	(plant or seed)	<i>Phleum pratense</i>
247	Tobacco	(plant or seed)	<i>Nicotiana tabacum</i>
248	Tomato	(plant or seed)	<i>Lycopersicon esculentum</i>
249	Watermelon	(plant or seed)	<i>Citrullus lanatus</i>
250	Wheat	(plant only)	<i>Triticum aestivum</i>
251	White clover	(plant or seed)	<i>Trifolium repens</i>
252	White wheat	(seed only)	<i>Triticum aestivum</i>

3. Soils – (100 points)

Each participant will be responsible for the following activities related to soils

- Identify various soil textures by feel (3 samples)
- Identify various soil structures (3 samples)
- Analyze soil monoliths and answer questions
 - e.g., relative age (e.g., young, mature, old), relative drainage (e.g., poor, moderate, well), relative topographic position (e.g., summit, slope, depression) and source of dominate soil color (e.g., organic matter, iron, mineral).
- Identify the USDA land capability classes and answer problem solving questions related to various classes.
- Analyze a soil survey maps in regards to:
 - locating specific sites
 - suggesting the uses of soil in that spot
 - identifying drainage situation

4. Commodity Evaluation – (250 points)
Participants will evaluate the quality of four different crops. These evaluations will be broken down into 3 different categories representing different aspects of quality (Purity, Marketability and Usability).

- a. Purity (Seed Analysis) – (50 points)
Participants will find and identify crop and weed seeds in a base sample of forage, fiber or grain crop and one base sample from another crop (see crop list).

1. Two samples will be analyzed in 30 minutes. 50 points total (25 points per sample).
2. Participants will be provided forceps, flat-sided sticks, magnifying lenses and an analysis board provided to aid in seed analysis separation.
3. Admixtures will be named according to common names as in the identification list.
4. The participants must classify all seeds mixed with the base sample. The seed will be classified as either
a) Crop and/or Varieties b) Common Weeds c) Noxious weeds.

5. **Weeds marked with * in the event weeds list are considered noxious weeds in at least eleven states as listed by the USDA.**

No less than three seeds of any impurity will be added to a sample. All crop and weed seeds must be mature. Only impurities listed as permissible on the identification list may be used.

Scoring system for seed analysis:

1. The total score per sample will be 25 points.
2. Points will be allotted for proper identification of the seed based on the number of impurities that are in the sample.
3. Points will be deducted for listing impurities that are not in the sample.
- b. Marketability (Grain Grading) – (100 points)

Participants will determine the grade of wheat, corn or soybeans. Grain grading will be done in accordance with the Official U.S. Standards for Grain.

1. Two samples will be graded in 30 minutes. Each sample is worth 50 points.
2. Participants will be given a base sample to determine the class and/or subclass of grain.
3. Participants will be provided written information about grain samples (i.e., test weight, moisture, odor and special grade information).
4. Participants will be given visual samples of heat damaged kernels, foreign material, splits, broken corn and foreign material, shrunken and broken kernels, defects total and dockage in a vacuum-sealed package. Raw weights of each defect will be given and participants will calculate the percentage of each based on the Flow Chart provided.
5. Participants will complete the Grain Grading Answer Sheet using only the appropriate spaces.
6. Not all classes, subclasses and special grades included in the Official U.S.

Standards for Grain will be used in the event. The following classes, subclasses, special grades and other special rules will apply:

Corn

- a. Class – White, Yellow or Mixed.
Determined by inspection of the base sample or from any visual factors in the sealed bag.
- b. Special grade – Infested

Soybean

- a. Class – Yellow or Mixed.
Determined by inspection of the base sample or from any visual factors in the sealed bag.
- b. Special grades – Garlicky, Infested or Purple mottled or stained.
- c. Soybeans of other colors are not a grading factor for the class of Mixed Soybeans.

Wheat

- a. Class – Hard Red Winter, Soft Red Winter and Hard Red Spring.
 - b. Subclass – Dark Northern Spring, Northern Spring and Red Spring are used when grading hard red spring wheat.
 - c. Special grades – Ergoty, garlicky, Infested, Light Smutty, Smutty and Treated.
7. For the special grade infested live weevils will include rice weevils, granary weevils, cowpea weevils, maize weevils and lesser grain borers. Other live insects injurious to stored grains will include *Angoumois* grain moth, Indian mealmoth, saw-toothed grain beetle, confused flour beetle, red flour beetle, vetch bruchids and the larva of

any of these insects. Insect infestation will be given as written information.

8. For the special grade garlicky, 3 green garlic bulblets equal 3 dry or partly dry bulblets. Green bulblets have retained all their husks. Dry or partly dry bulblets have lost all or part of their husks.
- c. Usability (Crop Quality) – (100 points)
Two classes of crop samples, one of a forage, fiber or grain crop and one from another crop (see plant list) will be evaluated in 30 minutes (15 minutes per sample). Each class will consist of four samples of the same crop. Participants will rank each class with a Hormel card (25 points per sample) and provide written justification (25 points per sample).
5. Diagnostic Clinic (100 points)

Each participant will be given two samples. Each sample will come with a field report describing the situation where the sample is from. They will prepare a written recommendation to respond to the report using their agronomic knowledge.

Samples will be chosen from the crop list and the problems to be diagnosed are from the identification, pest management or soils section.

One sample will require the use of a rapid field soil test. For this sample the participant must test the soil for nitrogen, phosphorous, potassium and pH using a LaMotte Soil test kit Model EL available from NASCO. Using the soil test and sensory clues (visual, smell, touch) a diagnosis and a corrective recommendation for soil additives (based on a soil test and recommendation tables provided) must be provided.

6. Pest management – (100 points)

a. Disorders

1. Ten samples will be identified according to Category, Causal Agent

and Damage location (3 points for causal category, 4 points for causal agent, and 3 points for damage location).

Categories	Cultural		Biological		Environmental	
	ID #	Casual Agents	ID #	Casual Agents	ID #	Casual Agents
	700	Nutritional	704	Fungus	709	Frost damage
	701	Chemical	705	Nematodes	710	Wind damage
	702	Mechanical	706	Virus	711	Drought
	703	Compaction	707	Bacteria	712	Hail
			708	Insect	713	Lightning
					714	Pollution
					715	Flood
					716	Heat

Damage location Fruit, flower, vegetative parts or vascular bundles

ID #	Location	ID #	Location	ID #	Location
060	No Damage	062	Vegetative Parts	064	More Than One Area
061	Fruit or Flower	063	Vascular Bundles		

b. Insect Identification – (100 points)

1. Ten samples will be identified according to insect name, life cycle, economic impact and management.

(Id 6 points 2 points life cycle 2 points for economic effect = 10 total)

2. List of insects for identification:

ID #	Insect	ID #	Insect	ID #	Insect
300	alfalfa weevil	307	chinch bug	315	grain weevil
301	aphides	308	Colorado potato beetle	316	grasshopper
302	armyworm larva	309	corn ear worm larva	317	green lacewing
303	assassin bug	310	corn rootworm larva	318	honeybee
304	bean leaf beetle (501&502)	311	cricket	319	Japanese beetle
305	blister beetle (500&502)	312	cutworm larva	320	lady beetle larva
306	boll weevil	313	European corn borer larva	321	leaf skeletonizer
		314	flea beetle	322	leafhopper
				323	lygus

ID #	Insect	ID #	Insect	ID #	Insect
324	Mexican bean beetle (501&502)	329	spittlebug	333	Western corn rootworm beetle
325	pink bollworm larva	330	spotted cucumber beetle/Southern corn	334	western flower thrip
326	salt marsh caterpillar/wooly worm	331	rootworm beetle stinkbug	335	white grub
327	scale	332	tobacco/tomato	336	whitefly
328	spider mite		hornworm larva	337	wireworm

3. Possible life cycles for insects:

ID #	Life cycle
001	Complete
002	Incomplete
003	None

4. Economic Impact

ID #	Economic Impact
050	None or predatory
051	Destruction of fruit/flower
052	Destruction of vegetative parts (roots & leaves)
053	Destruction by removal of plant fluids

5. Insect Mouth Parts

ID #	Insect Mouth Parts
070	Chewing
071	Chewing-lapping
072	Rasping-sucking
073	Piercing-sucking
074	Sponging
075	Siphoning

7. Equipment and Machinery
Identification (100 points)

Participants will be required to identify
20 specimens from the following list.

Samples may appear as actual
equipment, scale models, toys or
pictures. Major component that are
unique to a certain piece of equipment
can also be used.

ID #	Equipment
600	Air line
601	Anemometer
602	Backpack Sprayer
603	Bale Wagon
604	Baler
605	Bean head (for combine)
606	Bed Shaper
607	Broadcaster
608	Center Pivot
609	Chemigation Unit
610	Combine
611	Conveyor/elevator
612	Corn head (for combine)
613	Cotton Picker
614	Cotton Stripper
615	Cultivator
616	Disc
617	Drill
618	Forage Harvester

ID #	Equipment	ID #	Equipment
619	Gauge Wheel	640	PPE (All equipment)
620	GPS Receiver & Light Bar	641	Press Wheel
621	Grain Auger	642	Pressure Gauge
622	Grain moisture meter	643	PTO shaft
623	Grain storage bin/dryer	644	Rake
624	Gravity wagon	645	Regulator
625	Hearing protection	646	Ripper
626	Hitch pin	647	Rotary Hoe
627	Hoe	648	Seed Plate
628	Hydraulic line	649	Shovel
629	Liquid manure/fertilizer spreader	650	Soil Probe
630	Manure Spreader (dry)	651	Soil Thermometer
631	Module Builder	652	Sprayer
632	Mower	653	Sugar Beet Digger
633	Mulcher	654	Swather
634	Nozzle Bodies (Flood vs. Flat Fan)	655	Sweep Net
635	Pea harvester	656	Tensiometer
636	Peanut Digger (Sp)	657	Tractor
637	Planter	658	Transplanter
638	Plow	659	Yield monitor
639	Potato Digger		

V. SCORING

Participant scores are the sum of the individual phases of the event, and team scores are the sum of the four highest member scores plus the team activity. Possible points are as follows:

Phase	Member	Team
1. Examination	.....100	.....400
2. Identification	.....150	.....600
3. Soils	.....100	.....400
4. Commodity	.....250	.....1000
5. Diagnostic	.....100	.....400

Phase	Member	Team
6. Pest Management	.....100	.....400
7. Insect Identification	.....100	.....400
8. Equipment and Machinery Identification	..100	.....400
9. Team Activity	.....	.....1000
TOTAL	.....1000	.....5000

VI. TIEBREAKERS

If ties occur for team awards the following events will be used to determine the placings:

1. Team Activity
2. Total Written Exam

If ties occur for individual awards the following events will be used to determine the placings:

1. Written Exam
2. Plant and Seed Identification
3. Soils

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VII. REFERENCES:

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Ohio Curriculum Materials

Ohio Agronomy Guide

Plant Mounts

Seed Sets

Plant Mounts (not entire list)

University of Arizona, College of Agriculture -

Plant Growth and Development

Plant Production Management

Weeds

Insects

Purdue Extension 888-EXT-INFO

Corn and Soybean Field Guide

Forage Field Guide

Pest Management Manual #IPM-1

NASCO References

Oklahoma State University, Cooperative Extension Service –

L-216 Corn Kernel damage

L- 215 Soybean Kernel damage

L- 213 Wheat Kernel damage

Kansas State University, Agronomy Department

Grain Grading Manual for wheat, corn and soybean

University of Illinois– 217-333-2007

Crop Plant Booklet

Weed Plant Booklet

Field Scouting Manual

Soybean Diseases I&II Color Plate Sheets

Corn Diseases I&II Color Plate Sheets

Wheat Diseases I&II Color Plate Sheets

USDA web site for the National Organic Program

<http://www.ams.usda.gov/nop/indexIE.htm>

Iowa State University 515-294-5247

How a Corn Plant Develops #48

How a Soybean Plant Develops #53

University of Minnesota 612-625-8173

Herbicide Mode of Action and Injury Symptoms #377

Weed Science Society of America

www.ussa.org

CD Available to assist with plant identification.

VIII. EXAMPLES

For Team Activity

Possible scenario

Your field measures 1500 ft. x 1750 ft. The field is a silt-loam soil type with a 3 percent slope and no previous drainage problems. You have all necessary equipment. Your current crop is a forage legume (i.e., alfalfa, red clover and white clover). You have decided to follow with a corn crop. The target plant population is 24,000 plants per acre. The growing season is 120 days. You will rotate to a broadleaf crop following the harvest of the corn. This field has the following weed problems: yellow foxtail, pigweed, Johnsongrass and field bindweed.

Utilizing the above information and additional provided material, develop a management plan that includes but is not restricted to the following: the variety of corn, the amount of seed, projected yield,

tillage system, pest control program and fertilization plan. With the provided resources and your knowledge develop a management plan and budget including profit or loss for this field.

The following materials are provided:

- soil test
- seed tag information
- variety trial data
- herbicide labels
- fertilizer cost chart with mixture types
- nitrogen credit for legume
- various cost sheet

This is only one example. For more examples of the team event please contact National FFA for past event packets.

IX. ADDITIONAL INFORMATION

WEEDS

Weeds marked with * are considered noxious weeds in at least eleven states as listed by the USDA

ID #	Weed Name	Form	Botanical Name
100	barnyardgrass	plant and seed	<i>Echinochloa crus-galli</i>
101	black nightshade	plant and seed	<i>Solanum nigrum</i> or <i>Solanum ptycanthum</i>
102	broadleaf plantain	plant and seed	<i>Plantago major</i>
103	buckhorn plantain	plant and seed	<i>Plantago lanceolata</i>
104	bull thistle*	plant and seed	<i>Cirsium vulgare</i>
105	Canada thistle*	plant and seed	<i>Cirsium arvense</i>
106	cheat	plant and seed	<i>Bromus secalinus</i>
107	cogongrass	plant only	<i>Imperata cylindrica</i>
108	common chickweed	plant and seed	<i>Stellaria media</i>
109	common cocklebur	plant and seed as bur	<i>Xanthium strumarium</i>
110	common lambsquarters	plant and seed	<i>Chenopodium album</i>
111	common mallow	plant and seed	<i>Malva neglecta</i>
112	common milkweed	plant and seed	<i>Asclepias syriaca</i>
113	common mullein	plant and seed	<i>Verbascum thapsus</i>
114	common purslane	plant and seed	<i>Portulaca oleracea</i>
115	common ragweed	plant and seed	<i>Ambrosia artemisiifolia</i>
116	common sunflower	plant and seed	<i>Helianthus annuus</i>
117	crabgrass	plant and seed	<i>Digitaria</i> spp.
118	crown vetch	plant and seed	<i>Coronilla varia</i>
119	curly dock	plant and seed	<i>Rumex crispus</i>
120	dandelion	plant and seed	<i>Taraxacum officinale</i>
121	field bindweed*	plant and seed	<i>Convolvulus arvensis</i>
122	field dodder*	plant and seed	<i>Cuscuta</i> spp.
123	field pennycress	plant and seed	<i>Thlaspi arvense</i>
124	field sandbur	plant and seed	<i>Cenchrus incertus</i>
125	foxtail, giant	plant and seed	<i>Setaria faberi</i>
126	foxtail, green	plant and seed	<i>Setaria viridis</i>
127	foxtail, yellow	plant and seed	<i>Setaria glauca</i>
128	giant ragweed	plant and seed	<i>Ambrosia trifida</i>
129	ground cherry	plant and seed	<i>Physalis</i> spp.
130	horsenettle*	plant and seed	<i>Solanum carolinense</i>
131	jimsonweed	plant and seed	<i>Datura stramonium</i>
132	Johnsongrass*	plant and seed	<i>Sorghum halpense</i>
133	kochia	plant and seed	<i>Kochia scoparia</i>
134	leafy spurge*	plant and seed	<i>Euphorbia esula</i>
135	morningglory	plant and seed	<i>Ipomoea</i> spp.
136	nightshade, silver	plant and seed	<i>Solanum elaeagnifolium</i>
137	nutsedge*	plant and seed as Nutlet	<i>Cyperus</i> spp.
138	prickly lettuce	plant and seed	<i>Lactuca serriola</i>
139	prostrate knotweed	plant and seed	<i>Polygonum aviculare</i>
140	prostrate spurge	plant only	<i>Euphorbia supina</i>
141	puncturevine*	plant and seed	<i>Tribulus terrestris</i>
142	quackgrass*	plant and seed	<i>Agropyron repens</i>
143	redroot pigweed	plant and seed	<i>Amaranthus retroflexus</i>
144	Russian thistle	plant and seed	<i>Salsola pestifer</i>
145	shepardspurse	plant and seed	<i>Capsella bursa-pastoris</i>
146	smartweed	plant and seed	<i>Polygonum</i> spp.
147	sowthistle*	plant and seed	<i>Sonchus</i> spp.
148	tansy mustard	plant and seed	<i>Descurainia pinnata</i>
149	velvetleaf	plant and seed	<i>Abutilon theophrasti</i>
150	wild carrot	plant and seed	<i>Daucus carota</i>
151	wild mustard	plant and seed	<i>Brassica kaber</i>
152	wild oats	plant only	<i>Avena sativa</i>
153	wild onion/garlic	plant and seed	<i>Allium</i> spp.
154	wooly cupgrass	plant and seed	<i>Eriochloa gracilis</i>

CROPS LIST

ID #	Weed Name	Form	Botanical Name
200	Alfalfa	(plant or seed)	<i>Medicago sativa</i>
201	Barley	(plant or seed)	<i>Hordeum vulgare</i>
202	Bean (dry)	(plant only)	<i>Phaseolus vulgaris</i>
203	Bermuda grass	(plant or seed)	<i>Cynodon dactylon</i>
204	Broccoli	(plant only)	<i>Brassica oleracea var. italica</i>
205	Canola	(plant or seed)	<i>Brassica napus</i>
206	Cantaloupe	(plant or seed)	<i>Cucumis melo var. cantalupensis</i>
207	Cauliflower	(plant only)	<i>Brassica oleracea var. botrytis</i>
208	Chili pepper	(plant or seed)	<i>Capsicum annuum</i>
209	Corn	(plant only)	<i>Zea mays</i>
210	Cotton	(plant or seed)	<i>Gossypium hirsutum</i>
211	Cranberry	(plant only)	<i>Vaccinium macrocarpon</i>
212	Cucumber	(plant or seed)	<i>Cucumis sativus var. sativus</i>
213	Dent corn	(seed only)	<i>Zea mays</i>
214	Durhum wheat	(seed only)	<i>Triticum turgidum</i>
215	Flax	(plant only)	<i>Linum usitatissimum</i>
216	Hops	(plant only)	<i>Humulus lupulus</i>
217	Kentucky bluegrass	(plant or seed)	<i>Poa pratensis</i>
218	Lettuce	(plant or seed)	<i>Lactuca sativa</i>
219	Lima beans	(seed only)	<i>Phaseolus lunatus</i>
220	Oats	(plant or seed)	<i>Avena sativa</i>
221	Onion	(plant or seed)	<i>Allium cepa</i>
222	Orchardgrass	(plant or seed)	<i>Dactylis glomerata</i>
223	Peanuts	(plant or seed)	<i>Arachis hypogaea</i>
224	Peas	(plant or seed)	<i>Pisum Sativum</i>
225	Pinto beans	(seed only)	<i>Phaseolus vulgaris</i>
226	Popcorn	(seed only)	<i>Zea mays</i>
227	Potato	(plant only)	<i>Solanum tuberosum</i>
228	Red bean	(seed only)	<i>Phaseolus vulgaris</i>
229	Red clover	(plant or seed)	<i>Trifolium pratense</i>
230	Red wheat	(seed only)	<i>Triticum aestivum</i>
231	Rice	(plant or seed)	<i>Oryza sativa</i>
232	Rye	(plant or seed)	<i>Secale cereale</i>
233	Safflower	(plant or seed)	<i>Carthamus tinctorius</i>
234	Sorghum	(plant or seed)	<i>Sorghum bicolor</i>
235	Soybeans	(plant or seed)	<i>Glycine max</i>
236	Sweet Corn	Plant only	<i>Zea mays</i>
237	Squash	(plant or seed)	<i>Curcubita pepo</i>
238	Strawberry	(plant only)	<i>Fragaria virginiana</i>
239	Sudangrass	(plant or seed)	<i>Sorghum bicolor</i>
240	Sugar beets	(plant or seed)	<i>Beta vulgaris</i>
241	Sugar cane	(plant only)	<i>Saccharum sp.</i>
242	Sunflower	(plant or seed)	<i>Helianthus annuus</i>
243	Sweet potato	(plant only)	<i>Ipomoea batatas</i>
244	Sweetclover	(plant or seed)	<i>Melilotus albus</i>
245	Tall fescue	(plant or seed)	<i>Festuca arundinacea</i>
246	Timothy	(plant or seed)	<i>Phleum pratense</i>
247	Tobacco	(plant or seed)	<i>Nicotiana tabacum</i>
248	Tomato	(plant or seed)	<i>Lycopersicon esculentum</i>
249	Watermelon	(plant or seed)	<i>Citrullus lanatus</i>
250	Wheat	(plant only)	<i>Triticum aestivum</i>
251	White clover	(plant or seed)	<i>Trifolium repens</i>
252	White wheat	(seed only)	<i>Triticum aestivum</i>

CODES FOR IDENTIFICATION

MACHINERY IDENTIFICATION

600	Air line	620	GPS Receiver & Light	639	Potato Digger
601	Anemometer		Bar	640	PPE (All equipment)
602	Backpack Sprayer	621	Grain Auger	641	Press Wheel
603	Bale Wagon	622	Grain moisture meter	642	Pressure Gauge
604	Baler	623	Grain storage bin/dryer	643	PTO shaft
605	Bean head (for combine)	624	Gravity wagon	644	Rake
606	Bed Shaper	625	Hearing protection	645	Regulator
607	Broadcaster	626	Hitch pin	646	Ripper
608	Center Pivot	627	Hoe	647	Rotary Hoe
609	Chemigation Unit	628	Hydraulic line	648	Seed Plate
610	Combine	629	Liquid manure/fertilizer spreader	649	Shovel
611	Conveyor/elevator	630	Manure Spreader (dry)	650	Soil Probe
612	Corn head (for combine)	631	Module Builder	651	Soil Thermometer
613	Cotton Picker	632	Mower	652	Sprayer
614	Cotton Stripper	633	Mulcher	653	Sugar Beet Digger
615	Cultivator	634	Nozzle Bodies (Flood vs. Flat Fan)	654	Swather
616	Disc	635	Pea harvester	655	Sweep Net
617	Drill	636	Peanut Digger (Sp)	656	Tensiometer
618	Forage Harvester	637	Planter	657	Tractor
619	Gauge Wheel	638	Plow	658	Transplanter
				659	Yield monitor

AGRONOMY PLANT IDENTIFICATION LIST (Weeds and Crops) Page 1

Participant Name: _____ Participant Number _____ State _____ Date _____

Directions: Study each specimen provided. Determine the correct name for each specimen and the place an X in the box to the left of the code number that represents the correct name for the specimen

	ID #	WEED NAME	BOTANICAL NAME
	100	barnyardgrass	<i>Echinochloa crus-galli</i>
	101	black nightshade	<i>Solanum nigrum</i> or <i>Solanum ptycanthum</i>
	102	broadleaf plantain	<i>Plantago major</i>
	103	buckhorn plantain	<i>Plantago lanceolata</i>
	104	bull thistle*	<i>Cirsium vulgare</i>
	105	Canada thistle*	<i>Cirsium arvense</i>
	106	cheat	<i>Bromus secalinus</i>
	107	cogongrass	<i>Imperata cylindrica</i>
	108	common chickweed	<i>Stellaria media</i>
	109	common cocklebur	<i>Xanthium strumarium</i>
	110	common lambsquarters	<i>Chenopodium album</i>
	111	common mallow	<i>Malva neglecta</i>
	112	common milkweed	<i>Asclepias syriaca</i>
	113	common mullein	<i>Verbascum thapsus</i>
	114	common purslane	<i>Portulaca oleracea</i>
	115	common ragweed	<i>Ambrosia artemisiifolia</i>
	116	common sunflower	<i>Helianthus annuus</i>
	117	crabgrass	<i>Digitaria spp.</i>
	118	crown vetch	<i>Coronilla varia</i>
	119	curly dock	<i>Rumex crispus</i>
	120	dandelion	<i>Taraxacum officinale</i>
	121	field bindweed*	<i>Convolvulus arvensis</i>
	122	field dodder*	<i>Cuscuta spp.</i>
	123	field pennycress	<i>Thlaspi arvense</i>
	124	field sandbur	<i>Cenchrus incertus</i>
	125	foxtail, giant	<i>Setaria faberi</i>
	126	foxtail, green	<i>Setaria viridis</i>

	ID #	WEED NAME	BOTANICAL NAME
	127	foxtail, yellow	<i>Setaria glauca</i>
	128	giant ragweed	<i>Ambrosia trifida</i>
	129	ground cherry	<i>Physalis spp.</i>
	130	horsenettle*	<i>Solanum carolinense</i>
	131	jimsonweed	<i>Datura stramonium</i>
	132	Johnsongrass*	<i>Sorghum halpense</i>
	133	kochia	<i>Kochia scoparia</i>
	134	leafy spurge*	<i>Euphorbia esula</i>
	135	morningglory	<i>Ipomoea spp.</i>
	136	nightshade, silver	<i>Solanum elaeagnifolium</i>
	137	nutsedge*	<i>Cyperus spp.</i>
	138	prickly lettuce	<i>Lactuca serriola</i>
	139	prostrate knotweed	<i>Polygonum aviculare</i>
	140	prostrate spurge	<i>Euphorbia supina</i>
	141	puncturevine*	<i>Tribulus terrestris</i>
	142	quackgrass*	<i>Agropyron repens</i>
	143	redroot pigweed	<i>Amaranthus retroflexus</i>
	144	Russian thistle	<i>Salsola pestifer</i>
	145	shepardspurge	<i>Capsella bursa-pastoris</i>
	146	smartweed	<i>Polygonum spp.</i>
	147	sowthistle*	<i>Sonchus spp.</i>
	148	tansy mustard	<i>Descurainia pinnata</i>
	149	velvetleaf	<i>Abutilon theophrasti</i>
	150	wild carrot	<i>Daucus carota</i>
	151	wild mustard	<i>Brassica kaber</i>
	152	wild oats	<i>Avena sativa</i>
	153	wild onion/garlic	<i>Allium spp.</i>
	154	wooly cupgrass	<i>Eriochloa gracilis</i>

AGRONOMY PLANT IDENTIFICATION LIST (Weeds and Crops) Page 2

	ID #	CROP NAME	BOTANICAL NAME
	200	Alfalfa	<i>Medicago sativa</i>
	201	Barley	<i>Hordeum vulgare</i>
	202	Bean (dry)	<i>Phaseolus vulgaris</i>
	203	Bermuda grass	<i>Cynodon dactylon</i>
	204	Broccoli	<i>Brassica oleracea</i> var. <i>italica</i>
	205	Canola	<i>Brassica napus</i>
	206	Cantaloupe	<i>Cucumis melo</i> var. <i>cantalupensis</i>
	207	Cauliflower	<i>Brassica oleracea</i> var. <i>botrytis</i>
	208	Chili pepper	<i>Capsicum annuum</i>
	209	Corn	<i>Zea mays</i>
	210	Cotton	<i>Gossypium hirsutum</i>
	211	Cranberry	<i>Vaccinium</i> <i>macrocarpon</i>
	212	Cucumber	<i>Cucumis sativus</i> var. <i>sativus</i>
	213	Dent corn	<i>Zea mays</i>
	214	Durham wheat	<i>Triticum turgidum</i>
	215	Flax	<i>Linum usitatissimum</i>
	216	Hops	<i>Humulus lupulus</i>
	217	Kentucky bluegrass	<i>Poa pratensis</i>
	218	Lettuce	<i>Lactuca sativa</i>
	219	Lima beans	<i>Phaseolus lunatus</i>
	220	Oats	<i>Avena sativa</i>
	221	Onion	<i>Allium cepa</i>
	222	Orchardgrass	<i>Dactylis glomerata</i>
	223	Peanuts	<i>Arachis hypogaea</i>
	224	Peas	<i>Pisum Sativum</i>
	225	Pinto beans	<i>Phaseolus vulgaris</i>
	226	Popcorn	<i>Zea mays</i>

	ID #	CROP NAME	BOTANICAL NAME
	227	Potato	<i>Solanum tuberosum</i>
	228	Red bean	<i>Phaseolus vulgaris</i>
	229	Red clover	<i>Trifolium pratense</i>
	230	Red wheat	<i>Triticum aestivum</i>
	231	Rice	<i>Oryza sativa</i>
	232	Rye	<i>Secale cereale</i>
	233	Safflower	<i>Carthamus tinctorius</i>
	234	Sorghum	<i>Sorghum bicolor</i>
	235	Soybeans	<i>Glycine max</i>
	236	Sweet Corn	<i>Zea mays</i>
	237	Squash	<i>Curcubita pepo</i>
	238	Strawberry	<i>Fragaria virginiana</i>
	239	Sudangrass	<i>Sorghum bicolor</i>
	240	Sugar beets	<i>Beta vulgaris</i>
	241	Sugar cane	<i>Saccharum sp.</i>
	242	Sunflower	<i>Helianthus annuus</i>
	243	Sweet potato	<i>Ipomoea batatas</i>
	244	Sweetclover	<i>Melilotus albus</i>
	245	Tall fescue	<i>Festuca arundinacea</i>
	246	Timothy	<i>Phleum pratense</i>
	247	Tobacco	<i>Nicotiana tabacum</i>
	248	Tomato	<i>Lycopersicon</i> <i>esculentum</i>
	249	Watermelon	<i>Citrullus lanatus</i>
	250	Wheat	<i>Triticum aestivum</i>
	251	White clover	<i>Trifolium repens</i>
	252	White wheat	<i>Triticum aestivum</i>

Possible Score	Points Earned
150	

Judge's Name

Judge's Signature and Date

Agronomy

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

AGRONOMIC DISORDERS PRACTICUM

	MEMBER ANSWER	POSSIBLE POINTS	MEMBER SCORE	POSSIBLE ANSWERS
1. Causal Category #:		3		Causal Category 100 Cultural 101 Biological 102 Environmental Agents 700. nutritional 701. chemical 702. mechanical 703. compaction 704. nematodes 705. virus 706. bacteria 707. insect 708. nutritional 709. frost damage 710. wind damage 711. drought 712. hail 713. lightning 714. pollution 715. flood 716. heat
Agent #:		4		
Part of Plant Damaged #:		3		
2. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
3. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
4. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
5. Causal Category #:		3		Parts of Plant Damaged 060 No Damage 061 Fruit or Flower 062 Vegetative Parts 063 Vascular Bundles 064 More than one area
Agent #:		4		
Part of Plant Damaged #:		3		
6. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
7. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
8. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
9. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
10. Causal Category #:		3		
Agent #:		4		
Part of Plant Damaged #:		3		
Total Score:		100		

Agronomy

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

INSECT IDENTIFICATION PRACTICUM

	MEMBER ANSWER	POSSIBLE POINTS	MEMBER SCORE	POSSIBLE ANSWERS
1. Identification #:		4		ID Specimens 300 alfalfa weevil 301 aphides 302 armyworm larva 303 assassin bug 304 bean leaf beetle (501&502) 305 blister beetle (500&502) 306 boll weevil 307 chinch bug 308 Colorado potato beetle 309 corn ear worm larva 310 corn rootworm larva 311 cricket 312 cutworm larva 313 European corn borer larva 314 flea beetle 315 grain weevil 316 grasshopper 317 green lacewing 318 honeybee 319 Japanese beetle 320 lady beetle larva 321 leaf skeletonizer 322 leafhopper 323 lygus 324 Mexican bean beetle (501&502) 325 pink bollworm larva 326 salt marsh caterpillar/wooly worm 327 scale 328 spider mite 329 spittlebug 330 spotted cucumber beetle/ Southern corn rootworm beetle 331 stinkbug 332 tobacco/tomato hornworm larva 333 Western corn rootworm beetle 334 western flower thrip 335 white grub 336 whitefly 337 wireworm Economic Impact 050 None or predatory 051 Fruit/Flower destruction 052 Vegetative Part destruction 053 Removal of plant fluids Life Cycle 001 Complete 002 Incomplete 003 None Mouth Parts 070 Chewing 071 Chewing-lapping 072 Rasping-sucking 073 Piercing-sucking 074 Sponging 075 Siphoning
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
2. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
3. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
4. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
5. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
6. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
7. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
8. Identification #:		4		
Agent #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
9. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
10. Identification #:		4		
Economic Impact #:		2		
Life Cycle #:		2		
Mouth-Part #:		2		
Total Score:		100		

STUDENT NAME _____ STATE _____ SCHOOL CODE _____ STUDENT NUMBER _____

PROBLEM NUMBER 1 OR 2 (PLEASE CIRCLE)

NATIONAL FFA AGRONOMY CDE
Plant and Pest Diagnostic Clinic

Name: _____ Sample Type: _____
 Chapter and State: _____ Inquirer Wants _____

 Describe problem: _____
 and Symptoms: _____

INSECT AND PEST IDENTIFICATION

Plant Identification	
Crop	
Weed ID	

Recommendations

GRAIN GRADING SCORE SHEET (USDA)

GRADE AND KIND U.S. No.									
TEST WEIGHT PER BUHEL	MOISTURE	HEAT DAMAGED KERNELS	DAMAGED KERNELS (TOTAL)	FOREIGN MATERIAL	SPLITS	BROKEN CORN AND FOREIGN MATERIAL	SHRUNKEN AND BROKEN KERNELS	DEFECTS (TOTAL)	
LBS.	%	%	%	%	%	%	%	%	
Sample #1					REMARKS				

Team Activity Scorecard

Name: _____ Chapter: _____

State: _____ Team No.: _____

	CATEGORY	EXCELLENT	GOOD	FAIR	POSSIBLE	SCORE
I	Teamwork Evaluation	100-91	90-81	80-71	100	
	<ul style="list-style-type: none"> • Leadership roles perceived • Participation by all members • Members responsibilities outlined and defined • Demonstration listening skills • Demonstrated use of time 					
II	Written Proposal	100-91	90-81	80-71	100	
1.	Analysis of Information <ul style="list-style-type: none"> • Clearly identify the problem • Data analyzed and utilized • Possible solutions analyzed • Each solution discussed • Short term and long-term approach discussed 					
2.	Quality of Written Plan <ul style="list-style-type: none"> • Introduction • Statement of Problem • Analysis of scenario • Possible solutions identified • Recommendations <ul style="list-style-type: none"> - short-term goals - long-term goals • Are goals measurable • Summary 					
III	Oral Presentation	300 to 271	270 to 241	240 to 211	300	
	<ul style="list-style-type: none"> • Follows management plan • Delivery professional and well thought out • Presentation clear and effective • Written plan neat and grammatically correct 					
IV	Questions	200 to 181	180 to 161	160 to 141	200	
	<ul style="list-style-type: none"> • Each member of the team responds to at least one question • Answers follow management plan • Confidence shown 					

Grand Total: 1000

Judge's Name

Judge's Signature and Date

Agronomy Crop Placing Written Reasons Score Sheet

Class: _____ Participant Number: _____ Name: _____ State: _____

Placing	_____	

Written Reasons Possible Score 25 Score Earned _____

Judge's Name

Judge's Signature and Date

6 CHAPTER

NATIONAL FFA

CREED SPEAKING

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The FFA Creed outlines the organization's beliefs regarding the agricultural industry, FFA membership and the value of citizenship and patriotism. The FFA Creed is recited by FFA members, as part of the requirements to earn the Greenhand Degree. The purpose of the Creed Speaking Career Development Event is to develop the public speaking abilities of 7th, 8th and 9th grade FFA members as well as develop their self-confidence and contribute to their advancement in the FFA degree program.

II. EVENT RULES

1. The National FFA Creed Speaking Career Development Event will be limited to one participant per state, must qualify in grades 7, 8 or 9, and must compete at the next national

convention following their state qualifying round.

2. A participant is highly recommended to be in official FFA dress in each event.
3. The National FFA Creed Speaking Career Development Event will follow the general rules and policies for all National FFA Career Development Events.
4. The National FFA Officers and National FFA Board of Directors will be in charge of this event.
5. Three to eight competent and impartial persons will be selected to judge the event. At least one judge should have an agricultural/FFA background. Each state with a speaker shall provide a judge for the national event.

III. EVENT FORMAT

1. The event will be a timed activity with four minutes for the oral presentation. After four minutes, 1 point for every second over set time will be deducted from the participant's final score on all judges' score cards.
2. The event will include answering questions directly related to the creed. Each participant will be asked three questions per round, with a five minute time limit for responses. The questions used will change as the participant progresses to semi and final rounds of competition. The questions will be formulated annually by the Creed Speaking Career Development Event committee and will avoid two part questions. Sample questions will not be available prior to the event.
3. Members will present the FFA Creed from the current year's Official FFA manual.
4. The national event will be conducted in three rounds: preliminary (consisting of 5–8 speakers per section), semifinals (2 sections of 8 speakers each) and finals (4 participants). Top two speakers from each preliminary round will advance to the semi finals. The top two speakers from the semi final rounds will advance to the final round. No ranking will be given except for the final four.
5. Event officials will randomly determine the speaking order. The program chairman shall introduce each participant by participant number and in order of the drawing. No props are to be used. Applause shall be withheld until all participants have spoken.
6. Each participant must recite the FFA Creed from memory. Each participant shall begin the presentation by stating "The FFA Creed by E.M. Tiffany." Each CDE participant shall end the presentation with the statement "... that inspiring task. Thank you."
7. Participants will be held in isolation until their presentation. Participants will not be allowed to have contact with any outside persons.
8. At the time of the event, the judges will be seated in different sections of the room in which the event is held. They will score each participant on the delivery of the creed, using the score sheet provided.
9. Two timekeepers shall be designated to record the time used by each participant in delivering his/her speech. Timekeepers will be seated together.
10. Two content accuracy judges will record the number of recitation errors during delivery. The accuracy judges will be seated together.
11. When participants have finished speaking, each judge will total the score of each speaker. The timekeepers' and accuracy judges' records will be used in computing the final score for each participant. The judges' score sheets will then be submitted to event officials to determine final ratings of participants.
12. Participants shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each participant then shall be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low point score method of selection).

IV. TIEBREAKERS

Ties will be broken based on the greatest number of low ranks. Participant's low ranks will be counted and the participant with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the participant's response to questions.

The participant with the greatest number of low ranks from the response to questions will be declared the winner. If a tie still exists then the participant's raw scores will be totaled. The participant with the greatest total of raw points will be declared the winner.

■ V. AWARDS

Plaques will be awarded to the national participants by the National FFA Organization. The National FFA Foundation will present cash awards as follows:

1st place	\$300
2nd place	\$275
3rd place	\$250
4th place	\$225

In addition, *if funding is available*, the final four speakers will receive additional scholarships *for travel and registration to the Washington Leadership Conference, not to exceed \$1000*. The recipients must use this scholarship prior to high school graduation.

■ VI. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Current year's Official FFA Manual

http://ag.arizona.edu/desert_roses/creed.htm

*web site holds current rules and score sheet

Creed Speaking

Name: _____

Chapter: _____

State: _____

Participant No.: _____

	POSSIBLE POINTS	ONE	TWO	THREE	FOUR	FIVE	SIX	SEVEN	EIGHT
VOICE									
• Quality	40								
• Pitch	40								
• Force	40								
• Articulation	40								
• Pronunciation	40								
Voice Total:	200								
STAGE PRESENCE									
• Personal Appearance	50								
• Poise and Posture	40								
• Attitude	35								
• Confidence	35								
• Personality and ease before audience	40								
Stage Presence Total:	200								
POWER OF EXPRESSION									
• Fluency	30								
• Emphasis	35								
• Directness	35								
• Sincerity	35								
• Communicative Ability	35								
• Conveyance of thought and meaning	30								
Power of Exp. Total:	200								
GENERAL EFFECT									
Extent to which speech was understandable, convincing, pleasing and held attention.	100								
General Effect Total:	100								
RESPONSE TO QUESTIONS*									
Ability to answer satisfactorily the questions asked by the judges indicating familiarity with the subject.	300								
Response Total:	300								
Gross Total Points:	1000								
Less Time Deduction**:									
Less Accuracy Deduction***:									
Net Total Points									
Participant Ranking:									

* - Judges will s
Development Event Committee.

** -1 point per second over, determined by the timekeepers

*** - 20 points per word, determined from by the accuracy judges.

7 CHAPTER

NATIONAL FFA

DAIRY CATTLE EVALUATION

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

To provide a competitive event for agricultural education students, emphasizing skills in dairy cattle evaluation, selection and dairy herd management.

II. OBJECTIVES

1. To provide agricultural students with interest in dairy cattle a practical experience which will serve them well in industry positions or in management of a modern dairy herd.
2. To develop students' skills in observation, analysis, communication and team collaboration.
3. To provide experience in the evaluation of dairy cattle type, production records and dairy herd management.

4. To encourage agriculture instructors to seek assistance from various resources in the dairy industry. (Example: dairy breed associations, artificial breeding associations, state extension dairy specialists, state DHI Associations, dairy equipment manufacturers, local dairy farmers and breeders, etc.)

III. EVENT RULES

1. Participants will report to the event superintendent for instructions at the time and place shown in the current year's team orientation packet.
2. The most current and updated information, (DHI, Linear, Body Scoring, etc.) will be used as industry standards change.
3. Computer score sheets will be used in the event to record all responses. These forms

must be completed within the time allotted for each section of the event. No additional time will be permitted to transfer responses to computer scoring sheets. Responses that are not correctly recorded on the computer score sheets cannot be considered due to the large number of participants' responses that must be processed.

IV. EVENT FORMAT

A. EQUIPMENT

Materials student must provide—Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils and an electronic calculator. Calculators used in this event should be battery operated, non-programmable and silent with large keys and displays. Calculators should have only these functions— addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event.

B. TEAM ACTIVITY

1. Herd Record Evaluation

- a. Members of a team will collaborate to analyze individual cow production records (DHI) from a 50-75-cow herd. Individual cows are to be selected according to their appropriate status for culling, breeding or other management decision categories. Answers will be recorded on the team's answer form provided. (See sample herd production form and questions at end of Dairy Cattle CDE information.)
- b. Each cow will have an assigned point value, which will accumulate points toward team score only. Individual scores and rankings will not be affected.

- c. The Herd Record Evaluation exercise is worth a maximum of 150 points. Members will have 30 minutes to complete this exercise.

C. INDIVIDUAL ACTIVITIES

1. Dairy Management Exercise (150 points)

- a. The exercise will consist of a 50-question written test involving dairy management practices and DHI records. Students will analyze individual cow production records and/or herd management summaries answering 15 questions concerning their use in making management decisions. The remaining 35 questions will be concerned with various dairy management and industry related topics.
- b. Appropriate information necessary to answer the DHI questions will be provided.
- c. Participants will have 30 minutes to complete the exercise.

2. Pedigree Class (50 points)

- a. One class of pedigrees (no animals present) will be ranked as to their indication of the animals' ability to transmit superior production and type traits to offspring.
- b. Other factors include completeness (number of daughters or records), accuracy (reliability), level of performance (type and production) and profitability.
- c. See the examples in this handbook. These pedigrees were placed 2-1-3-4 with cuts of 4-3-7.

3. Sire Selection Exercise (100 points)

- a. The sire selection exercise requires members to utilize linear descriptive traits for two cows and sire summary information to make corrective mating. Participants will rank four potential mates for each cow.
- b. Linear evaluation and production information on the cows will be provided along with the transmitting ability estimates of the sires.
- c. A maximum of 100 points can be earned in this section.
- d. A minimum of 15 minutes will be allowed for this exercise.

4. Linear Evaluation (150 points)

- a. Five Holstein cows will be evaluated using the 15 major traits recognized in the Holstein-Association Linear Descriptive Traits Worksheet.
- b. Cows will be numbered by their scorecard designation 10 to 14.
- c. Participants will be allowed a close-up view of each cow as she is paraded near them. Evaluations will be completed at a distance of approximately ten feet from each cow. Participants will not be permitted to handle the cows.
- d. Participants will be allowed 35 minutes for the linear evaluation.
- e. Correct evaluation of the 15 traits of each cow is worth 30 points.
 - (1) Two points will be awarded for each trait scored within four points of the official judges' score. One point will be awarded for each trait scored within five to six points of the official judges' score.
 - (2) Example: If the cow's trait is rated 25 by the official judges, points

would be awarded to participants as follows:

- 19-20:1 point
- 21-29:2 points
- 30-31:1 point

5. Evaluation and Selection (300 points)

- a. Six classes of four dairy animals will each be placed on type. Classes will be selected from the recognized breeds of dairy cattle. The class selection committee, however, shall give priority to selecting quality cattle in the breeds available and not be obligated to having all breeds represented in the judging classes. Classes will consist of heifers, young cows or mature cows.
- b. Participants will be permitted to view the animals from all angles but will not be permitted to handle them.
- c. Animals will be numbered 4-3-2-1 left-to-right as viewed from the rear. The handlers/cattle will wear numbers, which identify the animals.
- d. Each class is allowed 50 points for a correct placing.
- e. Participants will have 12 minutes to place each class. For classes on which oral reasons will be given, participants will be given 15 minutes.

6. Oral Reasons (150 points)

- a. Oral reasons will be required on three classes. These three classes will be designated by the event superintendent prior to the actual judging of the class.
- b. Oral reasons will be given in another location immediately following the judging classes.
- c. Participants may not use notes during delivery of reasons, with the exception

- of a card showing only their placing order.
- d. Each class is allowed 50 points for a perfect set of reasons.
 - e. Participants will have 12 minutes to prepare each set of oral reasons. No more than two minutes may be used to deliver the reasons before the judges.

V. SCORING

Individual	Maximum Points
Dairy Management exercise	150
Pedigree class	50
Sire selection	100
Linear evaluation	150
Judging	300
Oral reasons	150
Total possible score	900

Team	Maximum Points
Herd record evaluation	150
Top 3 of 4 members	2,700
Total possible score	2,850

VI. TIEBREAKERS

Category awards will include all activities related to each category, i.e., placing and oral reasons if given. If ties occur, the following events will be used in order to determine award recipients:

1. Total oral reasons score.
2. Dairy Management exercise score.
3. Total linear evaluation score.

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

The high-scoring participant in each of the following categories will receive a certificate recognizing their accomplishment:

- High Breed total (High individual of each breed- Holstein, Jersey, Guernsey, Brown Swiss, etc.) with associated oral reasons scores as applicable.
- High Pedigree placing.
- Total oral reasons score.
- Linear evaluations.
- Sire selection.
- Dairy Management exercise.
- Team—Herd record evaluation.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Hoard's Dairyman

P.O. Box 801, Fort Atkinson, WI 53538-0801
(920-951-563-5551)

www.hoards.com

Annual Cow Judging Contest official entry form and booklet. Free

"Judging Guide," 1999 edition booklet, featuring Linear, analysis of scorecard, & 15 practice classes. \$7.

"Focus on Linear Scoring," 1998 reference guide to linear instruction.

CEV Multimedia, Inc.

P.O. Box 65265, Lubbock, TX 79464 1-800-922-9965

www.cev-inc.com

“Dairy Cattle Judging: Cows - Video Active” # 486 \$95.

“Dairy Cattle Judging: Heifers - Video Active” # 487 \$95

“Dairy Cattle Judging: Oral Reasons” # 489 \$95.

“Judging Dairy Cows” 1987 # 501 \$79

“Judging Dairy Heifers” 1987 # 502 \$69.

“Practice Dairy Cow Judging” 1989 # 506 \$ 49.

“Practice Dairy Heifer Judging” 1989 # 507 \$49.

“Linear Evaluation of Dairy Cattle” #510 \$89.

“Practice Dairy Cow Judging” 1993 I-#511; 1994 III-#514, #515; \$49. Ea.

“Practice Linear Evaluation I” 1994 # 516 \$59.

“Linear Classification: Scoring of Linear Traits” # 517 \$ 89.

“Practice Linear Evaluation II” 1995 #520 \$59.

NCR (North Central Regional)

Publications Distribution, Printing & Pub.
Bldg., Iowa State University,

Ames, IA 50011-3171 (515) 294-5247

pubdist@exnet.iastate.edu

“Learning about Dairy... a Resource Guide for the 4-H Dairy Project”

Extension Bulletin NCR 593

Instructional Materials Service (IMS)

Texas A&M Univ. 2588 TAMUS, College Station, TX 77843-2588 (979) 845-6652, or 6653.

www-ims@tamu.edu

“Dairy Cattle Judging Cows” Video # 9552 \$99.

“Dairy Cattle Judging Heifers” Video # 9553 \$99.

“Dairy Cattle Judging Fundamentals” Video # 9554A \$99.

“Dairy Cattle Judging Oral Reasons” Video # 9554B \$99.

Dennis Hartman

2709 Mt. Vernon Lane, Blacksburg, VA 24060
(540) 951-8047; “Techniques of Judging Dairy Cattle” 5th Edition, \$8.

Holstein Association

1 Holstein Place, Brattleboro, VT 05302-0808 (802) 254-4551

www.holstein.com; “Linear Classification Program,” \$2.00

“Pedigree Questions & Answers” and “Build Your Knowledge of Sire Summaries” for pdf files of the workbooks go to www.holsteinfoundation.org and then link to “programs” and then “workbooks” and scroll to “Pedigree Questions & Answers” and “Build Your Knowledge of Sire Summaries.”

Agri-Graphics

109 5th Ave., New Glarus, WI 53574 (608) 527-5663

“Judging Slides and Audio Tapes, 15 classes” \$80 per set; \$150 for both sets

Additional Website Resource List

American Dairy Science Association
www.adsa.org

National Association of Animal Breeders
www.naab-css.org

Dairy Herd Improvement
www.dhia.org

108 NATIONAL FFA CAREER DEVELOPMENT EVENTS HANDBOOK

DAIRY CATTLE EVALUATION CAREER DEVELOPMENT EVENT

scc 1000's	date bred	X-b r H e P d O	.....Test Day Production.....				.....Current Lactation.....				#	.....Mature Equivalent.....				Rel. Value %	.....PTA.....					
			milk	fat %	protein %	s \$value c s	Cow No.	is..... date	code	days in milk		age @ bred calving	fat #	prot #	fat #		prot #	fat #	prot #	milk \$	\$\$\$	
254 2-3	1 O	3.0	50.4	4.2	3.4	89	4	7.11	536 11-11	2	0 2-2	1	182	9080	406	279	16430	714	503	75	+1044	+169
415 3-5	1 P	2.0	74.1	3.8	3.3	107	5	10.27	537 12-5	2	68 2-6	1	156	11910	452	407	22740	858	806	102	+1153	+129
177 1-19	1 P	2.0	73.0	3.4	3.0	116	4	9.94	538 12-6	2	113 2-4	1	157	10510	375	314	21360	745	656	94	+1213	+126
1320 3-22	1	3.0	54.4	3.9	3.6	102	7	7.58	539 12-26	2	51 2-5	1	127	9130	368	309	18490	741	635	83	+995	+130
75 2-24	2 P	3.0	50.4	3.8	3.3	78	3	6.99	541 12-11	2	77 2-4	1	152	10630	412	334	19140	752	612	86	+1137	+144
3-31	1								542 4-11	9	12 2-3	1	126	7880	274	233	18020	661	544	80	+1753	+188
73 3-12	2	1.5	82.7	2.8	2.9	105	3	10.94	543 12-8	2	61 2-3	1	155	12870	383	382	25470	755	777	110	+721	+61
30 3-31	1 O	2.0	82.5	2.6	3.0	71	1	10.81	645 2-4	1	0 7-11	6	97	10060	355	289	20190	662	587	88	+262	+19
122 3-1	4 P	4.5	30.2	4.0	3.4	75	3	4.22	660 7-5	1	72 6-6	5	311	19760	733	635	20300	750	652	90	+907	+73
81 1-20	1 P	3.0	56.0	2.6	2.9	55	3	7.34	681 11-22	4	112 5-0	4	171	16250	471	515	21020	595	681	90	+1110	+109
39 1-16	2 O	2.0	89.6	3.3	3.1	93	2	12.14	688 9-17	1	0 4-6	3	237	21920	875	654	27220	1046	812	122	+971	+97
39 4-8	4 P	3.5	42.8	3.6	3.0	62	2	5.88	690 8-15	1	34 4-5	3	270	22520	872	643	25560	979	722	114	+1014	+106
53 5-5	3	2.5	77.7	3.4	3.3	94	2	10.58	691 9-26	1	7 4-6	3	228	19500	807	621	24570	977	782	111	+250	+59
98 1-15	2 P	2.5	60.6	3.3	3.4	93	3	8.21	694 7-22	1	117 4-2	3	294	21850	810	705	24250	899	774	108	+1228	+145
110 1-20	1 P	1.5	98.0	2.9	2.9	105	3	13.03	698 11-10	1	112 4-3	3	183	19660	599	556	28040	836	802	121	+1788	+189
27 3-7	2	1.5	99.3	3.0	3.1	88	1	13.27	708 11-4	1	66 3-5	2	189	21720	760	671	31920	1057	977	140	+1943	+239
506 3-19	3 O	3.0	51.8	3.9	3.6	116	5	7.21	710 8-16	1	0 3-0	2	269	20910	790	685	26460	991	843	118	+1412	+171
384 1-17	2 P	1.5	92.1	2.9	3.2	106	5	12.25	711 9-25	1	115 3-1	2	229	23630	750	773	33040	1012	1053	143	+1557	+172
57 3-7	2 P	3.0	59.6	3.6	3.6	80	2	8.19	712 9-23	1	66 3-0	2	231	17850	644	621	24350	863	822	108	+1000	+111
86		1.0	105.8	2.4	2.9	79	3	13.46	713 3-19	1	0 3-6	2	54	7280	212	223	23950	717	746	103	+1423	+170
358 3-31	3	2.5	84.8	2.7	3.1	91	5	11.17	714 12-11	1	0 3-1	2	152	16510	444	505	27230	754	839	116	NA	
113 1-20	1 P	2.5	97.6	2.9	3.0	123	3	12.98	715 12-12	1	112 3-0	2	151	14230	454	419	26120	818	776	113	+1478	+148
36		3.0	57.7	2.0	3.5	76	2	7.34	717 1-2	1	0 3-0	2	132	12280	338	372	21270	579	630	90	+1571	+180
28		3.0	102.6	4.3	3.2	1		13.59	719 4-30	1	0 3-3	2	12	2580	113	84	24210	894	734	108	+1045	+99
1-18	2 O								721 4-11	8	0	1	267	13050	518	430					NA	
33 3-7	4 P	3.0	64.8	3.3	3.4	94	1	8.78	726 8-22	2	66 2-0	1	263	17420	634	538	25340	904	765	112	NA	
0 3-2	1								729 4-11	8	26 2-0	1	221	11550	359	367	19310	590	600	83	+1054	+110
22 3-11	3 P	3.5	62.1	3.7	3.6	100	1	8.57	730 9-11	2	62 2-0	1	243	16480	675	543	23380	917	762	105	NA	
11 2-24	2 P	3.0	44.3	2.9	3.0	74	0	5.89	732 10-13	2	77 1-1	1	211	14940	483	443	22860	719	664	99	NA	
27 4-18	2	3.0	50.8	3.1	3.1	81	1	6.82	735 12-5	2	24 1-10	1	158	10170	366	308	19610	685	615	86	+1477	+154
92		3.5	50.8	4.3	2.7	3	6.47	737 4-25	2	0 2-2	1	17	1450	65	41	18190	699	468	82	NA		
29		2.0	83.5	3.4	3.0	138	1	11.37	738 2-7	2	0 1-1	1	94	6570	271	194	23650	875	696	105	NA	
1100 5-2	1	2.0	73.2	2.2	3.1	72	6	9.41	739 2-10	2	10 1-9	1	91	8080	224	247	25120	686	763	107	NA	

Somatic Cell Score (linear)	Body Condition Score	H Heat Date P Pregnant O Open	Status Codes		
			1 Cow freshened 2 Heifer Freshened 3 Enter Herd Dry	4 Enter Herd in Milk 5 Aborted 6 Dry	7 Sold for Dairy 8 Sold for Beef 9 Died

“BEST ANSWERS” FOR
DAIRY CATTLE EVALUATION - HERD RECORD EVALUATION
(Collaborative Team Exercise)

After evaluating the individual cow records which are provided, select the best answers for the following questions. Cows may be listed in any order within an answer.

A. Select those cows which will be the next five to calve, assuming that breeding dates are accurate.

1. 377 2. 434 3. 443 4. 445 5. 450

B. Indicate the cows which are most likely to become candidates for culling due to their reproductive status.

6. 433 7. 452 8. 453 9. 688 10. 710

C. Indicate the cows most likely to be considered as donors in an embryo transfer program when their reproductive status is appropriate.

11. 708 12. 404 13. 405 also: 455, 460

D. Indicate those cows which are significantly overweight.

14. 374 15. 430 16. 434 also: 660

E. Indicate which cows are most significantly underweight.

17. 405 18. 467 19. 481 20. 713

F. Indicate which cows may become candidates for culling because their current production level is significantly low.

21. 349 22. 374 23. 527

G. Indicate those cows which are contributing the most to a high somatic cell count in the bulk tank.

24. 405 25. 739

DAIRY CATTLE EVALUATION - HERD RECORD EVALUATION

Rationale

Note: The answers provided would yield the maximum points for this activity. Other answers would yield lesser values or partial credit.

- A. This question asked specifically for the next 5 cows expected to calve. This is rather straight forward to solve since the “days bred” indicates the time since the last service, i.e. the gestation length to date. (If no breeding date has been reported or if the cow was declared “open”, this figure is “zero”.) Since the expected gestation length is 279 days for Holsteins, #337 and #443 are “overdue” as of the reported date (5-11-94) and those cows expected to calve within the next 45 days beyond that date are #434, #445 and #450. None other is due within over 90 days so no other cow (answer) will generate points. This question could also be answered directly from the reported breeding dates, but with greater difficulty as the Pregnant or Open status would also have to be checked.
- B. The answers to this question can also be found most easily in the “days bred” column IF there are “Open” cows with high “days in milk”. Cows with a high discrepancy between “days in milk” and “days bred” but currently “Pregnant” would be less likely to be culled as the days bred gets higher. They were “problem breeders” but are currently pregnant. Answers which would generate fewer points than those given above include #432, #505, #528, #536, #714 and #717. Cow #721 would not generate any points because she was reported “sold for beef” on 4-1 1, possibly because she was not pregnant.
- C. To answer this question, one should look to the genetic statistics (Predicted Transmitting Ability for Milk/Dollars) and possibly adjust for current Relative Value. Since this is additional information (more current) to the cow’s records included in the index, they may modify the PTA’s to some extent, especially for those cows with only one (or a partial) record available when the PTA’s were calculated nearly 6 months previous. Cow #708 ranks high in both PTA\$ and in current Relative Value. The highest PTA\$ cow, #402, is producing at 15% below herd average in her current lactation with a significant portion of the lactation completed. Other cows which may be candidates are #404, #405, #455 and #460. Fewer points would be earned with answers of #420, #437 or #481. #542 died so she could not be considered. Minor points could be earned for answers including #43 1, #443, #452, #526 and #717 whose indexes are relatively high but current production is mediocre or poor. #710 and #711 are doing well currently but each has a modest PTA\$.
- D. Overweight cows can be identified by the “Body Condition Scores” which are too high. Any lactating cow greater than 3.5 is considered overweight. Dry cows in this range are also considered overweight by most nutritionists, although some managers are not concerned unless the score exceeds 4. Cows (#374, #430, #434 and #660) earn maximum points with #377 at slightly fewer points because she is dry and overdue.
- E. Lactating cows which are scored below 1.5 are generally considered too thin. Cows scoring at 1.5 are also considered too thin, especially if they are past their early lactation period and should be in positive energy balance and gaining weight. Cows should score about 3.5 at calving time. Cows (#405, #467, #481 and #713) earned maximum points while cows (#404, #479, #529, #543, #698, #708 and #71 1) earned slightly lower values as answers (they were too thin but not as extreme as others.)
- F. Culling on current production should begin with those cows significantly below the current herd average, i.e. low Relative Value. It is generally agreed that cows about 75% Relative Value and lower should be scrutinized severely when making up a culling list. Cows (#349, #374, #527) earned maximum points, but meriting consideration were #450, #463, #526 and #536. A lesser case could be made for other cows ranked in the 80’s in Relative Value.
- G. Contributions to the Somatic Cell Count in the bulk tank result from a combination of production level and somatic cell count of the individual cow’s milk. Cow #405 is contributing the greatest level of somatic cells and is a high producing cow. Similarly high levels of SCC are found in #539 and #739. However, #739 is out producing #539 by about 50% (73.2 vs. 54.4 lbs.) so she is contributing a greater number of cells to the bulk tank.

SAMPLE
NATIONAL FFA DAIRY CATTLE EVENT
DAIRY MANAGEMENT EXERCISE

For questions 1 through 15, use the herd reports attached to the quiz.

1. Which herd currently has the lowest average genetic level for protein yield?
2. Which herd shows the greatest change in genetic milk producing ability from current sires to service sires?
3. In which herd will calves born over the next year have the highest estimated genetic merit for fat yield?
4. In which herd did the cows have the lowest average milk fat test for the last year?
5. Which herd has the highest percentage of cows with low somatic cells?
6. Which herd currently has the most successful breeding program in terms of getting cows pregnant again in the least time after calving?
7. Which herd shows the poorest mammary health within the oldest cows?
8. Which herd has had the least success in getting heifers to calve at an early age?
9. Which herd is projected to have the longest calving interval for the coming year?
10. Which herd produced the most energy-corrected milk per lactating cow in the month of September?
11. Which compartment of the dairy cow's stomach is known as the "manyplies"?
a) abomasum, b) reticulum, c) rumen, d) omasum, e) duodenum.
12. The hormone which "kills" the corpus luteum is called
a) Adrenalin, b) Estrogen, c) Oxytocin, d) Progesterone, e) Prostaglandin.
13. Which system of the cow's body is most affected by Johnes' disease?
a) Circulatory, b) Respiratory, c) Reproductive, d) Endocrine, e) Digestive.
14. Which system of the cow's body is most affected by BSE?
a) Nervous, b) Respiratory, c) Reproductive, d) Endocrine, e) Digestive.
15. What product is the result of rapid degradation of adipose tissue in the cow's body?
a) Amino acids, b) Ammonia, c) Fatty acids, d) Peptides, e) Ketones

SAMPLE FORM

(5 herd summaries provided to answer test questions)

Average ALL Cows	Lactation		Herd Number: A		Month of Test: Sep				
	1st	2nd	3rd	Total	365-day Herd Average				
Total Cow Months	91	80	121	292	205				
% Days in Milk	85	90	87	87	87				
Pounds Milk	63.9	72.3	70.7	69	26,301				
% Fat	3.3	3.29	3.41	3.34	3.49				
Pounds Fat	2.11	2.36	2.41	2.3	918				
% Protein	3.47	3.33	3.31	3.36	3.18				
Pounds Protein	2.22	2.4	2.34	2.32	836				
Pounds 3.5% FCM	61.8	69.6	69.6	67.2					
Ave. Milking Cows	Lactation		Genetic Information		(PTA)				
	1st	2nd	3rd	Total	Cow				
Cow Months	78	72	105	255	1st	2nd	3rd	Total	
Pounds Milk	75.1	80.7	80.9	79.1	Milk	356	276	28	191
Pounds Fat	2.48	2.64	2.76	2.64	Fat	22	3	-4	5
Pounds Protein	2.6	2.68	2.68	2.66	Prot.	17	11	4	10
Pounds 3.5% FCM	7		79.7	7					
Ext. 305 day Ave.	Lactation				Sire				
	1st	2nd	3rd	Total	1st	2nd	3rd	Total	
Pounds Milk	23511	26193	27077	25713	Milk	670	708	357	557
Pounds Fat	828	888	935	889	Fat	41	15	8	21
Pounds Protein	783	846	883	842	Prot.	30	21	16	22
ME Pounds Milk	29303	29134	27588	28554					
ME Pounds Fat	1026	985	952	984					
MEounds Protein	1019	981	921	968					
SCC Summary	Lactation				Service	Sire			
	1st	2nd	3rd	Total	1st	2nd	3rd	Total	
% Cows					Milk	1359	1227	1291	1297
Low 0-4	83	87	76	81	Fat	49	31	40	40
Med 5-6	12	13	21	16	Protein	42	40	40	41
High 7-9	5	0	3	3					
Reproductive Status	Lactation								
	1st	2nd	3rd	Total					
Days @ 1 st Brdg	90	88	98	92					
Svcs./Conception	2.31	2.41	1.71	2.11					
Days Open	171	149	150	156					
Last Calving Int.	---	15	13.9	14.3					
Next Calving Int.	15.2	14.5	14.7	14.8					
Age @ Last Calving	26.7	42.3	68.6	48.2					

NATIONAL FFA DAIRY CATTLE EVALUATION

Official reasons for placing pedigree class:

This class of pedigrees for high quality, Holstein heifers is placed 2-4-3-1 with cuts of 6-4-2.

In placing # 2 over # 4, the pedigree shows an advantage in the overall PTPI (average of the sire's TPI and the CTPI of the dam) for # 2. The TPI values for the dam and sire of #2 are significantly higher than those for # 4. These reflect the genetic values (PTA) for the various production and type traits for themselves, which are an accumulation of their ancestors, collateral relatives and their own performance.

In placing # 4 over # 3, when the overall PTPI's of the pedigrees are calculated they show favor for # 4. The sire's TPI value is higher with the PTAs being higher in nearly every category and the dam's transmitting values are higher in every category (except FLC) than those for the dam of # 3. The individual records for # 3's dam appear very impressive at first glance, due to her longevity and final type score at 6 years of age. However, most of the transmitting values are not as high as for the dam of #4.

In placing # 3 over # 1, the TPI values of the sires are similar but they are dissimilar in the specific genetic values which make up the calculated indexes; each set gains strength from opposite areas (type versus production.) The PTA values for most yield traits are superior for # 1, while the type traits are higher for # 3. The genetic values for the dam of # 1 are not listed in the pedigree but the PTPI for the heifer (pedigree) is given. The calculated value of the PTPI for # 3 (sire's value +1121 plus dam's +937 divided by 2) indicates a value of +1029 which exceeds the stated value for #1 by 65.

NATIONAL FFA DAIRY CATTLE EVENT

Pedigree #1

PTA +1486M +31F +40PTPI +964
PTA +04T +02UDC -.02FLC 8/99

SIRE
EX-90-5y "CM"

PTA +2264M +38F +55P TPI +1141
PTA +211\$MFP -.20%F -.07%P
PTA +147NM -0.0PL +3.21SCS
PTA +65T +.24UDC -.49FLC 8/99

DAM
EX-90-8Y VEEVE

AGE X DAY MILK % FAT % PRT
DHR 3-04 2 365 29620 3.7 1084 3.1 933
DHR 6-07 2 357 29130 4.0 1151 3.2 930
DHR 4-06 2 350 6020 3.8 995 3.2 838
DHR 5-07 2 328 23140 3.9 907 3.4 779
*** 8-09 2 293 24940 3.7 920 3.3 814
*** 7-09 2 305 24010 3.8 919 3.1 747
LIFE: 2368179,440 3.8 6,867 3.25,766

PATERNAL GRANDSIRE
EX-93-Y"CM"

PTA +858M +21F +29P TPI +1052
PTA +1.85T +1.30UDC +76FLC 8/99

PATERNAL GRANDDAM
VG-86+3Y VVVWDOM

AGE X DAY MILK % FAT % PRT
DHR 2-02 2 365 21748 3.6 787 3.2 693

MATERNAL GRANDSIRE
EX-92-10Y"CM"

PTA +959M +49F +33P TPI +969
PTA +.13T +.03UDC +.62FLC 8/99

MATERNAL GRANDDAM
GP-84-5Y+E++

AGE X DAY MILK % FAT % PRT
DHR 6-00 2 329 27480 2.9 790 3.0 811
DHR 5-00 2 304 25550 3.1 797 2.9 731
DHR 4-00 2 282 23430 3.0 713 2.9 682
DHR 3-01 2 302 20450 3.1 634 2.9 603
DHR 2-00 2 315 17860 3.3 591 2.9 516
LIFE 15322114,770 3.1 3,525 2.93,343

SIRE
EX-95-8Y"CM"

PTA +2164M +34F +50P TPI +1369
PTA +1944\$MFP -.19%F -.08%P
PTA +157NM +1.7PL +3.14SC
PTA +2.65T +2.29UDC +1.94FLC 8/99

DAM
VG-86-5YVE++V

AGE X DAY MILK % FAT % PRT
DHR 1-11 3 365 28480 3.3 950 3.3 930
*** 3-05 3 365 35720 3.5 1265 3.11 107
*** 4-09 3 299 32960 3.6 11903.11 010

PATERNAL GRANDSIRE
EX-933-7y "CM"

PTA +858M +21F +29P TPI +1052
PTA +1.85T +1.30UDC +.76FLC 8/99

PATERNAL GRANDDAM
VG-88-4y+EEE DOM

AGE X DAY MILK % FAT % PRT
DHR 3-07 2 365 31400 3.4 1080 3.0 941
DHR 2-04 2 365 29530 3.4 1018 2.9 64
LIFE: 1639109,130 3.5 3,794 3.03,235

MATERNAL GRANDSIRE
EX-96-13y"CM"

PTA +1180M +19F +43P TPI +1100
PTA +1.09T +1.07UDC +1.02FLC 8/99

MATERNAL GRANDDOM
CP-82-4y+E++G

AGE X DAY MILK % FAT % PRT
DHR 3-00 3 295 26900 3.5 934 3.3 883
DHR 4-00 3 316 26410 3.6 945 3.2 838
DHR 2-00 3 313 22120 3.6 793 3.3 730
PTA +1043M +44F CTPI +1077

NATIONAL FFA DAIRY CATTLE EVENT

Pedigree #3

Pedigree #4

Pedigree #3									
PATERNAL GRANDSHIRE					PATERNAL GRANDSIRE				
EX					EX-91-6y"GM"				
PTA +204M +40F +27P TPI +1121					PTA +1521M +32F +36P TPI +1157				
PTA +925MFP +15%F +.10%P					PTA +1455MFP -.10%F +.05%P				
PTA +91NM +2.9PL +3.41SCS					PTA +106NM +0.8PL +3.37SCS				
PTA +2.23T +1.32UDC +1.47FLC 8/99					PTA +1.79T +1.40UDC +2.01FLC 8/99				
DAM					DAM				
EX-94-6yEEEEEE 2E DOM					VG-85-5yW+W				
AGE	X	DAY MILK	% FAT	% PRT	AGE	X	DAY MILK	% FAT	% PRT
APS 7-09	2	365	34300	3.1	1065	3.0	1033		
APS 5-04	2	365	32340	2.5	811	3.0	983		
APS 3-11	2	365	29140	2.9	845	2.9	892		
APS 2-01	2	365	21630	2.9	633	2.9	630		
PTA +968M +10F +25P CTPI +937					PTA +1031M +40F +34P CTPI +1135				
PTA +1.11T +.82UDC +1.35FLC 8/99					PTA +1.51T +1.86UDC +.91FLC 8/99				
PATERNAL GRANDAM					PATERNAL GRANDAM				
EX					EX				
PTA +318M +25F +19P TPI +909					PTA +1521M +32F +36P TPI +1157				
PTA +1.50T +.47UDC +.08FLC 8/99					PTA +1455MFP -.10%F +.05%P				
PATERNAL GRANDAM					PATERNAL GRANDAM				
VG-85 7*					EX94-4yEEEE CMI DOM				
AGE	X	DAY MILK	% FAT	% PRT	AGE	X	DAY MILK	% FAT	% PRT
CAN 4-05	2	305	21938	4.3	937	3.3	728		
CAN 3-03	2	305	18448	4.2	778	3.6	659		
CAN 2-03	2	319	17807	3.8	681	3.3	584		
MATERNAL GRANDSIRE					MATERNAL GRANDSIRE				
VG-88-7y"GM"					EX-93-7y"GM"				
PTA +788M +43F +28P TPI +864					PTA +877M +31F +44P TPI +1091				
PTA -.46T -.72UDC +1.64FLC 8/99					PTA +.68 +.78UDC +.91FLC 8/99				
MATERNAL GRANDAM					MATERNAL GRANDAM				
VG-87-7yWWW					VG-87-6yCEEV DOM				
AGE	X	DAY MILK	% FAT	% PRT	AGE	X	DAY MILK	% FAT	% PRT
DHR 8-03	2	365	21650	4.3	940	3.7	806		
DHR 2-07	2	365	19650	4.1	811	3.6	712		
LIFE 1764105,690 4.7 4.978 3.63,772					LIFE 1764105,690 4.7 4.978 3.63,772				

NATIONAL FFA DAIRY CATTLE EVENT***SIRE SELECTION PROBLEM No. 1***

Situation: Semen from these four bulls has been purchased. The bulls were selected to improve the next generation of this herd. RANK the four bulls as they best meet the following objectives in mating with the cow described below. This herd owner has a purebred Holstein herd of 250 cows which is operated as a commercial herd. The lactation herd average is currently 25,650M, 1,022F and 798P. Milk is marketed in an area that pays a bonus for protein yield. Type considerations revolve around sound udders and correct feet and legs.

COW TO BE MATED		BULLS TO CONSIDER			
CURRENT RECORD	TRAITS	1	2	3	4
(2yr 2+A51mo ME)					
RPT		71	77	81	81
27960	MILK	3267	2645	3055	3109
4.42	FAT %	-0.34	-0.19	-0.04	-0.19
1237	FAT	39	52	102	69
	MFP\$	328	292	340	368
3.11	PROT %	-0.02	0	-0.06	0.04
870	PROT	98	84	82	108
	cm	235	218	252	275
	TPI	1618	1561	1626	1794
LINEAR SCORE					
27	STATURE	0.83T	0.66T	1.74T	1.53T
18	STRENGTH	0.615	0.01 F	0.145	1.535
1.9	BODY DEPTH	0.7	0.16	0.58	1.44
26	DAIRY FORM	2.08	1.57	3.18	2.81
22	RUMP ANGLE	0.055	0.28H	1.325	1.1 8H
1.2	RUMP WIDTH	1.26W	0.15N	0.50W	1.93W
20	LEGS-SIDE VIEW	0.695	0.08C	1.025	0.42C
35	FOOT ANGLE	2.575	1.895	1.385	1.545
20	FORE ATTACHMT	0.23L	1.355	0.955	0.235
18	REAR UDDER HT	0.82H	1.1 9H	2.34H	1.65H
22	REAR UDDER WD	1.29W	1.32W	2.57W	2.86W
26	UDDER CLEFT	0.605	2.665	0.575	2.905
26	UDDER DEPTH	0.71	1.185	0.145	1.08
25	T AT PLACEMENT	0.22C	2.28C	0.05W	1.23C
25	TEATLENGTH	0.89L	0.10L	0.51 L	0.09L

STATURE (T-TALL,S-SHORT)- STRENGTH(S-STRONG,F-FRIL) BODY DEPTH (D-DEEP,S-SHALLOW)
 DAIRY FORM(O-OPEN, T-TIGHT RIB)-, RUMP ANGLE (H-HIGH, L-LOW PINS)-, THURL WIDTH
 (W-WIDE,N-NARROW):REAR LEGS (C-CURVED,S-STRAIGHT)-I FOOT ANGLE (S-STEEP, L-LOW)-I
 FORE ATTACHMENT(S-STRONG,L-LOOSE)-,REAR UDDER HEIGHT(H-HIGH,L-LOW)-,
 REAR UDDER WIDTH(W-WIDE,N-NARROW);UDDER CLEFT(S-STRONG,W-WEAK);UDDER DEPTH
 (D-DEEP, S-SHALLOW); F TEAT PLACEMENT (W-WIDE, C-CLOSE)-I TEAT LENGTH (L-LONG, S-SHORT)

NATIONAL FFA DAIRY CATTLE EVENT**SIRE SELECTION PROBLEM No. 2**

Situation: Semen from these four bulls has been purchased. The bulls were selected to improve the next generation of this herd. RANK the four bulls as they best meet the following objectives in mating with the cow described below. This herd owner has a purebred Jersey herd of 394 cows in which production and type traits are emphasized equally because many offspring are sold through consignment sales. Milk is marketed for cheese production. The main type traits emphasized are udder support and attachments plus correct structure (including stature). Current rolling herd average is 18195M, 85OF and 690P.

COW TO BE MATED		BULLS TO CONSIDER			
CURRENT RECORD	TRAITS	1	2	3	4
(2yr 10mo ME)	RPT	87	86	84	95
20560	MILK	2064	2070	1688	2068
4.5	FAT %	-0.14	-0.3	0.5	-0.14
934	FAT	75	49	87	75
	PROT\$	264	263	250	242
3.8	PROT %	-0.05	0.01	0	-0.12
781	PROT	70	80	64	59
	CY\$	279	290	270	243
	PTI	315	346	324	311
LINEAR SCORE					
38	STATURE	-1.3	1.7	4.6	3.1
32	STRENGTH	-0.3	1.7	2.8	2.1
33	BODY DEPTH	0.5	2.3	3	2.6
20	DAIRY FORM	3	4	4.7	5
25	RUMP ANGLE	H2.6	LO. 1	L3.4	L2.6
26	THURL WIDTH	0.3	1.7	2.2	1.9
29	REAR LEGS	52.1	PO.4	50.1	50.5
2.1	FOOT ANGLE	L1.0	51.2	50.4	50.7
45	FORE UDDER	-0.2	1.7	0.1	0.7
38	REAR UDDER HT	1.6	3.3	2.9	2.9
36	REAR UDDER WD	1.8	3.5	3.7	3.8
33	UDDER CLEFT	0.3	0.4	1.3	2.1
38	UDDER DEPTH	2.2	1.2	1.5	1.4
14	TEAT PLACEMENT	CO.9	CI.9	C1.1	C2.5
26	TEAT LENGTH	LO. 8	L2.5	S0.2	S0.5

RUMP ANGLE (H-HIGH, L-LOW) ' REAR LEGS (S-SICKLE,P-POSTY),
 FOOT ANGLE (S-STEEP, L-LOW),- UDDER DEPTH (D-DEEP, S-SHALLOW);
 TEAT PLACEMENT (W-WIDE, C-CLOSE), TEAT LENGTH (L-LONG, S-SHORT)

NATIONAL FFA DAIRY CATTLE EVALUATION

Sire Selections Rational

Official reasons for placing *sire selection* classes:

PROBLEM # 1:

From the scenario, it is determined that the breeder is concerned particularly with protein yield, but type traits become important from a soundness standpoint. They emphasize udders and correct feet and legs.

The cow to be mated is above the herd's rolling herd averages for fat, milk and protein yield. According to her linear information she is average in stature, tends to be narrow and weak in frame and is fairly shallow bodied. Her rump is narrow and her legs tend to be straight, but her foot angle is somewhat above average. Her fore udder attachment is somewhat loose and the rear udder attachment is not very high or wide with cleft and depth that are about average.

Considering the available bulls, # 4 has the highest PTA-P, followed by # 1, with # 2 and 3 being quite similar. All but # 2 are improvers in the fore udder, to a varying degree, and all four are improvers in rear udder attachments. # 4 and # 2 also sire daughters that have strong clefts. # 4 is likely to sire stronger and deeper cattle, # 3 and # 1 are somewhat so, but # 2 is nearly average (no change) in both categories. Additionally # 4 and # 1 will improve rump width while # 3 is less likely but # 2 is negative in this category.

Bull # 4 is the strongest in type components for this mating which adds to the strength of his being the best choice for the sire to be used. # 1 has some lesser type advantages but still remains the second best choice because of his production levels. The type advantages for # 3 are enough to place him over # 2 in the final ranking, but not enough to move ahead of # 1. In placing last, bull # 2 has less advantage in rear udder values and is particularly low in secondary areas of strength and depth, moving him into a close last place.

For these reasons, the best placing for this class of sires is 4-1-3-2, with cuts of 6-3-2.

PROBLEM # 2:

In the scenario, it is indicated that the dairyman is equally concerned with production and type. His milk market pays on cheese yield and his type market calls for udder support and attachments and correct overall structure (stature, feet and legs.)

The cow to be mated is above average for milk, fat and protein yields. According to her linear traits, the cow is fairly tall showing above average strength and depth. She is below average in dairy form with a level rump. Her legs are somewhat set and the foot angle is below average. Her fore udder is very strong and the rear udder attachment is quite high and wide with a good cleft, keeping the udder well above the hocks. Her teat placement is wide.

The Cheese Yield-\$ values for these four bulls are all fairly high, ranking 2-1-3 and 4 a bit behind the others. The type components for the bulls show that daughters of # 2, 3 and 4 all have exhibit above average stature, strength and depth of body, while # 1 does not. All bulls have strong numbers in dairy form. In leg set, bull # 1 shows strong tendency towards being sickled while the other three are near breed average. Foot angle is low for bull # 1, but the others are all steep in varying degrees. With equal emphasis on production and type, this moves # 3 over # 1. All of the differences in udder traits for these bulls become non-significant when viewing the high numbers for the cow.

Considering these points, the official placing for these sires is 2-3-1-4 with cuts of 5-2-6.

CONTESTANT NUMBER:		NAME:													
Cow	FORM				RUMP		LEGS & FEET		UDDER				TEATS		
	Stature	Strength	Body Depth	Dairy Form	Rump Angle	Thurl Width	Rear Legs Side View	Foot Angle	Fore Udder Attachment	Rear Udder Height	Rear Udder Width	Udder Depth	Udder Cleft	Front Teat Placement	Teat Length

DESCRIPTION OF TRAITS AND MEASUREMENT SCALE

FORM	RUMP	UDDER	
Stature	Rump Angle	Fore Udder Attachment	Udder Depth
50	50	50	50
45 - Extremely tall (59")	45 - Extremely sloped from hooks to pins (4.5")	45 - Extremely snug & strong attachment	45 - Extreme height of udder floor above hooks and shallow udder floor (6")
40	40	40	40
35 - Tall	35 - Moderate slope	35 - Very strong attachment	40
30	30	30	35 - Udder floor well above hooks
25 - Intermediate (55")	25 - Slight slope, hooks to pins (1.5")	25 - Intermediate strength attachment	30
20	20	20	25 - Udder floor above hooks (2")
15 - Short	15 - Pins slightly higher than hooks	15 - Loose attachment	20
10	10	10	15 - Udder floor at point of hooks
5 - Extremely short (51")	5 - Pins clearly higher than hooks (1.5")	5 - Extremely loose attachment	10
Strength	Rump Width	Rear Udder Height	5 - Very deep, udder well below hooks (2")
50	50	50	TEATS
45 - Extremely strong and wide	45 - Extremely wide pins (6.5")	45 - Extremely high (7.7" from vulva)	Front Teat Placement
40	40	40	50
35 - Very strong	35 - Wide pins	35 - Very high	45 - Extremely close, base of teats on inside of quarter
30	30	30	40
25 - Intermediate strength & width	25 - Intermediate width of pins (4.5")	25 - Intermediate height (10.5")	35 - Placement on inside of quarter
20	20	20	30
15 - Narrow and frail	15 - Slightly narrow pins	15 - Low	25 - Centrally placed on quarter
10	10	10	20
5 - Extremely narrow and frail	5 - Extremely narrow pins (2.5")	5 - Extremely low (13.3")	15 - Placement toward outside of quarter
Body Depth	LEGS & FEET	Rear Udder Width	10
50	Rear Legs, Side View	50	5 - Extremely wide, placement is on outside of quarter
45 - Extremely deep body	45 - Extremely sickle in hock	45 - Extremely wide (7.5")	Teat Length
40	40	40	50
35 - Deep body	35 - Slightly sickle hooked	35 - Very wide	45 - Extremely long (3.25")
30	30	30	40
25 - Intermediate in body depth	25 - Intermediate set in hock	25 - Intermediate width (5.5")	35 - Long
20	20	20	30
15 - Shallow body	15 - Nearly straight in hock	15 - Narrow	25 - Intermediate (2.25")
10	10	10	20
5 - Extremely shallow body	5 - Posty and straight legged	5 - Extremely narrow (3.5")	15 - Short
Dairy Form	Foot Angle	Udder Cleft	10
50	50	50	5 - Extremely short (1.25")
45 - Extremely open	45 - Extremely steep foot angle	45 - Extremely strong (2.5")	
40	40	40	
35 - Open	35 - Steep angle	35 - Strong	
30	30	30	
25 - Intermediate	25 - Intermediate angle (45°)	25 - Intermediate (1.25")	
20	20	20	
15 - Tight	15 - Low angle	15 - Weak	
10	10	10	
5 - Extremely tight	5 - Extremely low angle	5 - Extremely weak (flat)	

8 CHAPTER

NATIONAL FFA

DAIRY CATTLE HANDLERS' ACTIVITY

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. OBJECTIVE

To recognize the contributions of the handlers in presenting each animal to its best advantage for the dairy cattle participants in the evaluation of the dairy cows and heifers during the National Dairy Cattle Evaluation Career Development Event.

II. EVENT RULES

1. The state advisor must certify participants. Participants must meet the same rules of membership as in all other events conducted during the National FFA Convention.
2. It is highly recommended that participants be in either official dress or top half official dress and white pants.
3. Each state shall be eligible to nominate one member to serve as a participant in the dairy handler's activity. A state may determine its dairy handler by one of the following methods: (a) select the top handler in a state FFA dairy showing event (b) any other method a state prefers to select a qualified dairy handler.
4. All handlers shall be recognized with gold, silver or bronze emblem medals. All handlers will be recognized at the National Dairy Cattle Evaluation Career Development Event awards program.
5. Handler candidates must identify the class of dairy in which they wish to handle. However, they may not be assigned their first choice.
6. Handlers should have had prior experience in showing dairy cattle.
7. Handlers will not participate in either the preparation or fitting of the animals assigned.

8. Those selected as handlers shall report to the event superintendent for instructions at the time and place shown in the current year's team orientation packet. It is important that all selected handlers attend the information/organizational meeting the day before the National Dairy Cattle Evaluation Career Development Event, as well as report on time at event day. Those who do not report the day before the event or on time at event day will be substituted by approved alternates.
9. If a dairy handler cannot control his/her animal, this animal may have to be displayed by an alternate holder. The original handler **SHALL NOT** be given a different animal to display.

III. SCORING (100 POINTS)

Evaluation and scoring of each participant will be performed by a person or persons designated by the event superintendent.

Evaluation Criteria: Points

Appearance of the handler.10

Control of animal(s) by the handler20

Poise and calmness of the handler.20

Demonstrate competence in:40

- a. setting up the assigned animal to its best advantage.
- b. maintaining the animal(s) in its most advantageous pose.
- c. effectively restraining, as well as avoiding exciting the assigned animal(s).
- d. moving the animal(s) as requested by the ringmaster.

Display a cooperative, courteous, helpful positive attitude.10

TOTAL100

Dairy Cattle Handlers' Activity Scorecard

Name: _____ State: _____

SCORECARD

CRITERIA	POINTS POSSIBLE	POINTS EARNED
Appearance of the handler	10	
Control of animal(s) by the handler	20	
Poise and calmness of the handler	20	
Demonstrate competence in: <ul style="list-style-type: none"> a. setting up the assigned animal to its best advantage b. maintaining the animal(s) in its most advantageous pose c. effectively restraining, as well as avoiding exciting the assigned animal(s) d. moving the animal(s) as requested by the ringmaster 	40	
Display a cooperative, courteous, helpful positive attitude	10	
Total	100	

Judge's signature

9 CHAPTER

NATIONAL FFA

DAIRY FOODS

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

To enhance learning activities related to milk quality, federal milk marketing, attributes of milk products and substitutes for them.

The focus of this Career Development Event is on achievement of high quality raw milk, federal milk marketing orders and attributes of selected products of milk.

There are four general areas or functions in the network of persons who make possible the enjoyment of high quality dairy foods by consumers. These are:

1. Milk production.
2. Milk quality and safety.
3. Milk processing or manufacturing.
4. Marketing of either raw milk or finished products.

The production of high quality raw milk requires the following:

- Clean and healthy cows.
- Equipment that is constructed appropriately from approved materials.
- Proper installation and operation of the equipment.
- Rapid cooling of the milk to not more than 41°F (3°C).
- Delivery of the milk to the processor within 48 hours.
- Prevention of contamination of the milk with added water, antibiotics, pesticides, cleaning and sanitizing chemicals, medicinal agents and any other foreign matter.

Fresh raw milk should possess a sweet bland flavor, be free of flavors from the feeds the cows

eat and be low in numbers of somatic cells and bacteria. Mixed milk from several cows (herd milk) is expected to contain at least 3.5% milk fat, 3.1% protein and 4.8% lactose, the main characterizing constituents. It is the most important source of calcium in the diet of the average American, supplying approximately 75% of the dietary calcium.

Young persons considering a career related to the subject matter in this CDE may wish to consider that persons of the following groups contribute to the successful production of high quality milk and milk products:

Dairy farmers: own, manage and milk the cows and prepare milk for dealers.

Field representatives of the buying and/or selling organizations: provide advice to producers and promote milk quality for buyers.

Milk sanitarians: enforce public health regulations.

Food technologists: apply chemical, physical, microbiological and sensory tests to determine the quality and safety of milk and milk products.

Manufacturers and dealers of dairy equipment: supply equipment and service it.

Suppliers of chemicals used in cleaning and sanitizing: provide chemicals and advice on their proper use.

Veterinarians: treat diseased animals and advise producers on disease prevention.

Officials and technicians of the USDA Federal Milk Marketing Orders: sample, test and account for milk marketed under Federal orders; apply regulations to marketing of raw milk.

U. S. Food and Drug Administration: manages the regulation of grade A milk.

U. S. Department of Agriculture: manages the regulation of manufacturing grade milk; provides grading services to manufacturers of butter, cheese and nonfat dry milk.

State departments of agriculture and/or public health: manage the public health regulations applied to milk at the state level.

State Dairy Extension Agents: provide advice to dairymen regarding production and sale of milk.

II. OBJECTIVES

A. Develop abilities to utilize knowledge of high quality milk production.

1. Quality Milk Production
 - a. Regulations
 - b. Grades and classes of milk
 - c. Factors necessary to produce quality milk
2. Cleaning and Sanitizing
 - a. General types of cleaners and sanitizers
 - b. Water hardness
 - c. Milkstone
 - d. Equipment, teats and udders
3. Cooling Milk
4. Diseases Transmitted to Man via Milk
5. Causes of Off Flavors in Milk

B. Develop abilities to utilize knowledge of milk marketing.

1. Developing Marketing and Marketing Concepts
 - a. Trends
 - b. Economics

- c. Supply and demand
- d. Nutrition
- 2. Federal Milk Marketing Orders, Economics and Distribution
 - a. Transportation
 - b. Cooperatives
 - c. Pricing
- C. Develop abilities to utilize knowledge of the composition and quality characteristics of raw and pasteurized milk.**
 - 1. Nonfat solids portion
 - 2. Milkfat
 - 3. Adulterants, including water
 - 4. Bacterial standards and usual methods of estimating their numbers
- D. Develop an understanding of the causes and control of mastitis, its influences on milk quality and yield and the use of mastitis detection methods in controlling the disease in production of abnormal milk.**
 - 1. Causes
 - 2. Prevention
 - 3. Detection (California mastitis test and electrical conductivity)
 - 4. Treatment
 - 5. Regulatory programs
- E. Be able to identify cheese varieties.**
- F. Be able to identify and evaluate the flavor quality of milk.**

- G. Be able to identify dairy products and non-dairy products (imitations and substitutes).**
- H. Be able to identify defects of milker unit parts affecting milk quality.**

III. EVENT RULES

- A. Team make-up- Teams may consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team. Teams that, for whatever reason, have fewer than three members are not eligible for team awards, but students may receive individual awards.
- B. It is highly recommended that all participants be in official FFA dress for all events.
- C. Participant will report for instructions to the Event Superintendent at the time and place shown in the current year's team orientation packet.
- D. Participants will be allowed three (3) hours and forty-five (45) minutes for the event.
- E. Participants are not to use strong deodorant, perfume, chewing gum or other detractors to the taste and smell senses.

IV. EVENT FORMAT

- A. Equipment**
 - 1. **Materials provided by the student- two #2 pencils only**
 - 2. *Optional - students may wish to bring a non-programmable calculator, flashlight, bottled water and an apple.*
 - 3. **Provided - all paper and other supplies will be provided. Participants are not to bring clipboards, paper, etc., to the event. Participants are not to bring glass of any kind to the event.**

B. Flow of Event

- Milk Flavor Identification and Evaluation - 36 minutes
- California Mastitis Test - 18 minutes
- Milker Units - 18 minutes
- Cheese Identification - 18 minutes
- Dairy and non-dairy product identification - 18 minutes
- Written exam - 36 minutes
- Problem Solving - 36 minutes
- Team Activity - 36 minutes

2. Participants are to use whole numbers when scoring "Flavor" of milk. Check only the one most serious defect in a sample even if more than one flavor is detected. If no defect is noted check, "No defect" and score as a ten (10) (See Scoring Guide.)
3. Apples or saltwater will be allowed for refreshing. *Only those cups provided* at the event may be used.

Scoring Guide – Refer to the current scorecard being used at the national level.

Scores may range from 1 to 10. On a quality basis:

10	excellent (<i>no defect</i>)
8 to 9	good
5 to 7	fair
2 to 4	poor
1	unacceptable/ un-salable

V. TEAM ACTIVITY

Team problem solving (36 Minutes) (25 points)

All team members will be responsible for solving from the following:

- Sanitation: for example, concentrations of chemicals in solutions
- Marketing: for example, values and compositions of milk and dairy foods
- Distribution: for example, costs of operations

VI. INDIVIDUAL ACTIVITIES

A. Milk Flavor Identification and Evaluation (36 minutes) (120 points)

1. Ten milk samples will be scored on flavor (taste and odor) using the computerized scorecard. All samples of milk are prepared from pasteurized milk intended for table use and will score 1 to 10. (See Scoring Guide). Milk samples will be tempered to 60°F.

Example: Milk Flavor

DEFECTS	SCORES ^a		
	<i>Slight</i>	<i>Definite</i>	<i>Pronounced</i>
Acid	3	2	1
Bitter	5	3	1
Feed	9	8	5
Flat/Watery	9	8	7
Foreign	5	3	1
Garlic/Onion	5	3	1
Malty	5	3	1
Oxidized	6	4	1
Rancid	4	2	1
Salty	8	6	4

^a Suggested scores are given for three intensities of flavor. All numbers within the range may be used.

Intermediate numbers may also be used; for example, a bitter sample of milk may score 4.

B. California Mastitis Test (18 minutes) (64 points)

1. The California Mastitis Test will be scored using computerized scorecard. Samples should be scored using even numbers from

0 to 8 inclusive. See below “Scoring Guide for the California Mastitis Test.”

2. Eight samples of milk will be evaluated for abnormality, using the California Mastitis Test method.

Scoring Guide

CMT Test Score	Appearance	Participant Score*
Negative	Mixture liquid, no precipitate	0
T	Slight precipitate tend to disappear with paddle movement	2
1	Distinct precipitate but does not gel	4
2	Distinct gel formation	6
3	Strong gel formation, which tends to adhere to paddle. Forms distinct central peak	8

* Participant scores only even numbers for CMT test

C. Milker Unit Parts (18 Minutes) (40 points)

1. Five sets of milker unit parts to be scored on defects using the computerized scorecard. The flexible plastic parts are to be scored as rubber parts and rigid plastic or glass parts are to be scored as metal parts. Participants will be permitted to bring and use flashlights. Students are to utilize a 0.5-point deduction for each defect identified. Units may have multiple defects.
2. In accordance with the dairy foods industry, the score made by each participant is the number of points deducted when compared to the official score; therefore, the lower the score, the higher the rating.

Defects

Rubber parts - dirty or milkstone	0.5
Rubber parts - checked or blistered	0.5
Rubber parts - leaky	0.5
Rubber parts - poorly fitted	0.5

Defects

Metal parts - dirty or milkstone	0.5
Metal parts - dented or damaged	0.5
Metal parts - pitted or corroded	0.5
Metal parts - open seam	0.5

A combination of undesirable factors may score the milker unit zero. Each display of milker parts is scored as a unit, both inside and outside. Display boards are not to be handled. Participants will score each item and indicate the defect in the proper column on the score sheet.

D. Cheese Identification (18 Minutes) (20 points)

1. Ten cheese samples for identification will be selected from those listed below. Cubes of the cheeses will be available for tasting. See references for cheese identification. Note: More than one sample of a given cheese may be used.

2. A score of two points is given for each variety incorrectly identified. Uncolored cheeses may be used.

- Bleu
- Brie/Camembert
- Brick
- Cheddar (mild)
- Cheddar (sharp)
- Colby
- Cream/Neufchatel
- Edam/Gouda
- Feta
- Havarti
- Monterey(Jack)
- Mozzarella/Pizza
- Munster
- Processed American
- Provolone
- Romano
- Swiss

E. Dairy and Non-dairy products (18 minutes) (20 points)

Students will identify dairy and no-dairy (imitation – artificial) products and/or ingredient labels. Samples will come from the following list. (May also include new products as they are developed.)

- Butter
- Coffee Whitener
- Cheese
- Cottage Cheese
- Cream Cheese
- Imitation Cheese
- Frozen Desserts
- Ice Cream
- Half and Half
- Margarine
- Milks

- Sour Cream
- Whipped Cream
- Whipped Non-dairy Topping

F. Problem Solving (36 Minutes) (25 Points)

1. Decisions about the quality and acceptability of milk.
2. Calculations of the value of milk and components of milk.
3. Decisions about nutritional value of milk and milk products.
4. Decisions about the use of chemicals in cleaning and sanitizing operations.

G. Written Test (36 Minutes) (100 points)

The written test will be comprised of a total of fifty (50) multiple - choice items. The test will be given in two parts with one part consisting of twenty-five (25) questions on quality milk production and a second part of twenty-five (25) questions on milk marketing. An increased emphasis will be placed on general marketing and promotion.

VII. TIEBREAKERS

If ties occur, the following events will be used in order to determine award recipients:

1. Milk Production Written Exam
2. Milker Parts
3. Cheese Identification

VIII. SCORING

Dairy Foods is a negatively scored event, lowest score wins. Each incorrect answer has a value of n points. Correct answers carry no value.

Points

- Milk Flavor Identification and Evaluation (ten samples) 120
- California Mastitis Test (eight samples) . . 64
- Milker Units (five sets) 40
- Cheese Identification (ten samples) 20
- Dairy and non-dairy product identification (ten samples). 20
- Written exam (fifty two-point questions). 100
- Problem Solving 25

Team Activity. 25

Total Points per individual (x 3 members) 389

Total Points per team 1,192

IX. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

X. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Hoard's Dairyman, PO Box 801, Fort Atkinson, Wisconsin 53538. Phone (414) 563-5551. Issues used are from September of previous year to August of current year.

Using the California Mastitis Test published by the University of Missouri-Columbia Extension Division, Columbia, Missouri 65211. (Single copy free, write for price quote for multiple copies).

California Mastitis Test can be ordered from NASCO: Toll free 1-800-558-9595 or toll call, 1-414-563-2446. NASCO, 901 Janesville Avenue, Fort Atkinson, WI 53538.

Dairy Handbook, TETRA Pak Processing Systems 8101 Corporate Woods Parkway Vernon Hills, IL 60061.

Dairy Foods: Producing the Best, Dr. Robert Marshall; Instructional Materials Laboratory, 1400 Rock Quarry Road, Q139, University of Missouri; Columbia, MO 65211

The Cheese Reporter (Publication Number: ISSN 0009-2142), published weekly by Cheese Reporter Publishing Co., Inc. 4210 Washington Ave., Madison, WI 53704. Phone (608) 246-8430, Fax (608) 246-8431.

Dairy Facts – International Dairy Foods Association, 1250 H Street, N.W. Suite 900, Washington DC 20005 Phone – 202-732-4332– www.idfa.org

Agricultural Marketing Service www.ams.usda.gov

Judging and Scoring Milk and Cheese, Farmers bulletin # 2259, United States Department of Agriculture, Washington DC, 20250 – Phone 202-447-7473

Judging, Identifying and Scoring Dairy Products – Bulletin #250c, University of Illinois, 1401 S. Maryland Drive, Urbana, IL 61801 Phone – 217-333-3871

10

CHAPTER

NATIONAL FFA

ENVIRONMENTAL AND NATURAL RESOURCES

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

Environmental and natural resource education has a responsibility to ensure an educated public and provide students prepared to enter careers in the environmental and natural resource industry. The purpose of the environmental and natural resource career development event is to stimulate student interest and to promote environmental and natural resource instruction in the agricultural education curriculum and to provide recognition for those who have demonstrated skills and competencies as a result of environmental and natural resource instruction.

II. EVENT RULES

1. Under no circumstance will any participant be allowed to handle any of the items in the identification portion of the practicums. Any
2. No team, team member or team coach shall visit the event facilities to observe material and facilities after September 1st. Any team, team member or coach reported and proven to do so will cause the elimination of that team from competing in the National FFA Environmental and Natural Resources Career Development Event.
3. Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.
4. All participants will be given an identification number by which they will be designated throughout the event.

infraction of this rule will be sufficient to eliminate a team from the event.

5. Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of the weather. Participants should have rainwear, warm clothes and appropriate footwear.
6. Written Material: All written material will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the site.
7. The event will include:
 - a. Objective Written Exam
 - b. Team Activity
 - c. Identification of Material
 - d. Individual Practicums

III. EVENT FORMAT

A. Equipment

Materials student must provide- Each participant may bring an electronic calculator. Calculators used in this event should be battery operated, non-programmable, silent with large keys and large displays. Calculators should have only these functions- addition, subtraction, multiplication, division, equals, percent, square root, +/- key, and one memory register. No other calculators are allowed to be used during the event.

Equipment provided- A clipboard, two sharpened No. 2 pencils and all other tools and equipment will be furnished for the event. Participants must use the tools and equipment furnished at the event.

B. Team Activity (90 minutes in length) (1,000 points total)

1. Students will be provided a scenario that deals with an environmental/natural resource problem.

Soils

- Physical Properties

- Soil Erosion
- Soil Analysis
- Environmental Impact of Soil Degradation

Water

- Importance of Water Quality
- Factors that Influence the Quality of Water
- Measure to Ensure Water Quality
- Management Practices Used to Ensure Water Quality

Ecosystems

- Basic Ecological Concepts
- Management of Eco-Systems
- Grassland Eco-Systems
- Forestry Eco-Systems
- Aquatic Eco-Systems
- Wetland Eco-Systems
- Non-Native Species effect on Eco-Systems

Waste Management

- Preventing and Reducing Solid Waste
- Disposing of Waste
- Manure Management
- Hazardous Waste

2. Teams will be required to develop both an oral, as well as a written statement that addresses the questions in the annual scenario.
3. Teams will submit a written summary of their findings at the end of one hour. Summary is to be submitted on the disk provided to each team.
4. Teams will have ten (10) minutes of prep time prior to their oral presentation.
5. Teams will be required to give an oral presentation justifying the decisions made

by the team. The team will have eight minutes to make the oral presentation.

6. Teams will be required to answer questions in regards to the decision reached by their team. Question period will be 5 minutes in length.

Team Activity Score Card

Oral presentation.	500 points
Written presentation.	300 points
Question	200 points
TOTAL	1000 points

C. Individual Activities

1. Written Exam - Objective Test (100 points) (60 minutes)

Fifty (50) questions submitted by the committee.

2. Annual Practicums

Students will participate in the following three areas on an annual basis:

a. National/Global Issues Interview – (100 points)

Students will participate in personal interviews dealing with environmental/natural resource issues by:

1. Explaining the significance of environmental/natural resource issues.
2. Specify recommended practices for conservation of environmental/natural resources.
3. Identify basis for practices, which may appear to be controversial.
4. Analyze and evaluate national and global issues.
5. Identify and develop plans to address national and global issues.

Examples -

- *What legislation is currently being discussed that will have an affect on the environment?*
- *What role should the United States play with regulating toxic waste in other countries?*
- *Describe the Exxon Valdez oil spill and how you felt it was handled.*

b. Press Release Writing – (100 points)

1. Participants will be furnished access to computers, or similar equipment, on which to create a written document. (In the event electronic equipment is not available pencils/pens will be provided.)
2. Participants will create a written document, 350 words or less in the style of a news/press release.
3. Press release should contain the basic elements (facts) customarily found in written publications (who, what, where, when and how) The elements/facts presented are to reflect the thoughts of the participant in relation to the topic being addressed.

Examples -

- a. What type of change is being proposed?
- b. Does the proposed solution reflect an economic, or natural resource, impact on surrounding communities?
- c. Have participants clearly stated the outlined problem and a solution?
- d. Does the press release outline and explain the problem in a clear manner? (i.e.: Could someone from outside the

competition or FFA arena read the release and understand the problem and proposed solution)?

c. Identification – (100 points)

Students will identify fifty (50) items from the following combined areas:

1. Equipment
2. Plants
3. Wildlife
4. Fish
5. Reptiles/Amphibian
6. Predators
7. Birds
8. Non-Native Species

3. Rotational Practicums

Students will participate in four of the following practicums each year. Practicums may vary from year to year.

a. Water Analysis - (100 points)

1. Using measuring devices, each participant will measure a sample of water for quality analysis and contaminants.
2. Analyze the results of measurements.
3. Name possible causes of the particulate or other contaminant:
Are they natural?
Are they pollutants (what level is acceptable)?
4. Describe the effects on the environment of the pollutants.
5. List the sources of the pollutants.
6. Discuss ways the water quality can be improved.

b. Soil Nutrient Test – (100 points)

1. Students will be furnished with a sample of soil and test kit. They

will have to determine the current levels of:

- i. Nitrogen
- ii. Potassium
- iii. pH
- iv. Phosphorus

2. Students will use this information along with an extension service crop sheet provided to make suggestions for what fertilizers need to be added to grow a given crop. (Example of crops, corn, wheat, tobacco, soybeans)

c. GPS Locations – (100 points)

Participants will utilize a global position system (GPS) unit to complete one of the following:

1. Identify the longitude and latitude of a given set of points using a GPS unit and a map.
2. Identify boundaries of a given area including calculation of land area and linear feet of boundary.
3. Use GPS unit and topographic map to layout location of fence line, pond, drainage structure or other related facility.
4. Use a GPS unit to mark location of a path or road through a given area
5. Use GPS unit to determine slope of land area for installation of drainage and or other related facilities.

d. Environmental Analysis – (100 points)

Students will address the following five aspects:

1. Living Organisms - students will identify and list as many living organisms (both native and invader) as they can find within

the marked boundaries of the site. Additional species may be artificially introduced as mounted or preserved specimens.

2. Non-living components (shelter, nutrients) - students will inventory resources such as water, shelter, etc. upon which resident species depend for survival.
3. Food Web - students will define relationships among the plants and animal species that are found or introduced in the study area.
4. Ecological Succession - students will identify the stages of succession of various grasses, shrubs and trees. They will also identify causes of changes in succession patterns.
5. Situation Analysis - students will determine whether a healthy balance exists between the environment and the native species that depend upon it. They will also check remediation practices where needed.

e. Soil Profile – (100 points)

1. Students will be furnished with a scorecard; an interpretation guide and a pre-dug soil pit or core/monolith to judge. The participants will identify soil horizons, textures, percentage coarse fragments, pH, horizon colors, slope, geologic origin, soil permeability, irrigation suitability and soil structure types of the soil present in the given example.
2. Using the information from the score card and interpretation guide, the student will then identify the most appropriate use

for the given area and the erosion control practice that best fits the designated use for the land.

f. Waste Management – (100 points)

1. Participants will be presented with a scenario (ag producer, neighborhood, office building, manufacturing plant, etc.) that generates waste material creating differing environmental threats.
2. Participants will evaluate the nature of waste output to identify plausible options for reducing the rate of waste generation, recycling or providing potential alternative uses for the waste, treating the waste, or disposing of the waste.
3. Participants should be able to identify at least one benefit and one deterrent for each possible option that is offered.

IV. TIEBREAKER

Team - 1) Team with the highest team activity score, 2) Team with the highest annual practicum scores, 3) Team with the highest rotational practicum scores.

Individual - 1) Individual with the highest exam score, 2) Individual with the highest identification score, 3) Individual with the highest annual practicum score

V. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VI. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

National Council for Agricultural Education's material -

"Applied Environmental Sciences" To order contact CMS at The Ohio State University at: 614-292-4848 or fax 800-292-4919 or online at <http://cms.osu.edu/>

Wildlife Science Manual Instructional CD-ROM: The Core Catalog, National FFA Organization product number CAERT-WSM. 888-332-2668 fax orders to 800-366-6556 or on line at <http://www.ffaunlimited.org/caop.html>

Environmental Science and Technology. Porter, Lee, Turner and Hillan. Interstate Publishers, Inc. 1997. PO Box 50 Danville, IL 61834-0050

Managing Our Natural Resources. Camp and Daughtery. Delmar Publishers, Inc. 1988. Albany NY.

- *Wildlife Management*, Stutzenbaker, Scheil, Swan, Lee and Mattics, Interstate Publishers, Inc. 1999.
- *Natural Resources and Environmental Technology*, Lee, Interstate Publishers, Inc. 2000.
- *Environmental Science for Agriculture and the Life Sciences*. Albany, NY. Delmar Publishers 1994.
- *Our Natural Resources and Their Conservation*. Kircher, H.B., Wallace, D.L., & Gore, D.J. Danville, IL. Interstate Publishers, Inc. 1992.
- *Soil Science: Evaluation, Interpretation, and Management of Soil*. Columbia, MO. Instructional Materials Laboratory, University of Missouri, phone: 800-669-2465.

- *The Global Ecology Handbook. What You Can Do About the Environmental Crisis*. Courson, W.H. (Ed.). Boston, MA. Beacon Press 1990.
- *Biological Science, an Ecological Approach*. Dubuque, IA. Kendall Hunt Publishers, 1992
- *Introduction to Forestry Science*. L.DeVere Burton. Delmar Publishers, 2000.
- *Agriscience & Technology*. L. DeVere Burton. Delmar Publishers, 1992.

Non-Native (Invader) Resource List

- U.S. Fish and Wildlife Service
- U.S. Park Service
- U.S. Dept. of Interior
- U.S. Forest Service
- State Department of Natural Resources
- Gulf of Mexico Program
- Minnesota Sea Grant
2305 East 5th St.
Duluth, MN 55812-1445
Phone:
218-726-6191
www.ansc.purdue.edu/sgnis
Sea Grant has developed a CD-ROM titled "Your Exotic Species One-Stop Information Shop!" Price \$14.00
- Internet Locations
Search Engines: Type in "exotic species", "non-native species", "non-indigenous species". Make sure to include quotations in search.
www.nbii.gov/invasive
www.glifwc.org
www.flmnh.ufl/fnps/exotics
www.gmpo.gov

Environmental and Natural Resources Event

IDENTIFICATION LIST

Equipment	Forestry	229. skunk
Water Quality	124. biltmore stick	230. weasel
101. refractometer	125. diameter tape	231. whitetail deer
102. secchi disk	126. prism	232. woodchuck
103. thermometer	127. tree increment borer	Birds
104. water bottle samplers	Native Species	301 bald eagle
105. water meter for physical/chemical parameters (pH, conductivity, and/or DO	Wildlife	302 blue jay
Aquatic	201. armadillo	303 brown pelican
107. aquatic net	202. badger	304 brown thrasher
108. bottom dredges	203. beaver	305 calliope hummingbird
109. fish measuring board	204. bison	306 Canada goose
110. plankton net	205. black bear	307 cardinal
111. seines	206. bobcat	308 Cooper's hawk
112. sieves	207. chipmunk	309 Crissal's thrasher
113. stream bottom sampler	208. cottontail	310 eastern bluebird
Wildlife	209. coyote	311 great horned owl
114. binoculars	210. elk	312 great blue heron
115. mammal traps	211. fox squirrel	313 golden eagle
116. snake/reptile stick	212. gray squirrel	314 kestrel
117. radio telemetry unit	213. gray wolf	315 least tern
118. animal tags/bands	214. grizzly bear	316 mallard duck
Geographical	215. jack rabbit	317 mountain bluebird
119. GPS unit	216. mole	318 osprey
Weather	217. moose	319 purple martin
120. barometer	218. mountain goat	320 quail
121. sling psychrometer	219. mountain lion	321 red-tailed hawk
122. rain gauge	220. muskrat	322 ruby-throated hummingbird
123. wind speed meter	221. opossum	323 turkey
	222. pocket gopher	324 white pelican
	223. polar bear	325 wood duck
	224. porcupine	Reptiles/Amphibians
	225. prairie dog	401. alligator
	226. pronghorn	402. alligator snapping turtle
	227. raccoon	403. black rat snake
	228. red fox	

- 404. bullfrog
- 405. collared lizard
- 406. common snapping turtle
- 407. copperhead snake
- 408. coral snake
- 409. corn snake
- 410. cottonmouth
- 411. crocodile
- 412. diamondback rattlesnake
- 413. fence lizard
- 414. garter snake
- 415. green anole lizard
- 416. gray tree frog
- 417. red eared slider
- 418. ring neck snake
- 419. rubber boa snake
- 420. scarlet king snake
- 421. timber rattlesnake
- 422. Woodhouse's toad

Fish and Other Aquatic Animals

- 501. blue catfish
- 502. bream/bluegill

- 503. channel catfish
- 504. clam
- 505. crab
- 506. crappie
- 507. crayfish
- 508. flathead catfish
- 509. largemouth bass
- 510. lobster
- 511. salmon
- 512. shrimp
- 513. smallmouth bass
- 514. sturgeon
- 515. trout
- 516. walleye
- 517. yellow bullhead catfish

Invasive/Non-Native Species

Plants

- 601. Chinese tallow
- 602. English ivy
- 603. Himalaya blackberry
- 604. hydrilla
- 605. kudzu
- 606. leafy spurge

- 607. melaleuca
- 608. mimosa tree
- 609. purple loosestrife
- 610. saltcedar

Animals

- 701. Asiatic clam
- 702. Asian long-horned beetle
- 703. brown trout
- 704. carp
- 705. Chinese mitten crab
- 706. chuckar
- 707. English sparrow
- 708. European starling
- 709. feral hog
- 710. fire ant
- 711. Norway rat
- 712. nutria
- 713. ring neck pheasant
- 714. sea lamprey
- 715. talipia
- 716. zebra mussel

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

ENVIRONMENTAL ANALYSIS SCORECARD

Your assignment is to analyze the given ecosystem with the following four aspects in mind:

QUESTION	POSSIBLE POINTS	SCORE
Identify and list as many organisms (both native and invader) that can be found within the marked boundaries of this site.	20	
Identify and list all non-living components found with the marked site.	20	
Describe the food web presented in this marked ecosystem.	20	
Identify the stages of succession of various grasses, shrubs and trees.	20	
Determine whether a healthy balance exists and recommend remediation where needed.	20	
Total Score:	100	

*Judge's Name*_____
*Judge's Signature*_____
Date

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

GPS LOCATION SCORECARD

List your numbers for each location point following the latitude and longitude given. Note: Variance for differential corrections are noted on condition sheet.				
LOCATION POINT	POINT NUMBER		POSSIBLE POINT	SCORE
1			20	
2			20	
3			20	
4			20	
5			20	
			Total Points: 100	

*Judge's Name*_____
*Judge's Signature*_____
Date

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

NATIONAL GLOBAL ISSUES INTERVIEW SCORECARD

	POSSIBLE POINTS	SCORE
Appearance and courtesy	5	
Speech <ul style="list-style-type: none"> • Vocabulary • Volume • Enunciation 	10	
Attitude and personality <ul style="list-style-type: none"> • Forcefulness • Poise • Temperament • Sincere 	15	
Ability to convince interviewer <ul style="list-style-type: none"> • Persuasiveness • Self confidence 	5	
Knowledge <ul style="list-style-type: none"> • Educational experience • Occupational experience • Facts 	20	
Reliability <ul style="list-style-type: none"> • Frankness • Consistency • Accuracy 	15	
Professionalism	5	
Response to questions	25	
Total:	100	

Judge's Name

Judge's Signature

Date

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PRESS RELEASE WRITING SCORECARD

CATEGORY	POSSIBLE POINTS	SCORE
Format <ul style="list-style-type: none"> • Name/State • Header/Headline • Contact information • Summary/Conclusion • 350 words or less • Final press release marks at end 	15	
Lead/Focus	20	
Organization <ul style="list-style-type: none"> • Concise/Clarity • Paragraph structure • Sentence structure • Word choice • Logical progression 	25	
Accuracy <ul style="list-style-type: none"> • Of information • Of quotes 	15	
Creativity	10	
Grammar <ul style="list-style-type: none"> • Spelling • Punctuation • Legibility 	15	
Total:	100	

*Judge's Name*_____
*Judge's Signature*_____
Date

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

SOIL NUTRIENT TEST SCORECARD

Your job today is to take a soil sample from the given area. You will need to run an analysis to determine the levels of nitrogen, phosphorus, potassium and pH. Using these results you will also need to use the given Extension Service crop sheet and make a recommendation for the amount and type of fertilizer that should be added to grow the designated crop.

Category	Level	Possible Points	Score
Nitrogen		25	
Potassium		25	
pH		20	
Fertilizer Recommendations:		30	
	Total Score:	100	

Judge's Name

Judge's Signature

Date _____

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

TEAM ACTIVITY SCORECARD

	CATEGORY	POSSIBLE	SCORE
1	Quality of Management Plan (Written Presentation 300 points) Previously scored by judges using Written Proposal Scorecard		
2	Analysis of Information (Oral Presentation 200 points)		
	• Introduction	20	
	• Clearly identify the problem(s)	20	
	• Short term goals discussed	20	
	• Long term goals discussed	20	
	• Short term and long term goals are measurable	20	
	• Demonstrates knowledge and experience in subject area	20	
	• Possible solutions analyzed	20	
	• Recommendations discussed	20	
	• Clearly addresses the scenario	20	
	• Summary/Conclusion	20	
3	Team Presentation (300 Points)		
	• Participation of all team members	60	
	• Logical progression of material	60	
	• Delivery professional, organized and well thought out	60	
	• Presentation clear and effective	60	
	• Team attitude	60	
4	Questions (200 Points)		
	• Each member of the team responds to at least one question	50	
	• Confidence shown	50	
	• Effectiveness of response	100	
	TOTAL	1000	

Judge's Name

Judge's Signature

Date

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MANAGEMENT PLAN (WRITTEN PRESENTATION SCORE CARD)

	CATEGORY	POSSIBLE	SCORE
1	Quality of Management Plan		
	• Introduction	25	
	• Statement of problem(s)	25	
	• Analysis of scenario	60	
	• Possible solutions identified	60	
	• Recommendations		
	— short term goals	30	
	— long term goals	30	
	• Measurable goals	20	
	• Grammar, spelling, neat	25	
	Summary/Conclusion	25	
	TOTAL	300	

Judge's Name

Judge's Signature

Date _____

Environmental and Natural Resources

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

WATER ANALYSIS SCORECARD

Your job today is to analyze the given water sample. You will need to find the given levels of dissolved oxygen, nitrates, pH and the current temperature. Using this information you will need to describe the effects on the environment, limiting factors and discuss ways that water quality can be improved.

CATEGORY	ANSWERS	POSSIBLE POINTS	SCORE
PH		10	
Dissolved Oxygen		10	
Nitrates		10	
Temperature		10	
Effects on the Environment:		20	
Limiting Factors:	xxxxxxxxxxxxxxxxxxxxxx	20	
How can Water Quality be improved?		20	
Total Score:		100	

*Judge's Name*_____
*Judge's Signature*_____
Date

Environmental and Natural Resources

Participant Name: _____

Participant No.: _____

State: _____

SOIL PROFILE SCORECARD

PART 1

SOIL FACTORS – PART 1		INTERPRETATION OF SOIL FACTORS	
Check Appropriate Box		Check Appropriate Box	
SCORE		SCORE	
	A. Texture (5 points possible) <i>Sur. Sub.</i> <input type="checkbox"/> <input type="checkbox"/> 1. Coarse <input type="checkbox"/> <input type="checkbox"/> 2. Moderately Coarse <input type="checkbox"/> <input type="checkbox"/> 3. Medium <input type="checkbox"/> <input type="checkbox"/> 4. Moderately Fine <input type="checkbox"/> <input type="checkbox"/> 5. Fine B. Depth of Soil (5 points possible) <input type="checkbox"/> 1. Deep <input type="checkbox"/> 2. Moderately Deep <input type="checkbox"/> 3. Shallow <input type="checkbox"/> 4. Very Shallow C. Slope (5 points possible) <input type="checkbox"/> 1. Nearly Level 0–1% <input type="checkbox"/> 2. Gently Sloping 1–3% <input type="checkbox"/> 3. Moderate Sloping 3–5% <input type="checkbox"/> 4. Strongly Sloping 5–8% <input type="checkbox"/> 5. Steep 8–15% <input type="checkbox"/> 6. Very Steep > 15% D. Erosion – Wind and Water (5 points possible) <input type="checkbox"/> 1. None to Slight <input type="checkbox"/> 2. Moderate <input type="checkbox"/> 3. Severe <input type="checkbox"/> 4. Very Severe		E. Permeability (5 points possible) <input type="checkbox"/> 1. Rapid <input type="checkbox"/> 2. Moderate <input type="checkbox"/> 3. Slow <input type="checkbox"/> 4. Very Slow F. Surface Runoff (5 points possible) <input type="checkbox"/> 1. Rapid <input type="checkbox"/> 2. Moderate <input type="checkbox"/> 3. Slow <input type="checkbox"/> 4. Very Slow G. Major Factors That Keep Area Out of Class 1 (15 points possible) <input type="checkbox"/> 1. Texture <input type="checkbox"/> 6. Runoff <input type="checkbox"/> 2. Depth <input type="checkbox"/> 7. Wetness <input type="checkbox"/> 3. Slope <input type="checkbox"/> 8. Flooding <input type="checkbox"/> 4. Erosion <input type="checkbox"/> 9. None <input type="checkbox"/> 5. Permeability
			H. Land Capability Class (15 points possible) <input type="checkbox"/> 1. Class I <input type="checkbox"/> 5. Class V <input type="checkbox"/> 2. Class II <input type="checkbox"/> 6. Class VI <input type="checkbox"/> 3. Class III <input type="checkbox"/> 7. Class VII <input type="checkbox"/> 4. Class IV <input type="checkbox"/> 8. Class VIII
	Total Score Column		Total Score Column
			Total Score PART 1 (60 points possible)

PART 2 (Over)

Environmental and Natural Resources

Participant Name: _____

Participant No.: _____

State: _____

SOIL PROFILE SCORECARD

RECOMMENDED TREATMENTS – PART 2		CHECK APPROPRIATE BOX
SCORE		
<p>A. Texture (15 points possible)</p> <p><input type="checkbox"/> 1. Row crop/occasional soil conserving crop</p> <p><input type="checkbox"/> 2. Row crop/frequent soil conserving crop</p> <p><input type="checkbox"/> 3. Row crops not more than 2 out of 4 years</p> <p><input type="checkbox"/> 4. Row crops not more than 1 out of 5 years</p> <p><input type="checkbox"/> 5. Return crop residue to the soil</p> <p><input type="checkbox"/> 6. Practice conservation tillage</p> <p><input type="checkbox"/> 7. Establish recommended grass or grasses & legumes</p> <p><input type="checkbox"/> 8. Proper pasture and range management</p> <p><input type="checkbox"/> 9. Protect from burning</p> <p><input type="checkbox"/> 10. Control grazing</p> <p><input type="checkbox"/> 11. Plant recommended trees</p> <p><input type="checkbox"/> 12. Harvest trees selectively</p> <p><input type="checkbox"/> 13. Use only for wildlife or recreation area</p> <p>B. Slope (10 points possible)</p> <p><input type="checkbox"/> 14. Control brush or trees</p> <p><input type="checkbox"/> 15. Terrace and farm on contour</p> <p><input type="checkbox"/> 16. Maintain terraces</p> <p><input type="checkbox"/> 17. Construction diversion terraces</p> <p><input type="checkbox"/> 18. Install drainage system</p> <p><input type="checkbox"/> 19. Control gullies</p> <p><input type="checkbox"/> 20. No mechanical treatment needed</p> <p>C. Fertilizer and Soil Amendments (15 points possible)</p> <p><input type="checkbox"/> 21. Soil amendments</p> <p><input type="checkbox"/> 22. Phosphorous [P]</p> <p><input type="checkbox"/> 23. Potassium [K]</p> <p><input type="checkbox"/> 24. Nitrogen [N]</p> <p><input type="checkbox"/> 25. Fertilizer or soil amendments not needed</p>		
Total Score PART 2 (40 points possible)		
Total Score PART 1 (60 points possible)		
GRAND Total Score (100 points possible)		

Judge's Name

Judge's Signature

Date

11

CHAPTER

NATIONAL FFA

EXTEMPORANEOUS PUBLIC SPEAKING

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The National FFA Extemporaneous Public Speaking Career Development Event is designed to develop the ability of all FFA members to express themselves on a given subject without having prepared or rehearsed its content in advance. This gives the FFA members an opportunity to formulate their remarks for presentation in a very limited amount of time. The event will be held in connection with the National FFA Convention.

II. EVENT RULES

1. The National FFA Extemporaneous Public Speaking Career Development Event will be limited to one participant from each state association.
2. The National FFA Extemporaneous Public Speaking Career Development Event will be open only to students who were regularly enrolled in agricultural education during the current calendar year, or who are still in high school but have completed all the agricultural education offered. When selected, participants must be active members of a chartered FFA chapter and the National FFA Organization. A member representing a state association may participate in the National FFA Extemporaneous Public Speaking Career Development Event only once. A student can participate in only one of the speaking events at the national level in a given year.
3. It is highly recommended that participants be in official FFA dress in each event.

4. Copies of the rules and score sheet will be supplied to participants in advance of the national event.
5. The Boards of National Officers and Directors of the FFA will be in charge of this event.
6. Three to six competent and impartial persons will be selected to judge the event. At least one judge should have an agricultural background. Each state with a speaker must provide a judge for the national event.

III. EVENT FORMAT

1. The selection of topics will be held 30 minutes before the event. The participants will draw three specific topics, selected at random from the pool of 12, relating to the industry of agriculture. After selecting the topic they desire to speak on, all three topics will be returned for the next drawing.
2. Twelve topics will be prepared by the event superintendent and will include three each from the following categories: a) agriscience and technology b) agrimarketing and international agricultural relations c) food and fiber systems d) urban agriculture.
3. Participants will be admitted to the preparation room at 15-minute intervals and given exactly 30 minutes for topic selection and preparation.
4. The officials in charge of the event on the following basis will screen reference material:
 - a. must be limited to five items.
 - b. must be printed material such as books or magazines and/or a compilation of collected materials. To be counted as one item, a notebook or folder of collected materials may contain NO more than 100 single sided pages or 50 pages double sided numbered consecutively (cannot be notes or speeches prepared by the participant or notes prepared by another person for the purpose of use in this event).
5. Each speech should be the result of the participant's own effort using approved reference material which the participant may bring to the preparation room. No other assistance may be provided. Participants must use the uniform note cards provided. Any notes for speaking must be made during the 30-minute preparation period.
6. A list of all possible topics will be given to and reviewed by the judges, prior to the beginning of the event.
7. Each speech should be not less than four and no more than six minutes in length, with five minutes additional time allowed for related questions which will be asked by the judges. The program chairman of the event will introduce the participant by name and state, and the participant may introduce his or her speech by title only. Participants are to be penalized one point per second on each judge's score sheet for being over six minutes or under four minutes. Time commences when the speaker begins talking. Speakers may use a watch to keep a record of their time. Event officials or observers will give no time warnings.
8. Event officials will randomly draw speaking order. The program chairman will introduce each participant by name and in order of the drawing. A participant will be permitted to use notes while speaking, but deductions in scoring may be made for this practice if it detracts from the effectiveness of the presentation. Applause shall be withheld until all participants have spoken.

9. The national contest will be conducted in three rounds: preliminary, semifinals and finals. No ranking will be given except for the final four speakers.
10. Two timekeepers will be designated who will record the time for each participant in delivering his or her speech, noting undertime or overtime, if any, for which deductions should be made. Timekeepers should be sitting together.
11. At the time of the event, the judges will be seated in different sections of the room in which the event is held. They will score each participant upon the delivery of the production using the score sheet provided.
12. Each judge shall formulate and ask questions. Questions will pertain directly to the speaker's subject. Questions containing two or more parts should be avoided. Judges will score each participant on the ability to answer all questions asked by all judges. The full five minutes should be used.
13. When all participants have finished speaking, each judge will total the score on each participant. The timekeepers' record will be used in computing the final score for each participant. The judges' score sheets will then be submitted to event officials to determine final ratings of participants.

IV. SCORING

Participants will be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each participant then will be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low rank method of selection)

Explanation of Score Sheet Points

- 1. Content related to topic (300 points)**
 - Appropriateness of the total speech content to the topic selected
 - Extent to which the speaker addressed the topic selected
 - Suitability of the material used
 - Accuracy of the statements included
- 2. Organization of material (100 points)**
 - Organization of the content
 - Unity of thought
 - Logical development
 - Language used
 - Sentence structure
 - Accomplishment of purpose-conclusions
 - Material related to sub-topic
- 3. Power of Expression (100 points)**
 - Fluency
 - Emphasis
 - Directness
 - Sincerity
 - Communicative ability
 - Conveyance of thought and meaning
- 4. Voice (100 points)**
 - Quality
 - Pitch
 - Articulation
 - Pronunciation
 - Force

5. Stage Presence (100 points)

- Personal appearance
- Poise and body posture
- Attitude
- Confidence
- Personality
- Ease before audience

6. General Effect (100 points)

- Extent to which the speech was interesting, understandable, convincing, pleasing and held attention
- Evidence of purpose

7. Response to questions (100 points)

- Ability to answer the questions on the speech, which are asked by the judges, indicating originality, familiarity with subject and ability to think quickly.

TOTAL POINTS1000 POINTS

V. TIEBREAKERS

Ties will be broken based on the greatest number of low ranks. The participant's low ranks will be counted and the participant with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the participant's response to questions. The participant with the greatest number of low ranks from the response to question will be declared the winner. If a tie still exists then the participant's raw scores will be totaled. The participant with the greatest total of raw points will be declared the winner.

VI. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

Extemporaneous Public Speaking

Name: _____ Chapter: _____

State: _____ Participant No.: _____

	MAX POINTS	ONE	TWO	THREE	FOUR	FIVE	SIX	SEVEN	EIGHT
CONTENT RELATED TO TOPIC	300								
• Appropriateness of the total speech content to the topic selected									
• Extent to which the speaker addressed the topic selected									
• Suitability of the material used									
• Accuracy of the statements									
• Relationship to the content of agriculture									
ORGANIZATION OF MATERIALS	100								
• Organization of contents									
• Unity of thought									
• Logical development									
• Language used									
• Sentence structure									
• Accomplishment of purpose- conclusion									
• Material related to sub-topic									
POWER OF EXPRESSION	100								
• Communicative ability including: fluency, emphasis, directness and sincerity									
• Conveyance of thought and meaning									
VOICE	100								
• Quality, pitch									
• Articulation									
• Pronunciation									
• Force									
STAGE PRESENCE	100								
• Personal appearance									
• Poise and body posture									
• Attitude, confidence and personality									
• Ease before an audience									
GENERAL EFFECT	100								
• Extent to which the speech was interesting, understandable, convincing, pleasing and held attention									
• Evidence of purpose									
RESPONSE TO QUESTIONS*	200								
• Ability to answer the questions on the speech, which are asked by the judges, indicating originality, familiarity with subject and ability to think quickly.									
Gross Total Points: 1000									
Less Time Deduction**:									
Net Total Points:									
Participant Ranking:									

* - Judges should meet prior to the event to prepare and clarify the types of questions to be asked.

** - 1 point per second over, determined by the timekeepers

12

CHAPTER

NATIONAL FFA

FARM BUSINESS MANAGEMENT

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The National FFA Farm Business Management Career Development Event provides competition that fosters information assimilation, critical thinking and problem-solving skills necessary to successfully manage a farm or pursue farm business management careers.

The National FFA Farm Business Management Career Development Event enhances and encourages opportunities for all participants to receive instruction that develops farm business management skills.

II. EVENT OBJECTIVES

The event objectives are for participants to demonstrate their ability to:

- analyze farm/ranch business management information.

- apply economic principles and concepts of farm business management to the decision-making process.
- evaluate farm business management decisions.
- work together cooperatively as a group.

The principles and concepts listed below may be included in each section event.

A. Economic Principles Related to Farm Business Management

1. Production functions
 - a. diminishing returns
 - b. profit maximizing point:
 - $MFC=MVP$
 - $MC=MR$
2. Opportunity costs
 - a. alternative investment opportunities
 - b. alternative use of resources

3. Cost analysis
 - a. fixed costs
 - b. variable costs
4. Input combinations
5. Enterprise selection
 - a. equi-marginal returns
 - b. specialization and diversification
6. Supply and demand
 - a. price and quantity determination
 - b. elasticity of demand
 - c. elasticity of supply
 - d. substitute and complementary products

B. Concepts Related to the Use and Analysis of Records to Manage Resources

1. Analysis of records
 - a. profit and loss
 - b. financial statements
 - ratios
solvency
liquidity
profitability
labor and feed efficiency
 - inventory, assets, liabilities, net worth
2. Budgeting
 - a. partial budgets
 - b. whole farm budgets
 - c. enterprise budgets
3. Cash flow analysis
 - a. summary
 - b. projections
4. Managerial accounting
5. Tax management

C. Concepts and Functions of Risk Management

1. Investment analysis
 - a. capital budgeting
 - time value of money
 - net present value
 - b. credit
 - sources
 - loan applications
 - interest
 - c. leasing of real property
 - d. land acquisition and ownership
 - e. machinery management
 - f. insurance
 - life insurance
 - property insurance
 - crop insurance
 - health
 - liability
2. Marketing analysis
 - a. functions
 - b. structures
 - c. price determination
 - supply
 - demand
 - comparative advantages
 - d. price methods
 - cash markets
 - futures and options
 - forward contracting
 - e. international trade
 - f. types of markets
 - perfectly competitive markets
 - few participants markets
 - one participant markets

3. Market and purchasing structure
 - a. cooperatives
 - b. corporations
 - c. individuals
4. Legal analysis
 - a. estate planning
 - b. business organization
 - sole proprietorship
 - business organization
 - partnership
 - contract farming
 - c. written agreements
5. Government programs and regulations

III. EVENT RULES

1. **Team Make-up-** A team consists of three or four members. A team score consists of the total of the top three individuals' scores on the written exam plus the team score on the team activity.
2. It is highly recommended that participants be in official FFA dress during the event.
3. Team eligibility is determined by the general rules as listed in the National FFA Career Development Event Handbook, 2006-10.
4. Copies of the complete event with answers are distributed to all who are present at the event evaluation meeting.

IV. EVENT FORMAT

A. Equipment

Materials student needs to provide- Two sharpened No. 2 pencils.

Provided- The event sponsor provides a complimentary calculator to each participant. Calculators used with event are battery operated, non-programmable, silent with large

keys and large displays. The calculators have only these functions - addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event.

Microcomputers may be included as a tool to complete any of the sections of the event. The event superintendent will provide hardware and software information to all participating teams.

B. Team Activity

The team activity evaluates the ability of a team's members to work together to use decision making and problem analysis skills while applying economic principles and concepts taught in farm business management.

1. Members of a team work together cooperatively to complete this section.
2. Ninety (90) minutes are allowed for completion of the team activity. At the end of activity, each team submits a written and/or oral report for scoring.
3. The team activity involves the use of farm business management skills and the resource information used for the written exam of the current year's event.
4. All topics in the outline under the event objectives section may be included in the team activity. Farm business management forms and procedures follow the samples and procedures as presented in the most current Farm and Ranch Business Management text published by John Deere.
5. The team activity has a maximum value of 300 points per team and is only included in the team score. During the team activity section, the team is observed by event judges and evaluated on its ability

to work together cooperatively as a group. The team activity evaluation criteria and scorecards are distributed at the event evaluation meeting.

C. Individual Activity

The written exam tests the ability of the participants to use decision making and problem analysis skills while applying economic principles and concepts taught in farm business management.

1. Each team member works independently to complete the written exam. On the written exam, each team member delivers a set of results for scoring and receives individual scores on the written exam.
2. Three hours are allowed for completion of the written exam.
3. The written exam may include any type of question (such as multiple choice, short answer, essay and fill-in the blank).
4. All topics in the outline under the event objectives section below can be included in the written exam. Farm business management forms and procedures follow the samples and procedures as presented in the most current Farm and Ranch Business Management text published by John Deere.
5. The written exam has a maximum value of 300 points per team member.
6. Individual scores on the written exam are used to calculate both the individual and team score.

V. EVENT SCORING

The following table summarizes the points, how they are to be used and how much time will be allowed for each section of the event.

POINTS

Team	Individual	Section	Time
900	300	Written Exam	180 Minutes
300		Team Activity	90 Minutes
1200	300	TOTAL	

VI. TIEBREAKERS

Judges will break ties on team scores using the following sequence:

1. The score on the written and oral section of the team activity.
2. The score on pre-selected sections of the written exam.

Judges will break ties on individual scores using the following sequence:

1. The score on pre-selected sections of the written exam.

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized, and teachers are encouraged to make use of the best instructional materials available. The following list contains references that may prove helpful during event preparation. Numerous sources of materials exist, and participating teams should consult with their state's cooperative extension service, the universities teaching farm and ranch business management and other material services available to the participating school. For the most current

listing of resources and definitions for economic terms, refer to the national FFA website- Farm Business Management Career Development Event section.

Primary:

1. Jobes, Steward, Casey and Purcell (2004). *Farm and Ranch Business Management (5th edition)*. Deere and Company, John Deere Publishing, East Moline, Illinois 61244. (most current edition). <http://www.deere.com/publications>
2. Kay, Edwards, and Duffy (2004). *Farm Management (5th edition)*. McGraw-Hill Book Co., New York, NY. (most current edition)
3. Farm Business Management Career Development Event, National FFA Supply Service, National FFA, Indianapolis, IN (published annually following the CDE) Good source for examples of enterprise budgets and financial statements used in the CDE.
4. Resource Information and Definitions: http://www.ffa.org/programs/cde/html/cde_events.htm#fbm

Secondary:

1. Boehlje and Eidman (1984). *Farm Management*. John Wiley and Sons, New York, NY.
2. Bowers, Love and Kletke (1994). *Machinery Replacement Strategies*. Deere and Company, John Deere Publishing, East Moline, Illinois 61244.
3. Deere and Co. <http://www.deere.com>

4. Dicks, Michael (1998). *Agricultural Policy and How it Affects You*, Deere and Company, John Deere Publishing, East Moline, Illinois 61244.
5. Oltmans, Klinefleter, and Frey (2001). *Agricultural Financial Reporting and Analysis*. Doane Agricultural Services, St. Louis, MO.
6. Purcell, Wayne D. (1995). *Marketing Agricultural Commodities*. Deere and Company, John Deere Publishing, East Moline, Illinois 61244.
7. Wilson, Purcell, Burton, and Wahlberg (1994). *Managing Livestock Production*. Deere and Company, John Deere Publishing, East Moline, Illinois 61244.
8. Wilson, Purcell, Burton, and Wahlberg (1994). *Managing Agricultural Commodities*. Deere and Company, John Deere Publishing, East Moline, Illinois 61244

Technical References

1. *Farmers Tax Guide*, published by the Department of the Treasury, Internal Revenue Service, can be obtained from the IRS Forms Distribution center in your state or the IRS website. <http://www.irs.gov/publications/p225/index.html>
2. Farm Financial Standards Council, *Financial Guidelines for Agriculture Producers*, 1998 <http://www.ffsc.org/>.
3. Assorted educational materials are available on hedging, forward contracting, and commodity futures trading from any of the following addresses. (Chicago Board of Trade Page, <http://www.cbot.com/> or Chicago Mercantile Exchange Page, <http://www.cme.com>
 - a. Chicago Board of Trade, LaSalle at Jackson, Chicago, Illinois 60604

- b. Chicago Mercantile Exchange, 30 South Wacker Drive, Chicago, Illinois 60604
 - c. Kansas City Board of Trade, 4800 West Main Street, Kansas City, Missouri 64112
 - d. Mid-America Commodity Exchange, LaSalle at Jackson, Chicago, Illinois 60604
 - e. New York Cotton Exchange, 4 World Trade Center, New York, NY 10005
 - f. New York Mercantile Exchange, Commodity Exchange Ctr., 4 World Trade Ctr., New York, NY 10048
- 4. Doane Agricultural Services, 11701 Borman Drive, St. Louis, Missouri 63146. Doane provides a variety of educational materials related to farm and ranch management.
 - 5. Cooperative Extension Service in your state. Contact your local extension agent for access to farm and ranch management educational materials.

Team Activity Evaluation Summary Scorecard

NATIONAL FFA FARM BUSINESS MANAGEMENT CDE

(Front)

Instructions:

Participants should complete the information on this side of the scorecard.
Please print clearly.

Name: _____

State: _____

Team members:

1. Name: _____

Role: _____

2. Name: _____

Role: _____

3. Name: _____

Role: _____

4. Name: _____

Role: _____

Team Activity Evaluation Summary Scorecard

NATIONAL FFA FARM BUSINESS MANAGEMENT CDE

(Back)

A. Teamwork Evaluation (observations)

Criteria:

- All team members were involved and contributed to the activity in an organized manner.
- Team members demonstrated effective listening and oral communication skills in resolving issues related to the presented task(s).
- Team members demonstrated cooperation in negotiating possible solutions that were relevant to the activity as presented.

Team leadership roles were identified and demonstrated.	Points Possible
Team members demonstrated effective listening and oral communication skills in resolving issues related to the presented task(s).	10
Team members demonstrated cooperation in negotiating possible solutions that were relevant to the activity as presented.	30
Each team member participated in the team activity and contributed to the results reached by the team.	30
Total	30
	100

Summary of Evaluator's Scores:

Evaluator:	Points Earned
_____	_____
_____	_____
_____	_____
_____	_____

Average Evaluator Score:

(maximum 100 points) **B**

B. Team Activity Solution Evaluation (written answer sheet)

Criteria: Team demonstrated knowledge of farm business management principles and concepts and summarized consensus in the team activity answer sheet.

Points Possible
200

Summary of Evaluator's Scores:

Evaluator:	Points Earned
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____

Average Evaluator Score:

(maximum 200 points) **A**

Total Score for Team Activity

A + B =

13

CHAPTER

NATIONAL FFA FLORICULTURE

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

To stimulate the study of and interest in production and retailing of flowers, plants and foliage through the agricultural education curriculum.

II. OBJECTIVES

1. Identify floriculture and bedding plant materials.
2. Identify and treat unhealthy plants due to pest, nutritional, mechanical or chemical injury.
3. Understand the biological and scientific principles and develop the skills underlying propagation, growth requirements, growing techniques, harvesting, marketing and maintenance of established floriculture plants.
4. Understand principles and develop skills of floral design.
5. Identify and select appropriate supplies and equipment for the flower shop and greenhouse.
6. Understand and demonstrate the use of safety procedures and practices in floriculture operations.
7. Operate and maintain appropriate equipment for floriculture operations.
8. Understand and demonstrate interpersonal skills prerequisite to successful employment in the floriculture industry.
9. Understand and demonstrate proper sales and service skills.
10. Maintain records and proper reports that are accurate and legible.

11. Develop those interpersonal skills prerequisite to effective participation in the floriculture industry.

III. EVENT RULES

1. The event will have five phases: identification of plant materials, general knowledge examination, problem solving, practicums and a team activity.
2. Under no circumstances will any participant be allowed to touch or handle plant material during the event except during the practicums and team activity.
3. Observers will not be permitted in the event area while the event is in progress.
4. Any communication between participants from the same team during the event will be sufficient cause to eliminate the team from the event. The exception to this is the team activity.
5. No team, participant or coach shall visit the event facilities from September 1 to the end of the event. Any team, participant or coach reported and proven to do so will cause the elimination of that team from competing in the national event.
6. Any participant caught cheating during the event will be, along with his or her team members, expelled from the event.
7. All participants are expected to be prompt at their stations throughout the event. No provision will be made for tardiness, which will in most cases cause the late participant to lose event points.
8. Participants will be assigned to group leaders who will escort them to various event staging sites. Each participant is to stay with his or her group leader throughout the event or

until told to change leaders by the event superintendent.

9. Any assistance given a participant from any source during the event (other than the event officials, group leaders and assistants) will be sufficient cause to eliminate the team from the event.
10. All participants will be given a identification number by which they will be designated throughout the event.
11. Teams will be divided into groups so that when possible, no two participants from a state will be in the same competing group, except for the team activity.

IV. EVENT FORMAT

A. Equipment

Materials student needs to provide- Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils, a prepared résumé, florist shears, knife and an electronic calculator. Calculators used in this event should be battery operated, non-programmable, silent with large keys and large displays. Calculators should have only these functions- addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event.

B. Team Activity

Team Activity (200 points)

Each team will perform a task normally performed in some phase of the floriculture industry that requires teamwork. Prior to the event, the National FFA Floriculture Career Development Event Committee will select a theme and series of floriculture industry tasks. These tasks will be described in situational terms for presentation to each team. Forty-

five minutes will be allowed for this activity. All supplies and materials needed to complete the task will be provided.

Typical of the type of tasks that will be used in this phase of the event are:

- Making floral decorations for an event or party
- Demonstrating the use of a horticultural product
- Packing plants for shipping and updating inventory
- Filling orders for customers
- Preparing floral decorations for a convention
- Designing on location.

Scoring criteria for the team preparation and presentation portions are given on the “Team Activity” scorecard which will be recorded by a judge.

C. Individual Activities

1. Phase 1 - Identification of Plant Materials (200 points)

Forty (40) specimens from the Floriculture Plant Identification List will be displayed for participants to identify by technical and common names. A number will designate each specimen. Five points will be awarded for each specimen that is correctly identified. Each participant will be allowed 20 minutes to complete this phase of the event.

2. Phase 2 - General Knowledge Examination (250 points)

Fifty (50) objective-type multiple choice questions will be written that covers the areas of the floriculture industry reflected in the event objectives. This phase of the event will test participants’ knowledge and understanding of basic biological and

scientific principles of producing and marketing flowers, plants and foliage. Each participant will be allowed 50 minutes to complete this phase of the event. Each answer has a value of five points.

3. Phase 3 - Problem-Solving/Decision-Making (200 points)

Each participant will solve ten (10) problems related to the various aspects of the floriculture industry identified in the event objectives. A problem-solving activity is defined as:

“A mental or physical activity involving the gathering or searching of information and the use of a logical solution process using commonly accepted standards and available information to solve a problem specific to a particular area of floriculture production or retailing.”

Each problem will describe the situation or create the problem, and list four possible solutions to the problem. The participant must decide on the BEST possible solution to the problem. All materials and information necessary to solve the problem will be available to the participant as he/she solves the problem. An example problem follows:

Situation:

You are the owner of the “Flower City” florist shop. You received an order for a floral arrangement to be delivered to one of your regular customers. You give the order to one of your employees and ask that it be ready by delivery time. When the employee brings the finished arrangement to you for packing and delivery, you notice a problem with the arrangement. The arrangement before

you is the arrangement made by the employee. You realize that the problem must be corrected before the arrangement can be delivered. What would you tell your employee to do to the arrangement to correct the problem?

Possible Solutions:

- a. Move smaller flowers to the top of the arrangement and larger flowers to the bottom of the arrangement.
- b. Add a focal point to the arrangement.
- c. Use some different plant materials to add texture to the arrangement.
- d. Change the color of the flowers to make the colors compatible with each other.

Each participant will be allowed 50 minutes to complete this phase of the event. Each correct solution has a value of 20 points.

4. Phase 4 - Practicum (525 points)

Each participant will complete the flower arrangement, job interview, one of the selling practicums (over the telephone or one-on-one) and three of the other eleven practicums. Selection of the three other practicums will be made from the practicums listed below for each noted year.

2006

Handling a Hazardous Situation
 Make a Dish Garden
 Make a Product Display
 Pinching Plants
 Potting Plant Cuttings
 Using a Computer

2007

Asexual Propagation of Plants
 Handling a Customer Complaint
 Identifying and Controlling Plant Disorders
 Make and Package a Corsage
 Media Selling
 Potting Plant Cuttings

2008

Handling a Hazardous Situation
 Make a Dish Garden
 Make a Product Display
 Media Selling
 Pinching Plants
 Using a Computer

2009

Asexual Propagation of Plants
 Handling a Customer Complaint
 Identifying and Controlling Plant Disorders
 Make and Package a Corsage
 Media Selling
 Potting Plant Cuttings

2010

Handling a Hazardous Situation
 Make a Dish Garden
 Make a Product Display
 Media Selling
 Pinching Plants
 Using a Computer

Annual Practicums

a. Floral Arrangement (100 points)

Make a \$35 floral arrangement. The event superintendent will announce the type of arrangement during the coaches' meeting. Using the materials provided, participants

will be allowed 20 minutes to complete their arrangements and itemized bills. The event assistant at the beginning of the practicum will provide participants the RETAIL price of the flowers and foliage that they will use in their arrangements. The MARKUP will be built into the retail price. When the participant has determined the total arrangement cost, he or she has included the markup. Retail cost of flowers and foliage given to the participant will be determined after polling florists to determine their current retail prices on the flowers and foliage used in the event.

Scoring criteria are presented on the “Floral Arrangement Practicum” scorecard which will be recorded by a judge.

Explanation of Floral Arrangement Terms:

Design: Design is the overall shape or form of composition; a planned relationship of the parts. The elements of design include: line (linear patterns attracting the eye to the focal point); form (three dimensional shape); texture (surface appearance of materials); color (use of tints, tones, shades of hues, as well as black, gray and white); the pleasing way in which lines, textures, sizes and colors are blended or contrasted; and the tying together of the parts by the combination of good design, balance and harmony.

Balance: Visual stability, regardless of whether design is symmetrical or asymmetrical; determined by the relative sizes of material and relative darkness of lightness and the placement of them.

Functionality: Appropriateness of arrangement for use intended, soundness of construction.

Judges’ Choice: The use of plant materials and design principles in a particularly creative, original and unique manner.

b. Job Interview (100 points)

Each participant will appear before an employer (judge) for the purpose of interviewing for a position available in the employer’s business. The event superintendent will announce specific information about the job for which the participant is applying at the team orientation meeting. Participants will be given two job descriptions at the team orientation meeting along with application forms to complete. Participants will be allowed to choose the job they wish to interview for and prepare their applications prior to participating in the practicum. Participants will be expected to prepare, prior to the event, a résumé of their experiences and background to present to the judge at the time of the interview. Ten minutes will be allowed for this practicum. Participants will be allowed five minutes to complete the interview and three minutes for judges to score the interview.

Scoring criteria are presented on the “Job Interview Practicum” scorecard which will be recorded by a judge.

c. Selling Practicums (1 at 100 points)

1. Telephone Sales

Each participant will be provided an order form and telephone. An event judge will serve as a customer and will score telephone usage as well as the written order. Ten minutes will be allowed for completion of this practicum including the judging of the telephone dialogue and sales slip. Participants will be allowed five minutes for dialogue with the customer and completion of the sales slip. Judges

will be allowed three minutes to score the participant.

Scoring criteria are presented on the “Telephone Sales Practicum” scorecard which will be recorded by a judge.

2. **Selling One-On-One**

Each participant will assume the role of a sales person in a floriculture business (grower, florist shop, garden center, etc.) A customer (judge) with a specific need will approach the participant. The participant will, through selling, help the customer meet his/her need. All supplies, information and the business setting in which the participant works will be provided. Fifteen minutes will be allowed for this practicum.

Scoring criteria are presented on the “Selling Face-to-Face Practicum” scorecard which will be recorded by a judge.

Rotational Practicums

a. **Potting of Plant Cuttings (75 points)**

Plant five rooted cuttings in the pot provided. (Each participant will be given a group of cuttings from which to select five; a 5 1/2-to-6-inch pot; a 1-1 soil mixture at the correct moisture level and a marking pencil.) Ten minutes will be allowed for completion on this practicum including the judging of the potted plant cuttings.

Scoring criteria are presented on the “Plant Potting Practicum” scorecard which will be recorded by a judge.

b. **Make a Dish Garden (75 points)**

Each participant will make a \$25 dish garden. All plant materials, growing media and containers will be provided. Twenty minutes will be allowed for each participant to make

his/her dish garden and complete the itemized bill. The event assistant at the beginning of the practicum will provide participant the RETAIL price of plants and other materials that they will use in their dish gardens. The MARKUP will be built into the retail. When the participant has determined the TOTAL DISH GARDEN COST, he or she has included the markup.

Scoring criteria are presented on the “Making a Dish Garden Practicum” scorecard which will be recorded by a judge.

c. **Make a Product Display (75 points)**

Each participant will set up a sales display of an item(s) commonly sold in florist shops. Display areas will be established for each participant along with the product(s) to be displayed and all materials to establish the display. Twenty minutes will be allowed for completion of this practicum.

Scoring criteria are presented on the “Making a Product Display Practicum” scorecard which will be recorded by a judge.

d. **Make and Package a Corsage (75 points)**

Make and package a \$15 corsage. The type of corsage and information about the corsage will be announced by the event assistant in charge at the beginning of the practicum. All plant and non-plant materials needed to construct and package the corsage will be provided. Participants should be knowledgeable and possess skills in the use of glue in making a corsage. Each participant will be allowed 20 minutes to complete the construction of the corsage and complete an itemized bill for the corsage constructed.

Scoring criteria are presented on the “Making and Packing a Corsage” scorecard which will be recorded by a judge.

e. Asexual Propagation of Plants (75 points)

Each participant will be provided the parent plant materials and all other materials needed to propagate plants asexually. Using the available materials, participants will take five cuttings from the plant before them and stick them in rooting media. Ten minutes will be allowed for completion of this practicum including the judging of the participant's performance in completing the practicum.

Scoring criteria are presented on the "Asexual Plant Propagation" scorecard which will be recorded by a judge.

f. Identifying and Controlling Plant Disorders (75 points)

Each participant will be given a plant with a nutritional, environmental, disease or insect disorder. If the disorder is nutritional or environmental, the participant will identify the disorder and prescribe treatment to the customer. If a disease or insect causes the disorder, the participant will prepare and apply a treatment for the disorder. Containers marked with specific chemicals or chemical products (will contain water colored to resemble the products) will be available for participant to prepare their recommended treatments and apply them. In addition to the above points, participants will be judged on the safety practices they follow while completing this practicum. Safety materials and equipment will be provided each participant. Ten to twenty minutes will be allowed for this practicum.

Scoring criteria are presented on the "Control of Plant Disorders" scorecard for plants with insect or disease disorders or the "Identifying and Prescribing Treatment for Plant Disorders" scorecard for plants with nutritional or environmental disorders which will be recorded by a judge.

The plant disorder to be used in the event will be selected from the following list of disorders.

Nutritional and Environmental Disorders

Poor soil drainage
Overwatering damage
Insufficient water damage
Inadequate lighting
Too much light
Improper temperature
Iron deficiency
Nitrogen deficiency
Phosphorus deficiency
Salt damage

Diseases

Powdery mildew
Leaf spot
Root rot
Stem rot
Verticillium wilt
Fusarium wilt
Rust
Damping-off
Mosaic
Rhizoctonia
Anthracnose
Bacterial wilt

Insects and Pests

Snails
Slugs
Whiteflies
Aphids
Leaf miner
Spider mites
Mealybugs
Leafhopper
Spittlebug
Scale

g. Pinching Plants (75 points)

A plant will be placed before each participant. The participant will be given instructions as to what they are to do to the plant by the event assistant in charge of the practicum. Participants will be judged on the procedures they follow in pinching the plant. Ten minutes will be allowed for completion and judging of this practicum.

Scoring criteria are presented on the “Pinching Plant” scorecard which will be recorded by a judge.

h. Handling a Hazardous Situation (75 points)

Each participant will be presented with a hazardous situation that could develop in a floriculture business. The participant will be asked to resolve the problem. The participant will be evaluated on his/her understanding of the problem and procedures and practices followed in resolving the problem. Twenty minutes will be allowed for this practicum.

Scoring criteria are presented on the “Hazardous Situation” scorecard which will be recorded by a judge.

i. Handling a Customer Complaint (75 points)

Each participant will assume the role of an employee in a floriculture business (grower, flower shop, garden center, etc.). A customer or potential customer who has a complaint will approach the participant. The participant will work with the customer in working out his/her complaint. Ten minutes will be allowed for this practicum.

Scoring criteria are presented on the “Customer Complaint” scorecard which will be recorded by a judge.

j. Using the Computer (75 points)

Each participant will be given a situation typical of that experienced regularly by floriculture businesses that require the use of a computer. The participant will be expected to handle the situation using the computer. The computer model and specific programs to be used in this practicum will be announced in September when contest teams are provided with the team orientation packet sent to participating teams and State Agricultural Education Officials. All teams will be expected to be familiar with the type of computer and programs to be used in the event prior to participating in this event. Twenty minutes will be allowed for this practicum.

Scoring criteria are presented on the “Computer Use” scorecard which will be recorded by a judge.

k. Media Selling (75 points)

Each participant will develop a one-page sales brochure, a newspaper advertisement or the layout for a TV advertisement. Information and all materials needed to develop the brochure, newspaper ad or TV advertisement will be provided. When participants are asked to make a TV advertisement, they should be prepared to present their ad on camera. Twenty minutes will be allowed for this practicum.

Scoring criteria are presented on the “Media Selling Practicum (Newspaper Ad)” or “Media Selling Practicum (Television Ad)” scorecard which will be recorded by a judge.

V. SCORING

Phase	Individual Points	Team Points
Identification of Plant Material	200	800
General Knowledge	250	1000
Problem Solving	200	800
Practicums	525	2100
Team Activity	0	200
Total	1,175	4,900

VI. TIEBREAKERS

If ties occur the following events will be used in order to determine award recipients:

1. Arrangement Practicum
2. Sales practicum
3. Job Interview

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

All about Perennials. 1981 Ortho Books. Chevron Chemical Company, 6001 Bolinger Canyon Road, San Ramon, CA 94583

Color with Annuals. 1987. Ortho Books. Chevron Chemical Company.

Arranging Cut Flowers. 1985. Ortho Books. Chevron Chemical Company.

All About Growing Orchids. 1988. Ortho Books. Chevron Chemical Company.

Controlling Lawn and Garden Insects. 1987. Ortho Books. Chevron Chemical Company.

All About Houseplants. 1982. Ortho Books. Chevron Chemical Company.

Gardening in Containers. 1983. Ortho Books. Chevron Chemical Company.

The ORTHO Problem-Solver. 1984. Ortho Books. Chevron Chemical Company.

Complete Guide to Gardening. 1979. Better Homes and Gardens, Meredith Corporation, Des Moines, Iowa

Floral Design and Marketing. 1988. Ohio Agricultural Education Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210

Hortus, Third, 1977. L.H. Bailey Hortorium. The Macmillan Co., N.Y. (Latest authority on nomenclature).

The Greenhouse Worker, 1984. 2nd Ed. Peter J. Wotowiec. Ohio State University, 2120 Fyffe Road, Columbus, OH 43210.

The Retail Florist Business, 4th Ed., 1983. Peter B. Pfahl, Interstate Publishers and Printers, Danville, IL.

Introduction to Floriculture, 1980. Roy A. Larson. Academic Press, New York, NY.

Flower Shop Management, Ohio State Curriculum Service, Ohio State University, 2120 Fyffe Road, Columbus, OH 43210.

American Style Flower Arranging. Peter B. Pfahl and Elwood W. Kalin, Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 1982

Floriculture Plant Identification List

Participant Name _____

Participant Number _____

<i>Number</i>	<i>Botanical Name/Common Name</i>	<i>Number</i>	<i>Botanical Name/Common Name</i>
101	Aechmea chantinii cv. / Bromeliad	120	Catharanthus roseus / Madagascar Periwinkle
102	Ageratum mexicanum cv. / Ageratum	121	Cattleya cv. / Cattleya Orchid Hybrid
103	Aglaonema commutatum cv. / Aglaonema	122	Celosia argentea cv. / Cockscomb
104	Alstroemeria aurantiaca / Peruvian Lily	123	Chamaedorea elegans / Parlor Palm
105	Antirrhinum majus cv. / Snapdragon	124	Chamelaucium uncinatum / Waxflower
106	Anthurium x andraeanum cv. / Anthurium, Flamingo Lily	125	Cholorophytum comosum cv. / Spider Plant
107	Aphelandra squarrosa cv. / Aphelandra, Zebra Plant	126	Chrysanthemum x morifolium cv. / Florist's Chrysanthemum
108	Araucaria heterophylla / Norfolk Island Pine	127	Cissus rhombifolia 'Mandaiana' / Grape Ivy
109	Argyranthemum frutescens / Marguerite Daisy	128	Clematis Jackmanii Group cv. / Clematis
110	Asparagus densiflorus 'Sprengeri' / Sprengeri "Fern"	129	Codiaeum variegatum pictum cv. / Croton
111	Asparagus setaceus / Asparagus "Fern"	130	Crassula argentea / Jade Plant
112	Astilbe hybrid cv. / Astilbe	131	Cyclamen x persicum cv. / Florist's Cyclamen
113	Begonia x tuberhybrida cv. / Tuberous Begonia	132	Cymbidium cv. / Cymbidium Orchid
114	Begonia x semperflorens- cultorum / Wax Begonia	133	Dianthus caryophyllus cv. / Carnation
115	Caladium x hortulanum cv. / Fancy-Leaved Caladium	134	Dieffenbachia maculata cv. / Spotted Dumbcane
116	Calceolaria crenatiflora cv. / Pocketbook Plant	135	Dracaena fragrans 'Massangeana' / Corn Plant Dracaena
117	Callistephus chinensis cv. / China Aster	136	Dracaena cincta / Red Edge Dracaena
118	Camellia japonica cv. / Common Camellia	137	Echeveria cv. / Hens and Chickens
119	Canna x generalis cv. / Common Garden Canna	138	Echinocactus cv. / Barrel Cactus
		139	Epipremnum aureum cv. / Golden Pothos, Devil's Ivy

<i>Number</i>	<i>Botanical Name/Common Name</i>	<i>Number</i>	<i>Botanical Name/Common Name</i>
140	<i>Erica carnea</i> cv. / Spring Heath	164	<i>Iris x germanica florentina</i> cv. / Flag (Bearded) Iris
141	<i>Eucalyptus polyanthemos</i> / Silver Dollar Gum	165	<i>Iris x xiphium</i> cv. / Dutch Iris
142	<i>Euphorbia milii splendens</i> / Crown-of-Thorns	166	<i>Justicia brandegeana</i> / Shrimp Plant
143	<i>Euphorbia pulcherrima</i> cv. / Poinsettia	167	<i>Kalanchoe x blossfeldiana</i> cv. / Kalanchoe
144	<i>Exacum affine</i> / German (Persian) Violet	168	<i>Leucanthemum x superbum</i> cv. / Shasta Daisy
145	<i>Ficus benjamina</i> 'Exotica' / Benjamin Fig	169	<i>Liatris spicata</i> / Liatris
146	<i>Ficus elastica</i> 'Decora' / 'Decora' Rubber Plant	170	<i>Lilium longiflorum</i> cv. / Trumpet (Easter) Lily
147	<i>Ficus pumila</i> / Creeping Rubber Plant	171	<i>Lilium x hybridum</i> cv. / Hybrid (Garden) Lily
148	<i>Freesia x hybrida</i> / Freesia	172	<i>Limonium sinuatum</i> / Statice
149	<i>Fittonia verschaffeltii</i> / Nerve Plant	173	<i>Lobularia maritima</i> / Sweet Alyssum
150	<i>Gardenia jasminoides</i> 'Fortuniana' / Gardenia	174	<i>Maranta leuconeura</i> var. <i>kerchoviana</i> / Prayer Plant
151	<i>Gerbera jamesonii</i> / Transvaal Daisy	175	<i>Matthiola incana</i> cv. / Flowering Stock
152	<i>Gladiolus x hortulanus</i> cv. / Garden Gladiolus	176	<i>Monstera deliciosa</i> / Cutleaf "Philodendron"
153	<i>Gynura aurantiaca</i> 'Sarmentosa' / "Purple Passion", Velvet Plant	177	<i>Narcissus pseudonarcissus</i> cv. / Daffodil
154	<i>Gypsophila elegans</i> cv. / Baby's Breath	178	<i>Neoregelia carolinae</i> 'Tricolor' / Bromeliad
155	<i>Hedera helix</i> cv. / English Ivy	179	<i>Nephrolepis exaltata</i> cv. / Boston fern
156	<i>Hemerocallis</i> cv. / Daylily	180	<i>Opuntia</i> tribe cv. / Cactus
157	<i>Heptapleurum arboricola</i> / Dwarf Schefflera, Dwarf Octopus Tree	181	<i>Paeonia</i> cv. / Peony
158	<i>Hippeastrum hybrid</i> cv. / Amaryllis	182	<i>Paphiopedilum x hybrid</i> cv. / Lady'slipper Orchid
159	<i>Hosta undulata</i> / Plantain Lily	183	<i>Pelargonium x domesticum</i> cv. / Regal (Lady Washington) Geranium
160	<i>Hoya carnosa</i> / Wax Plant	184	<i>Pelargonium x hortorum</i> cv. / (Zonal) Geranium
161	<i>Hyacinthus orientalis</i> cv. / Hyacinth		
162	<i>Hydrangea macrophylla</i> cv. / French (Florist's) Hydrangea		
163	<i>Impatiens hybrid</i> cv. / Impatiens		

<i>Number</i>	<i>Botanical Name/Common Name</i>	<i>Number</i>	<i>Botanical Name/Common Name</i>
185	<i>Pelargonium peltatum</i> cv. / Ivy Geranium	204	<i>Salvia splendens</i> cv. / Salvia
186	<i>Peperomia argyreia</i> / Watermelon Peperomia	205	<i>Sansevieria trifasciata</i> cv. / Snake Plant
187	<i>Peperomia caperata</i> / Emerald Ripple Peperomia	206	<i>Saxifraga stolonifera</i> / Strawberry Plant
188	<i>Peperomia obtusifolia</i> ‘Variegata’ / Variegated Peperomia	207	<i>Schlumbergera bridgesii</i> / Christmas Cactus
189	<i>Petunia x hybrida</i> cv. / Common Garden Petunia	208	<i>Schlumbergera truncata</i> cv. / Thanksgiving Cactus, Crab Cactus
190	<i>Phalaenopsis</i> cv. / Phalaenopsis (Butterfly) Orchid	209	<i>Senecio cineraria</i> ‘Diamond’ / Diamond Dusty Miller
191	<i>Philodendron scandens oxycardium</i> / Heartleaf Philodendron	210	<i>Senecio x hybridus</i> cv. / Florist’s Cineraria
192	<i>Pilea cadierei</i> / Aluminum Plant	211	<i>Sinningia speciosa</i> Fyfiara Group cv. / Gloxinia
193	<i>Pilea involucrata</i> / Friendship Plant	212	<i>Solanum pseudocapsicum</i> cv. / Jerusalem Cherry
194	<i>Pilea microphylla</i> / Artillery Plant	213	<i>Solenostemon scutellarioides</i> / Coleus
195	<i>Pilea nummularifolia</i> / Creeping Charley	214	<i>Spathiphyllum clevelandii</i> / White Anthurium, Peace Lily
196	<i>Plectranthus mummularis</i> / Swedish Ivy	215	<i>Stephanotis floribunda</i> / Stephanotis
197	<i>Polianthes tuberosa</i> / Tuberose	216	<i>Strelitzia reginae</i> / Bird- of- Paradise
198	<i>Primula x polyanthus</i> cv. / Polyanthus (Primrose)	217	<i>Syngonium podophyllum</i> / Nephthytis
199	<i>Primula malacoides</i> cv. / Fairy Primrose	218	<i>Tagetes species</i> cv. / Marigold
200	<i>Rhododendron</i> cv. / Azalea	219	<i>Tolmiea menziesii</i> / Pickaback Plant
201	<i>Rosa hybrid</i> , Class Hybrid Tea cv. / Hybrid Tea Rose	220	<i>Tulipa</i> cv. / Tulip
202	<i>Rumohra adiantiformis</i> / Leatherleaf Fern	221	<i>Vaccinium ovatum</i> / Florist’s “Huckleberry”
203	<i>Saintpaulia ionantha</i> cv. / African Violet	222	<i>Viola x wittrockiana</i> cv. / (Garden) Pansy
		223	<i>Zebrina pendula</i> cv. / Wandering Jew
		224	<i>Zinnia elegans</i> / Zinnia

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

FLORAL ARRANGEMENT PRACTICUM SCORECARD

	POSSIBLE SCORE	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Arrangement	65				
• Design		0-11	12-24	25-35	
• Balance		0-5	6-10	11-15	
• Functionality		0-2	3-4	5	
• Judges Choice		0-3	4-6	7-10	
Itemized Bill	35				
• Price Range		0-3	4-8	9-11	
• Accuracy		0-3	4-6	7-10	
• Completeness		0-2	3-5	6-7	
• Neatness		0-2	3-5	6-7	
Total Possible:	100				

EXPLANATION OF FLORAL ARRANGEMENT TERMS

Design: Design is the overall shape or form of the composition; a planned relationship of the parts. The elements of design include: line [linear patterns attracting the eye to the focal point]; form [three dimensional shape]; texture [surface appearance of materials]; color [use of tints, tones, shades of hues, as well as black, gray and white]; the pleasing way in which lines, textures, sizes and colors are blended or contrasted; and the tying together of the parts by the combination of good design, balance and harmony.

Balance Visual stability, regardless of whether design is symmetrical or asymmetrical; determined by the relative sizes of materials and relative darkness of lightness and the placement of them.

Functionality Appropriateness of arrangement for use intended and soundness of construction.

Judge's Choice The use of plant materials and design principles in a particularly creative, original and unique manner.

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

FLORAL ARRANGEMENT ITEMIZED BILL

FLOWERS	QUANTITY USED	UNIT COST	TOTAL

Total Plant Material Cost _____

FOLIAGE	QUANTITY USED	UNIT COST	TOTAL

Total Other Materials Cost _____

Total Flower Cost	
Total Foliage Cost	
Hydrofoam	
Container Cost	
Total Arrangement Cost*	

* Participants will be provided the RETAIL price of flowers and foliage that they will use in their arrangement by the event official at the beginning of the practicum. The MARKUP will be built into the retail price of the flowers and the foliage used in the arrangement. When the participant has determined the TOTAL ARRANGEMENT COST, he or she has included the markup.

*Judge's Name*_____
*Judge's Signature*_____
Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

JOB INTERVIEW PRACTICUM SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Introduction <ul style="list-style-type: none"> Initial presentation Eye contact Handshake Gives name States why here 	0-3	4-8	9-11	
Knowledge of job <ul style="list-style-type: none"> Resume Typed Completeness Content/Accurate Application Legibility Completed 	0-8	9-16	17-25	
Knowledge of the floricultural industry <ul style="list-style-type: none"> Tell me about yourself. What skills do you have for this job? What are your experiences relating to this job? Why should I hire you over someone else? 	0-6	7-12	13-20	
Response to questions <ul style="list-style-type: none"> What are your weaknesses? Where do you see yourself in the next 5 years? BONUS: Would you hire this person? 	0-4	5-8	9-14	
Personality <ul style="list-style-type: none"> Confidence Enthusiasm Appearance 	0-5	6-10	11-15	
Poise <ul style="list-style-type: none"> Posture Closure ["Thank you."] Asks for the job or a decision date 	0-5	6-10	11-15	
Total Score:	100			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

TELEPHONE SALES PRACTICUM SCORECARD

POSSIBLE SCORE	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Telephone Usage 70				
• Introduction	0-2	3-4	5	
• Voice	0-2	3-5	6-7	
• Personality	0-6	7-12	13-18	
• Information Gathered	0-4	5-8	9-12	
• Evidence of Product Knowledge	0-4	5-8	9-14	
• Closing of Order	0-4	5-8	9-14	
Written Order 30				
• Delivery Instructions	0-2	3-4	5	
• Description of Floral Items	0-2	3-4	5	
• Billing Information	0-2	3-4	5	
• Card Message	0-2	3-4	5	
• Neatness and Completeness	0-2	3-4	5	
• Correct Computation	0-2	3-4	5	
Total Score: 100				

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

SELLING ONE-ON-ONE PRACTICUM SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Took Initiative	0-5	6-10	11-16	
Communicated effectively	0-5	6-10	11-16	
Exhibited ambition and efficiency	0-6	7-12	13-20	
Diplomatic and courteous	0-6	7-12	13-20	
Knew merchandise, prices and policies	0-4	5-8	9-14	
Closed sale properly	0-4	5-8	9-14	
Total Score: 100				

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PLANT POTTING PRACTICUM SCORECARD

POSSIBLE SCORE	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Potting Process 52				
• Selection Cuttings	0-3	4-6	7-10	
• Filling Pot with Soil	0-1	2-3	4	
• Placing of Cuttings	0-2	3-4	5-6	
• Covering Cutting Rooted Ends	0-6	7-12	13-18	
• Labeling of Pot	0-3	4-6	7-9	
• Watering of Potted Cuttings	0-2	3-4	5	
Potting Product 23				
• Depth of Planting	0-2	3-4	5	
• Correct Soil Level in Pot	0-2	3-4	5	
• Cutting Arrangement & Angle	0-2	3-4	5	
• Firmness of Soil	0-1	2-3	4	
• General Appearance (freedom from handling damage)	0-1	2-3	4	
Total Possible: 75				

*Judge's Name*_____
*Judge's Signature*_____
Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MAKING A DISH GARDEN SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Selection of Plant Materials	0-2	3-5	6-8	
Preparation of Plant Materials	0-2	3-5	6-7	
Use of Growing Media	0-3	4-6	7-10	
Use of Other Materials	0-4	5-8	9-12	
Design	0-5	6-10	11-15	
Attractiveness	0-4	5-9	10-13	
Pricing	0-3	4-6	7-10	
Total Score:	75			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MAKING A PRODUCT DISPLAY SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Creates Interest	0-3	4-6	7-9	
Attractiveness	0-3	4-6	7-10	
Central Theme	0-2	3-5	6-8	
Sales Appeal	0-5	6-10	11-15	
Design	0-5	6-10	11-16	
Color Harmony	0-3	4-6	7-9	
Focal Point	0-2	3-5	6-8	
Total Score:	75			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MAKING AND PACKING A CORSAGE SCORECARD

CORSAGE SCORE CARD	POSSIBLE POINTS	MEMBERS SCORE
Wiring and Taping	12	
Use of Ribbon	15	
Design	15	
Wearability	14	
Packaging	7	
Pricing	12	
Total Points	75	

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

ASEXUAL PLANT PROPAGATION SCORECARD

ASEXUAL PROPAGATING	POSSIBLE POINTS	MEMBERS SCORE
Selection of Cutting	12	
Making Cuttings	15	
Preparation of Cuttings for Sticking in Growing Media	10	
Use of Rooting Hormone	6	
Selection of Growing Media	12	
Sticking of Cuttings in Growing Media	8	
Response to Questions	12	
Total Points	75	

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

CONTROL OF PLANT DISORDERS SCORECARD

[For plants with insect or disease disorders]

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Diagnosis of Problem	0-4	5-8	9-14	
Prescription of Treatment	0-4	5-8	9-14	
Preparation of Treatment	0-5	6-10	11-16	
Application of Treatment	0-5	6-10	11-16	
Followed Recommended Safety Practices	0-5	6-10	11-15	
Total Score: 75				

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

IDENTIFYING AND PRESCRIBING TREATMENT FOR PLANT DISORDERS SCORECARD

[For plants with nutritional or environmental disorders]

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Diagnosis of Problem	0-4	5-8	9-12	
Description of Problem	0-5	6-10	11-15	
Discussion of Problem	0-6	7-12	13-18	
Prescription of Treatment	0-6	7-12	13-18	
Personality	0-4	5-8	9-12	
Total Score:	75			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PINCHING PLANTS SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Selection of Plant Part to Pinch	0-5	6-10	11-16	
Use of Proper Procedures in Making Pinches	0-6	7-12	13-20	
Make of Proper Hard Pinches	0-4	5-8	9-12	
Made Proper Soft Pinches	0-4	5-8	9-12	
Overall Effect of Making Pinches	0-5	6-10	11-15	
Total Score: 75				

*Judge's Name*_____
*Judge's Signature*_____
Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

HAZARDOUS SITUATION SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Utilize Proper Personal Safety Precautions	0-6	7-12	13-20	
Utilize Proper Safety Procedures in Clearing up the Situation	0-8	9-16	17-25	
Proper Disposal of Problem Materials	0-6	7-12	13-20	
Utilize Proper Follow-up Procedures	0-3	4-6	7-10	
Total Score:	75			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

CUSTOMER COMPLAINT SCORECARD

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Obtained Clear Understanding of Complaint	0-3	4-6	7-10	
Reformed Complaint in Less Negative Terms	0-2	3-5	6-8	
Changed Complaint into Question	0-2	3-5	6-8	
Explored Alternative Solutions	0-6	7-12	13-20	
Solved Problem	0-5	6-10	11-15	
Exhibited a Pleasing Personality	0-4	5-8	9-14	
Total Score:	75			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

COMPUTER USE SCORECARD

COMPUTER USE	POSSIBLE POINTS	MEMBERS SCORE
Familiarity with Computer Commands	10	
Understanding of Computer Programs	15	
Generated Solution to Situation	25	
Followed Directions	15	
Accuracy	10	
Total Points	75	

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MEDIA SELLING PRACTICUM SCORECARD

[Newspaper Ad]

	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Identified target group	0-2	3-5	6-8	
Informed the reader	0-3	4-6	7-10	
Appeared in good taste	0-3	4-6	7-10	
Easy to read	0-3	4-6	7-10	
Presented one idea	0-5	6-10	11-15	
Included only the essentials	0-4	5-8	9-12	
Proper use of space	0-3	4-6	7-10	
Total Score:	75			

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MEDIA SELLING PRACTICUM SCORECARD

[Television Ad]

POSSIBLE SCORE	NEEDS IMPROVEMENT	GOOD	EXCELLENT	MEMBER SCORE
Ad Information 36				
• Identified target group	0-2	3-5	6-8	
• Informed the listener	0-2	3-5	6-8	
• Presented one idea	0-2	3-5	6-7	
• Contained essential information	0-2	3-5	6-7	
• Appealed to the listener	0-2	3-4	5-6	
Camera Performance 39				
• Voice	0-3	4-6	7-10	
• Personality	0-4	5-8	9-12	
• Diplomatic and courteous	0-2	3-5	6-9	
• Enthusiastic about product	0-2	3-5	6-8	
Total Possible: 75				

Judge's Name

Judge's Signature

Date

Floriculture

Name: _____

Chapter: _____

State: _____

Team No.: _____

Member No.: _____

TEAM ACTIVITY SCORECARD

POSSIBLE SCORE	NEEDS IMPROVEMENT	GOOD	EXCELLENT	TEAM SCORE
Established team leadership role	0-5	6-10	11-15	
Member participation in planning of activity	0-11	12-24	25-35	
Developed a workable plan	0-13	14-26	27-40	
Member responsibilities were outlined and assigned	0-5	6-10	11-15	
Materials were organized prior to commencing activity	0-5	6-10	11-15	
Member participation in carrying out activity functions	0-10	11-20	21-30	
Followed proper procedures in carrying out activity	0-10	11-20	21-30	
Quality of activity product	0-6	7-12	13-20	
Total Possible:	200			

*Judge's Name*_____
*Judge's Signature*_____
Date

14

CHAPTER

NATIONAL FFA

FOOD SCIENCE AND TECHNOLOGY

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

To stimulate learning activities in food science and technology related to the food industry and to assist students in developing a good working knowledge of sound principles used in a team decision-making process.

II. OBJECTIVES

1. To encourage FFA members to gain an awareness of career and professional opportunities in the field of food science and technology, marketing and management occupations.
2. To give FFA members the opportunity to experience group participation and leadership responsibilities in a competitive food science and technology program.

3. To help FFA members develop technical competence and personal initiative in a food science and technology occupation.
4. To provide opportunities for FFA members to participate in activities where they gain an appreciation for cooperative effort in the food industry.

III. EVENT RULES

1. **Team make-up-** The team will consist of four members with all four members' scores being totaled.
2. It is highly recommended that all participants be in official dress.

IV. EVENT FORMAT

The food science and technology career development event will consist of four activities: 1) an objective test 2) a team product development project 3) a practicum in food safety and quality 4) a practicum in sensory evaluation. This career development event will be a four-person team activity. All team members will participate in all of the activities. This career development event will involve 2800 total points per team. The team product development project will be worth 400 points per team, the objective test will be worth 300 points per individual and each of the two practicums will be worth 150 points per individual.

A. Equipment

Materials student must provide—Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils and an electronic calculator. Calculators used in this event should be battery operated, non-programmable, silent with large keys and displays. Calculators should have only these functions—addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event. Teams and/or individuals will not be permitted to use electronic media during the event.

B. Team Activity

Team Product Development Project

Each team will receive a marketing scenario describing a need for a new or redesigned product that would appeal to a potential market segment. This scenario will contain a description of the existing marketing situation, competition, economic considerations and potential target market segment to be served by the new product. It is the task of the team to design a new food product or reformulate an existing product.

The team will be responsible for understanding and using the following concepts:

- Formulation of product to meet specified market requirements.
- New package design to reflect the developed product.
- Nutritional label development and adjustments.
- Equipment used to produce and package the product.
- Provide quality control and safety programs, i.e., good manufacturing practices (GMP) and hazard analysis critical control points (HACCP).

Each team will be provided with packaging materials, ingredients and information necessary on each ingredient in order to develop a final product label.

The team will have sixty (60) minutes to respond to the marketing scenario and reformulate or develop a new product, calculate a nutritional label, develop the ingredient statement and educational panel and develop the front or principal display panel to reflect the new product and its market. After this time period, each team member will contribute in a ten- (10) minute oral product development proposal. No electronic media is to be used in the presentation. Following the presentation there will be a ten- (10) minute question period from the judges in which each team member will be expected to answer questions about the development of their particular product.

Total time involved for each team will be 80 minutes. Total number of points possible for this activity will be 400 points.

Possible Products

Cereal
Breakfast Bars
Candy
Snack Mixes

Dairy Products
Desserts
Beverages
Pizza
Processed Fruit Snacks
Sandwich
Convenience Meals
Stir-Fried Vegetables

Evaluation Criteria for Product Development Presentation

A. Package Design.....100 points

- Use, development and adaptation of nutritional label..... 35 points
- Use and development of the ingredient statement on educational panel 35 points
- Use of principle display panel to convey information. 30 points

B. Product Development.....200 points

- How does the product meet market needs? 60 points
- Economics..... 15 points
- Nutrition..... 15 points
- Quality Control 15 points
- Marketing/Diversity..... 15 points
- Products/Processing/Packaging 15 points
- Food Safety..... 15 points
- Formulation Concepts 15 points
- Quality of Presentation 35 points

C. Response to Judges'

Questions100 points

- Team representation in Question Response..... 50 points
- Quality of Response 50 points

Total.....400 points

C. Individual Activities

1. Test

The objective questions administered during the Food Science and Technology examination will be designed to determine each team member's understanding of the basic principles of food science and technology. It will encompass the knowledge required of the team event and the two practicums, i.e., food safety and quality and sensory evaluation, as well as material in the list of references.

Team members will work individually to answer each of the 50 questions. Each person will have fifty minutes to complete the examination. Each question will be worth 6 points, for a total of 300 points. The test will be based on the list of references (see section VII).

2. Practicums

Each team member will compete in both practicums. Each practicum will be worth 150 points.

a. Food Safety and Quality Practicum

1. Customer Complaint Letter 50 points

Each participant will be given a representative consumer complaint letter received by a food processing company. In fifteen (15) minutes the participant must determine if the complaint involves a food quality or food safety problem and respond accordingly. If the complaint involves a food quality problem, the participant should ascertain the cause of the quality defect and identify a possible solution. If the complaint letter describes a food safety problem, the participant should determine whether the problem is biological, chemical or physical in nature and its possible

mitigation. Regardless of the problem each participant will write out his or her answer using paper provided.

- Identification of Problem 25 points
- Solution to Problem 25 points

2. *Food Safety/Sanitation 100 points*

Each participant will be given ten (10) photos of potential food safety and/or sanitation problems. A numbered list of problems will also be provided at the beginning of this practicum segment. The list will contain more potential problems than the number of photographs. The list will contain such standards as good manufacturing practices (GMP) and hazard analysis critical control point analysis (HACCP). Identify the type of problem in the photo sheet by recording the number from the list on a scantron sheet provided to each participant. Each participant will start at a station to view a photograph and record an answer. After one minute, the participants will be told to move to the next station. This will continue until each participant returns to his or her original station.

Total 150 points

b. Sensory Evaluation

Each participant will be given one minute at each station before being told to move to a new station. When each person returns to his or her original station this practicum is completed

1. *Triangle Tests 45 points*

Three different triangle tests will be conducted. Participants are expected to identify the different sample

through aroma, visual cues or textural differences. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 15 points.

2. *Difference Testing 45 points*

Three samples will be tasted. Participants will be expected to discern the different taste of each sample when compared to a control or normal sample. Each station is worth 15 points.

3. *Aromas 60 points*

Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each station is worth 15 points.

Sensory Evaluation - Aromas

1. Cinnamon
2. Peanut Butter
3. Chocolate
4. Maple
5. Oregano
6. Basil
7. Lemon
8. Lime
9. Orange
10. Vanilla
11. Almond
12. Smoke (liquid)
13. Cherry
14. Pine
15. Onion
16. Butter
17. Menthol

18. Grape
19. Garlic
20. Peppermint
21. Clove
22. Nutmeg
23. Ginger
24. Molasses
25. Wintergreen

26. Banana
27. Coconut
28. Lilac
29. Raspberry
30. Strawberry
31. Licorice (anise)

Total 150 points

V. SCORING

Section	Time Allowed	Section Points	Total Points
Individual Activities			
Test			300
Food Safety and Quality Practicum	25 minutes		150
Customer Complaint Letter		50	
Food Safety/Sanitation		100	
Sensory Evaluation	10 minutes		150
Triangle Tests		45	
Difference Testing		45	
Aromas		60	
Total Individual Points			600
Team Product Development Project	80 minutes		400
Package Design		100	
Product Development		200	
Response to Judges' Questions		100	
TOTAL TEAM POINTS			2800

VI. TIEBREAKERS

Should a tie occur in the overall team placing, the tie will be broken by the highest team product development project score. If this score does not break the tie, then the highest number of total points earned from the objective test (adding all four team member scores) will break the tie. If a third tiebreaker is needed the judges response to the Team Question period from the Team Product Development project will be used. To identify the high individual for this event in case of a tie, the highest examination score will be used

as the first tiebreaker, followed by the highest Food Safety and Quality practicum score, as the second tiebreaker.

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams and individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Food Science: The Biochemistry of Food and Nutrition, 2006, Mehas & Rogers.

This curriculum contains a student text, student lab manual, teacher's annotated lab manual, and teacher's resource binder. All materials are available through the Glencoe Secondary Catalog: Family & Consumer Sciences.

Food Science and Safety, 2nd ed., 2004, George J. Seperich, Prentice Hall Publishers

Principles of Food Sanitation, 5th Edition, 2006, Norman G. Marriott and Robert B. Gravani, Springer Science + Business Media, Inc.

Institute of Food Technology website, <http://www.ift.org>

USDA Food Safety and Inspection Service website, <http://www.fsis.usda.gov>

Penn State Food Entrepreneur Resources Website, <http://foodsafety.psu.edu/processor/resources.htm>

Food Science and Technology

	Oral Presentation 10 minutes Max	10 minutes maximum for questions
Start Time:		
End Time:		

Chapter: _____ Team No.: _____

State: _____

PRODUCT DEVELOPMENT PRESENTATION SCORECARD

	POSSIBLE POINTS	TEAM POINTS	COMMENTS
Package design			
• Use, development and adaptation of nutritional label	35		
• Use and development of the ingredient statement on educational panel	35		
• Use of principle display panel to convey information	30		
Sub Total (A)	100		
Oral Proposal			
• How does this product meet market needs?	60		
• Economics	15		
• Nutrition	15		
• Quality Control	15		
• Marketing/Diversity	15		
• Products/Processing/Packaging	15		
• Food Safety	15		
• Formulation Concepts	15		
• Quality of Presentation	35		
Sub Total (B)	200		
Response to Judges' Questions			
• Team Participation in Question Response	50		
• Quality of Response	50		
Sub Total (C)	100		
Total A+B+C	400		

Judge's Name

Judge's Signature

Date

15

CHAPTER

NATIONAL FFA FORESTRY

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

To stimulate student interest and to promote forestry instruction in the agricultural education curriculum and to provide recognition for those who have demonstrated skills and competencies as a result of forestry instruction.

II. OBJECTIVES

A. Ability to understand and use forestry terms.

1. Glossary

B. Ability to promote an understanding of the economic impact of the forest environment and the forest industry to the American economy.

1. Size of forestry industry
2. Types of forestry industry

3. Careers in forestry

4. Agencies responsible for our forests

5. Federal regulation on forestry

6. International

7. Social issues

C. Ability to recognize multiple use opportunities in the forests.

1. Wood products for home and industry

2. Wildlife

3. Water

4. Range

5. Recreation

6. Fisheries

7. Aesthetics

8. Natural areas

9. Wilderness areas

- D. Ability to recognize environmental and social factors affecting the management of forests.
 - 1. Multiple use conflicts /with economic development
 - 2. Pollution
 - 3. Water shed/Water quality
 - 4. Wind breaks/Soil erosion
 - 5. Recreational impacts
 - 6. World populations
 - 7. Habitat manipulation
 - 8. Endangered species
- E. Ability to identify major species of trees of economic importance to the United States and internationally.
 - 1. Know the economically important major trees of each region of the United States
 - 2. Identify the major tree species of those regions
- F. Ability to identify hand tools, equipment and their uses in forestry management
 - 1. Forestry measurement and scaling equipment
 - 2. Forest harvesting equipment
 - 3. Planting equipment
 - 4. Safety equipment
 - 5. Environmental protective and enhancement
- G. Ability to recognize and understand approved silvicultural practices in the United States.
 - 1. Harvesting techniques (methods)
 - 2. Thinning/pruning schedules
 - 3. Regeneration methods
 - 4. Timber stand improvement (TSI)
 - 5. Fire as a management tool
 - 6. Technological advances
 - 7. Habitat manipulation for wildlife, fisheries and endangered species
- H. Ability to identify forest disorders caused by:
 - 1. Insect and insect like pests
 - 2. Diseases
 - 3. Chemical applications or imbalance
 - 4. Mechanical damage
 - 5. Animals
 - 6. Environmental factors such as:
 - a. Air pollution
 - b. Fire
 - c. Other natural disaster
 - d. Water quality
 - e. Soil/site relationships
 - f. Drought
- I. Ability to take a forest inventory:
 - 1. Reading maps (land descriptions)
 - 2. Interpreting aerial photographs
 - 3. Using a compass
 - 4. Cruising standing timber
 - a. Diameter
 - b. Height
 - c. Volume
 - d. Site index
 - f. Species
 - g. Grade
- J. Ability to utilize marketing management strategies.
 - 1. Sales contracts
 - 2. Logging contracts
 - 3. Taxes
 - 4. Loss or profit
 - 5. Record-keeping
- K. Ability to recognize safety practices in forest management:
 - 1. Wearing apparel
 - 2. Environmental awareness
 - 3. Equipment use

4. Health hazards
5. Government laws

III. EVENT RULES

1. The team score is comprised of the team activity and the three best individual scores.
2. Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of weather. They should have raingear, warm clothes and footwear.
3. Under no circumstances will any participant be allowed to touch or handle plant material during the event. Any infraction of this rule will be sufficient to eliminate the team from the event.
4. Observers will not be permitted in the event area while the event is in progress.
5. No team, team member or team coach shall visit the event facilities to observe plant materials and facilities after September 1. Any team, team member or coach reported and proven to do so will cause the elimination of the team from the National FFA Forestry Career Development Event.
6. Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his or her assigned group leader throughout the event, or until told to change leaders by the event superintendent.
7. All participants will be given an identification number by which they will be designated throughout the event.
8. Written Materials: All written materials will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the event site.

IV. EVENT FORMAT

A. Equipment

Each participant must provide the following safety equipment and it must be worn while in the woods or the participant will be disqualified.

- Hard Hat
- Safety Glasses.

All other equipment including clipboard and pencils will be furnished for the event. Participants must use the tools and equipment provided.

B. Team or Individual Activities

Team members will participate in each of the following phase as individuals or as a team cooperative activity.

1. Team Activity (250 points)

Each team will perform a task normally performed in some phase of the forestry industry requiring teamwork to complete. These tasks will be described in situational terms for presentation to each team. Ninety (90) minutes will be allowed to plan and complete the activity. All supplies and materials needed to complete the task will be provided. Tasks will be selected from the list of Forestry Applications.

Task may be drawn from the list of event activities and practicums such as:

- Tree Identification
- Equipment Identification
- Tree Measurement
- Timber Cruising
- Timber Stand Improvement (TSI)
- Map Interpretation
- Compass Interpretation
- Chainsaw Part Identification, Troubleshooting and Safety
- Tree/Forest Disorders

- Forest Products
- Forest Business Management
- Forest Knowledge Test

2. General Knowledge Exam (100 points)

The test may be completed as an individual or team effort. The superintendent will designate the format of the test.

Fifty (50) objective-type multiple-choice questions will be selected from areas of the forestry industry reflected in the event objectives. This phase of the event will test the participant's knowledge and understanding of basic principles of forestry.

Time: Each participant will be allowed 45 minutes to complete this phase of the event.

Scoring: Each answer has a value of 2 points for a total maximum score of 100 points.

3. Cooperative Test (100 points)

Twenty-five objective-type, multiple-choice questions will be selected from areas of the forestry industry reflected in the event objectives. This phase of the event will test the individual's and team's understanding of basic principles.

Time: Each participant will be allowed 20 minutes to complete the test individually. Team members will confer and complete the test collaboratively for 25 additional minutes.

Scoring: Each correct individual answer has a value of 1 point and correct team answers are worth 3 points for a total maximum score of 100 points.

Participants will mark the appropriate answer on computer scorecards.

C. Individual Activities

1. Forestry Issues Interview (100 points)

Participants will communicate their knowledge and opinion about national or regional forestry issues in a personal interview with a judge.

Time: Each participant will be allowed ten minutes to complete this practicum.

Scoring: Scoring criteria are presented on the "Issue" score card, which will be recorded by a judge.

2. Tree Identification (90 points)

Fifteen (15) specimens from the following list will be displayed for participants to identify by common names. A number will designate each specimen.

Time: Each participant will be allowed 30 minutes to complete this phase or approximately 2 minutes for each specimen station.

Scoring: Six points will be given for each specimen that is correctly identified for a maximum of 90 points.

Specimen No.	Name	Specimen No.	Name
11	Spruce	25	Longleaf Pine
12	White Pine	26	Sweet Gum
13	Red Oak	27	Sycamore
14	White Oak	28	Yellow Poplar
15	Maple	29	Black Walnut
16	Hemlock	30	Cottonwood
17	Ash	31	Hickory
18	Cedar	32	Beech
19	Birch	33	Ponderosa Pine
20	Aspen	34	Lodgepole Pine
21	Douglas Fir	35	Shortleaf Pine
22	Loblolly Pine	36	Red Pine
23	Elm	37	Pecan
24	Bald Cypress	38	Alder

3. Equipment Identification (60 points)

Twenty (20) pieces of equipment from the following list will be displayed for participants to identify by technical names. Each piece of equipment will be designated by number.

Time: Each participant will be allowed 30 minutes to complete this phase.

Scoring: Three points will be given for each piece of equipment identified correctly for a total of 60 points. All answers must be correct. No partial credit will be given.

Specimen No.	Name	Specimen No.	Name
51	Tree Stick	71	Tree Marking Gun
52	Diameter Tape	72	Logger's Tape
53	Increment Borer	73	Clinometer
54	Bark Gauge	74	Hypo-Hatchet
55	Tree Caliper	75	Canthook
56	Pulaski Forester Axe	76	Chainsaw
57	Stereoscope	77	Safety Hard Hat
58	GPS Receiver	78	Chainsaw
59	Soil Sampler		Chaps
60	Wheeler Caliper	79	Safety Glasses
61	Wedge Prism	80	Altimeter
62	Relaskop	81	Tally Meter
63	Staff Compass	82	Fiberglass Measuring Tape
64	Hand Compass	83	Fire Rake
65	Tree Planting Hoe or Bar	84	Drip Torch
66	Log Rule	85	Data Recorder
67	Planimeter	86	Fire Weather Kit
68	Survey Instrument (some type)	87	Tally Book
69	Hip Chain	88	Fire-Swatter
70	Plastic Flagging	89	Dot Grid
		90	Back-pack Fire Pump

Specimen No.	Name	Specimen No.	Name
91	Plant Press	95	Densiometer
92	Flow/current Meter	96	Water Test Kit
93	Soil Test Kit	97	pH Meter
94	Water Sampler	98	Hand Lens/Field Microscope

4. Forestry Applications

Participants will compete individually in two practicums from the following list. The event superintendent will designate two practicums to be completed by the participant. Each practicum has a score of 100 points and a time period of 30 minutes.

a. Tree Measurement—Timber Cruising for Board Volume

- Using forest measuring tools, (such as scale stick, diameter tape or clinometer), each participant will measure pre-numbered trees on a fractional acre plot for board foot volume as specified by the event superintendent. The participant must record the DBH (Diameter Breast Height) computed to the nearest inch, and the merchantable height of each tree, height rounded down to the nearest 8' log. Participant must convert the volume to a one-acre basis. Volume tables will be provided at the event.
- The following minimum diameters and log length will be:

Minimum Saw Timber

DBH	12 inches
Top Diameter	8 inches
Height	16 feet

4. Scoring: Three points will be given for the correct DBH and three points for the correct height. Forty points will be given for the correct volume per acre. Five points will be deducted for each 5 percent plus or minus from the correct measured volume.

b. Timber Cruising for Cord Volume

1. Using forest measuring tools, (such as scale stick, diameter tape or clinometer), each participant will measure pre-numbered standing trees on a fractional acre plot for cord volume as specified by the event superintendent. The participant will record the DBH (Diameter Breast Height) and merchantable height of each tree. The height will be rounded down to the nearest 4' stick. The DBH will be to the nearest inch. The participant must convert the volume to a one-acre basis. Volume tables and the amount of cubic feet per one cord will be provided for calculation at the event.

2. **Minimum**

DBH	5 inches
Height	12 feet
Top Diameter	4 inches

4. Scoring: Three points will be given for the correct DBH and three points for the correct height. Forty (40) points will be given for the correct volume per acre. Five points will be deducted for each five percent plus or minus from the correct measured volume.

c. Forest Management Evaluation - Timber Stand Improvements (TSI) and/or Thinning

1. The trees selected and designated for use in this part of the event may be all of one species or a mixture of species.
2. An area will be selected and identified by ribbons, paint, rope, etc. It will contain at least 15, and not more than 30 marked trees within a timber stand that needs thinning or some TSI work. All trees in the selected area will be considered as a forest management site, and the participants using one of the following options will score each marked tree:
 - a. Harvest (utilize the tree)
 - b. Leave - (the tree should remain in stand for a good reason)
 - c. Deadened - (Undesirable tree, not merchantable or beneficial to wildlife, should be deadened or cut down and left in woods)
4. The participants will be given a "situation" concerning the forest management objectives of the stand selected. Information that will be needed to help participants in their decisions will include:
 - a. Markets available - (including hardwood)
 - b. Wildlife habitat considerations - (scope, etc.)
 - c. Present condition of stand
 - d. Final goal of the management plan

This information will be given to participants at the site before they start evaluation of the stand either orally, by poster or a "handout" sheet.

5. Time: Participants will be given 30 minutes to make their decisions.
6. Scoring: Four points will be given for each correct decision up to a maximum total of 100 points, depending on the number of trees. (The possible score for this phase of the event will vary.)

d. Map Interpretation

1. Participants will be furnished a United States Geological Survey topographic map with specific points marked for the participant to identify. The participant shall know legal description, recognize topographic map symbols, understand the meaning of map symbols and size and location of 40 acres or more in a section.
2. Ten points on the map will be clearly marked with a number or arrow pointing to the section, symbol or area on the map to be identified.
3. Examples:
 - a. What is the legal description of the area boxed?
 - b. What is the item located at this point?
 - c. What is the acreage of the area enclosed?
 - d. In what section is the city of Marshall located?

4. Legal descriptions will be written or described according to the following:

NW	Northwest
T	Township
SE	Southeast
R	Range
S	Section (640 acres)
1/4	Quarter of a section (160 acres)

5. Scoring: Ten questions or problems will be completed. Ten points will awarded for each correct answer.

e. Compass Practicum

1. The participant will use a hand compass and pacing to the nearest full foot to simulate the determination of the property lines on a tract of timber. The compass course will have ten marked points. The student will start at any point and record the compass reading and distance to the next point. Azimuth readings shall be recorded.
2. Scoring: A total of 100 points are possible:
Ten points for each correct numbered site. Five points will be given for correct azimuth and five points will be given for correct distance. Partial credit will be given with a deduction of one point for each two degrees or two feet the participant is off the correct answer.

f. Chainsaw Part Identification, Troubleshooting, and Safety

This practicum is divided into three parts:

Part 1 - Chainsaw part identification- Each participant will identify parts of a chainsaw. These parts will be labeled on a saw or will be removed from the saw.

Part 2 - Troubleshooting - The participant will identify “problems” or “troubles.” Each station will have a part, component, saw or written situation with problem areas clearly marked. The participant may pick up parts or touch the saw.

Part 3 - Safety - The participant will observe photos, actual parts, written situations and/or problems to identify the safety hazard or unsafe practice.

Scoring: A total of 100 points are possible for this section.

g. Tree/Forest Disorders

1. Symptoms of at least ten (10) and not more than twenty (20) disorders from the following list will be displayed for participants to identify by common names. The symptoms will be presented in one or more of the following forms:
 - a. Actual sample
 - b. Picture(s)/Slides
 - c. Written description
 - d. Written case history

A number will designate each set of symptoms representing a disorder.

2. Scoring: Five points will be given for each disorder that is correctly identified for a total of up to 100 points, depending on the number of disorders. (The possible score for this practicum will vary).

TREE DISORDERS

No.	Name	No.	Name	No.	Name
100	Aphid	111	Needle cast	122	Landscape equipment damage
101	Scale	112	Sawfly	123	Girdling roots
102	Gypsy moth	113	Air pollution	124	Fire damage
103	Douglas fir tussock moth	114	Canker	125	Climatic injury: snow, wind, frost, drought, hail
104	Spruce budworm	115	Sunscald	126	Nematode
105	Spider mite	116	Damping off	127	Rust
106	Cicada	117	Mistletoe	128	Lightning damage
107	Leaf spot	118	Wetwood or slime flux	129	Butt or Heart Rot
108	Beetles	119	Chemical damage		
109	Wood borer	120	Tent caterpillar		
110	Wildlife/Livestock damage	121	Mechanical damage		

h. Forest Products Practicum

1. Ten to twenty wood products/samples will be displayed for participants to evaluate and identify its tree species source from the approved tree specimen list. The wood products/samples will be presented in one or more of the following forms:

- a. Actual Sample
- b. Picture(s)/Slides
- c. Written description

A number will designate each sample representing a species.

2. Scoring: This will be a multiple-choice practicum. Five points will be given for each wood product or sample that is correctly identified for a total of up to 100 points, depending on the number of products/samples. (The possible score for this practicum will vary).

i. Forest Business Management Problem

1. This section is designed to determine the participant's ability to apply economic principles and concepts of management to the decision making process by actual problem analysis and to defend the decisions made. This will involve a model forest operation with possible calculation on profit/loss, cost of operation, taxes, depreciation, marketing product, stumpage cost, record keeping, etc. The exact problem may or may not be in a listed reference. A maximum of ten problems or questions will be used.

V. SCORING

Phase	Individual Points	Team Points
Knowledge Exam.....	100	300
Tree Identification.....	90	270
Equipment Identification	60	180
Issues Interview	100	300
Forestry Applications (2).....	200	600
Team Activity.....	0	250
Total.....	550	1,900

VI. TIEBREAKERS

Tiebreakers for teams will be the 1st, 2nd and 3rd high individuals. Tiebreakers for individual scores will be 1) Knowledge Exam 2) Problem Solving 3) Tree Identification 4) Equipment Identification.

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation. The top three participants in each of the following areas will be given special recognition certificates.

1. Basic Knowledge and Concepts
2. Forestry Applications

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

The most current edition of each of the following references will be used.

The U.S. Department of Interior Geological Survey Topographic Map Information and Symbols Key, Map Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80223.

David A. Anderson, I. I. Holland and Gary L. Rolfe. *Forests and Forestry*, current edition. Danville, IL: The Interstate Printers Publishers, Inc.

W. M. Harlow, E. S. Harrar, and F. M. White. *Textbook of Dendrology*, current edition. New York, NY: McGraw-Hill Book Company

B. McManar Collins and Fred M. White. *Elementary Forestry*. Reston, VA: Reston Publishing Company, Inc.

Silvics of Forests of United States, Handbook #271, U. S. Forest Service, P.O. Box 2417, 12th and Independence Avenue, SW, Washington, DC 20013.

Owners Manual - Homelite - Division of Textron, P.O. Box 7047, Charlotte, NC 28217.

Forestry Handbook, current edition, Edited by Karl Wenger for the Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD 20814.

Choices in Silviculture for American Forests, current edition. Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD 20814.

Timber Harvesting, current edition, American Pulpwood Association, The Interstate Printers & Publishers, Inc. Danville, IL.

Chain Saw Manual, current edition, American Pulpwood Association, The Interstate Printers & Publishers, Inc., Danville, IL

William G. Camp & Thomas R. Daugherty. *Managing Our Natural Resources*, current edition., Albany, NY: Delmar Publishers, Inc.

Equipment References

Current Catalog of Forestry Suppliers, Inc., 205 West Rankin Street, Jackson, MS 39204-0397.

Other selected references are available from the U.S. Forest Service and state forestry agencies.

Forestry

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

COMPASS PRACTICUM SCORECARD

STATION	COMPASS READING	DISTANCE	SCORE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Total Score:			

SCORING KEY:	
Site:	10 pts total • 5 pts – Azimuth • 5 pts – Distance
Deductions:	–1 pt for each 2 degrees or 2 feet off

*Judge's Name*_____
*Judge's Signature*_____
Date

Forestry

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

FORESTRY ISSUES INTERVIEW SCORECARD

	POSSIBLE POINTS	SCORE	COMMENTS
Introduction	5 pts		
Personality/Confidence	10 pts		
Poise/Posture	10 pts		
Response to Questions	15 pts		
Knowledge	20 pts		
Conveyance of Thought and Meaning	40 pts		
Total	100 pts		

*Judge's Name*_____
*Judge's Signature*_____
Date

Forestry

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

MAP INTERPRETATION PRACTICUM SCORECARD

PARCEL	DESCRIPTION	SCORE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Total Score:		

SCORING KEY:	
Parcel:	10 pts
Deductions:	None

*Judge's Name*_____
*Judge's Signature*_____
Date

Forestry

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PULPWOOD PRACTICUM SCORECARD

TREE NO.	D.B.H.	NUMBER OF 16FT LOGS	VOLUME	SCORE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total Score:				

SCORING KEY:	
D.B.H.:	3 pts
16ft Logs:	3 pts
Volume:	40 pts
Deductions:	-5 pts for each 5% +/- from correct Board Feet

*Judge's Name*_____
*Judge's Signature*_____
Date

Forestry

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

SAWLOG PRACTICUM SCORECARD

TREE NO.	D.B.H.	HEIGHT IN FEET	BOARD FEET	SCORE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total Score:				

SCORING KEY:	
D.B.H.:	3 pts
16ft Logs:	3 pts
Volume:	40 pts
Deductions:	-5 pts for each 5% +/- from correct Board Feet

*Judge's Name*_____
*Judge's Signature*_____
Date

16

CHAPTER

NATIONAL FFA

HORSE EVALUATION

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The purpose of the National FFA Horse Evaluation Career Development Event is to:

1. stimulate the study of and interest in equine science selection, management and production through the agricultural education curriculum.
2. provide recognition for those who have demonstrated skills and competencies as a result of instruction in equine science.
3. To promote career choices by providing an opportunity for participants to become acquainted with professionals within the industry.
4. To advance knowledge in selection and management of horses.
5. To develop proficiency in communicating effectively in the terminology of the industry.
6. To provide the opportunity to evaluate, make a decision and justify those decisions on conformation traits and performance of horses.

II. OBJECTIVES

1. To instill leadership and motivate learning in the classroom while developing student skills in cooperative learning, observation, analysis and communication.
2. To develop and exercise competitive spirit in a team atmosphere.

III. EVENT RULES

1. All attire and tack is legal in the selection classes.

IV. EVENT FORMAT

A. Equipment

Materials student needs to provide- Each participant must have a clean, free of notes clipboard, two sharpened No. 2 pencils, and a battery operated electronic calculator.

B. Team Activity (100 points)

The team activity requires all members of the team to work cooperatively to complete the problem-solving portion of the event. Use of calculators is permissible during the team activity only. Time allowed will be appropriate to the section for that year. This section may consist of:

- Industry scenarios
 - Nutrition
 - Management
 - Reproduction
 - Marketing
- Identification
 - Breed
 - Tack/Equipment
 - Feed
 - Horse Anatomy

C. Individual Activity

Selection Classes (600 points)

There will be a total of eight classes judged, four classes of halter and four classes in performance events with four classes of reasons, two reasons classes in each area. Classes will be approximately 12–15 minutes in length. All classes will be 50 points. Oral reasons should not exceed two minutes in length.

Four halter classes will be judged. Halter classes may be represented by the following breeds and types: Quarter Horse, Conformation Hunter, Appaloosa, Arabian, Paint, American Saddle bred and Morgan. All halter classes will be judged as sound.

Four performance classes will be judged. Performance classes may include: Western Pleasure, Western Riding (Pattern One), Reining, English Pleasure (Saddle Seat), Hunter Under Saddle (Hunt Seat) and Hunter Hack. Performance classes will be judged as presented (unsoundness to be penalized accordingly). American Quarter Horse Association reining pattern will be provided to the teams prior to the event.

There will be two oral reasons classes selected from Western Pleasure, Reining, English Pleasure (Saddle Seat) and Hunter Under Saddle (Hunt Seat). **Note:** Participants may only bring their placing into the oral reasons.

V. SCORING

The event is organized into the following parts, classes and point values:

	Possible Points	
	Individual	Team
Selection Classes		
<i>Halter Class</i>		
Placings [4]	200	600
Oral Reasons [2]	100	300
<i>Performance Class</i>		
Placings [4]	200	600
Oral Reasons [2]	100	300
Total Individual Score 600		
<i>Team Activity</i>		100
Total Team Score** 1900		

** (top 3 individual's scores plus problem solving)

■ VI. TIEBREAKERS

Ties will be broken by the total score on classes in the following order: Oral Reasons; Halter Classes One, Two, Three and Four; Performance Classes One, Two, Three and Four.

■ VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

Special awards will be presented, by way of certificates, for the top five individuals in the following areas: Halter, Performance and Reasons.

■ VIII. REFERENCES

Current Official AQHA Handbook

American Quarter Horse Association, Amarillo Texas – Video References <http://www.quarter-horseoutfitters.com/>

2001 edition of the AQHA Championship Judging Series <http://www.aqha.com/youth/>

Heird, James C. and The American Quarter Horse Association, *Competitive Horse Judging*. First Edition. The American Quarter Horse Association, 1990.

Official Judging Guide from each of the various breed associations and audiovisuals.

Evans, J. Warren, Borton, Anthony, Hintz, Harold F., and Van Vleck, L. Dale, *The HORSE*, second edition. W. H. Freeman and Company, 41 Madison Avenue, New York, NY 10010 ISBN 0-7167-1811-1

Horse Industry Handbook, published by the American Youth Horse Council. Order by calling 1-800-Try-AYHC

Equine Science Curriculum – a special project from the National Council for Agricultural Education.

Interactive Horse Judging [CD-ROM], available from Kansas State University, Extension Service.

Oklahoma State University website/breeds

University of Kentucky website/agripedia

*<http://www.saddleshop.com> – Official reference for terminology for tack/equipment portion of team activity.

17

CHAPTER

NATIONAL FFA JOB INTERVIEW

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The National FFA Job Interview Career Development Event is designed for FFA members to develop, practice and demonstrate skills needed in seeking employment in the agricultural industry. Each part of the event simulates “real world” activities that will be used by real world employers.

II. EVENT RULES

1. The National FFA Job Interview Career Development Event will be limited to one participant per state.
2. Each participant’s cover letter, resume and application will be the result of his or her own efforts.
3. Participants will submit a signed statement of originality on the certification form provided through their state FFA association.
4. Participants shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges’ ranking of each participant then shall be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low point score method of selection).
5. The National FFA Officers and National FFA Board of Directors will be in charge of this event.

III. EVENT FORMAT

A. Equipment

Students are allowed to bring the following items into the event:

- Writing Utensils
- Blank paper
- Resume
- Cover letter
- List of references
- Business cards

B. Activities

1. The event is developed to help participants in their current job search (for SAE projects, part-time and full-time employment). Therefore, the cover letter, résumé and references submitted by the participant must reflect their current skills and abilities and must be targeted to a job for which they would like to apply. In other words, participants cannot develop a fictitious résumé for a fictitious job. Instead, they are expected to target the résumé towards a real job for which they can qualify. **By September 15 of the year that the participant is competing they will submit the following:**
 - a. Cover Letter (100 Points)
 1. Ten copies of a single spaced 8 1/2" × 11" white bond paper letter of intent. The paper is to be single sided, block justified using Times, Times New Roman or Arial 12 point minimum font .
 2. The letter is to be addressed to the Superintendent of the Career Development Event and dated for the first day of the event.
 - b. Resume (150 Points)
 1. Ten copies of a single spaced 8 1/2" × 11" white standard bond paper (do not use cardstock, color or specialty paper for the event). The resume is to be single sided only, typed not to exceed two pages total. Suggested format can be found in The Gregg Reference Manual.
 2. Resume must be non-fictitious and based upon their work history.
 3. Students are to submit three letters of reference.
 4. Ten copies of the cover letter, resume and references must be sent to the Career Development Event Program Manager, National FFA Center postmarked by September 15th prior to the National FFA Convention at which the participant is competing. A penalty of 10% will be assessed for documents received after the postmark deadline. If document is not received seven days after postmark deadline, the team may be subject to disqualification. States qualifying after the September 15th deadline will have seven days from state qualifying event date to submit their documents.
 5. Score from the preliminary round will be transferred to the scorecard for those participants who participate in the final round.
 3. Score from the preliminary round will be transferred to the scorecard for those participants who participate in the final round.

2. At the National FFA Career Development Event the following will be completed:

- a. Application (50 Points)
 1. Students will complete a standard job application on-site, prior to the personal interview. Score from the preliminary round will be transferred to the scorecard for those participants who participate in the final round. Twenty minutes will be given.
- b. Telephone Interview (150 Points)

Telephone interview will be conducted in the preliminary rounds. Score from the preliminary round will be transferred to the scorecard for those participants who participate in the final round. The telephone interview will last a maximum of three minutes.

 1. The student position is to obtain a personal interview with the company to which they are applying. Student should interview with the thought that the company has already received their cover letter, resume and three letters of reference. Each interview will last three to five minutes.
 2. Students will interview with one of the following three people:
 - a. Human, Fiscal and Resource personnel director
 - b. Employer's Assistant
 - c. Employer themselves.
- c. Personal Interview (450 Points)
 1. The preliminary round will consist of an interview in front of a panel of judges. Each interview will last twenty minutes.

2. Students participating in the final round will interview with three separate judges.
- d. Follow Up Letter (100 Points)
 1. Participants will submit a follow up letter after each round of interviews. Students will be provided computers with word processing software to compose and type a follow up letter. Thirty minutes will be given.
 2. Letter is to be addressed to the Superintendent of the Career Development Event, and should be a response to their most recent interview.

IV. TIEBREAKERS

Ties will be broken based on the greatest number of low ranks. Participant's low ranks will be counted and the participant with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the participant's response to questions. The participant with the greatest number of low ranks from the response to questions will be declared the winner. If a tie still exists then the participant's raw scores will be totaled. The participant with the greatest total of raw points will be declared the winner.

V. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VI. SCORING

The event participants are all evaluated in the preliminary round. Those 8 students with the top scores will participate in the final round. The participants will have scores from their cover letter, resume, application and telephone interview carried into the final round.

Preliminary Round

Section	Points
Cover letter	100
Resume	150
Application.	50
Telephone	150
Personal Interview.	450
Preliminary Follow up Letter	100
TOTAL POSSIBLE	1000

Final Round

Section	Points
Cover letter carried over	100
Resume carried over	150
Application carried over	50
Telephone carried over	150

Final Round Personal Interview	450
Final Follow up Letter	100
TOTAL POSSIBLE	1000

VII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Greggs Manual

Elements of Style - Strunk and White

Microsoft® Word® résumé templates

101 Toughest Interview Questions...and Answers That Win Jobs

Daniel Porto, Daniel Porot / Paperback / Published 1999

25 Reasons Why I Won't Hire You! What You Did Wrong Before, During & After the Interview!

Zenja Glass / Paperback / Published 1998

Best Answers to the 201 Most Frequently Asked Interview Questions

Matthew J. Deluca, Mathew J. DeLuca / Paperback / Published 1996

The Complete Job Interview Handbook

John J. Marcus / Paperback / Published 1994

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

COVER LETTER

COMPOSITION	POSSIBLE POINTS	SCORE
Correct format and stationery	10	
Punctuation	10	
Grammar	10	
Spelling	10	
General appearance	10	
<i>Composition Sub Total: 50</i>		
CONTENT		
CAREER GOAL SPECIFIED	15	
PROPER QUALIFICATIONS	35	
<i>Content Sub Total: 50</i>		
<i>Composition Sub Total: 50</i>		
<i>Content Sub Total: 50</i>		
<i>Total: 100</i>		
Deduction for materials received after the postmark deadline: 10% or 10 points maximum		
Total Points Earned		

Judge's Name

Judge's Signature

Date

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

EMPLOYMENT APPLICATION SCORECARD

	POSSIBLE POINTS	SCORE
Overall impression	5	
Legible	10	
Neat <ul style="list-style-type: none"> • Grammar • Punctuation 	10	
Completed according	10	
Consistent with resume	15	
Grand Total	50	

Judge's Name

Judge's Signature

Date

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PRELIMINARY ROUND FOLLOW-UP LETTER SCORECARD

	POSSIBLE POINTS	SCORE
General appearance	5	
Composition	10	
Express appreciation	10	
Comments on interview activities	10	
Express interest in position	15	
Review of relevant qualification	15	
Is requested information addressed	15	
Provisions for follow-up stated	20	
Grand Total	100	

Judge's Name

Judge's Signature

Date

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PERSONAL INTERVIEW SCORECARD

	POSSIBLE POINTS	SCORE
<i>Appearance and courtesy</i>	45	
<i>Greetings and introduction</i>	45	
<i>Speech</i> <ul style="list-style-type: none"> • Grammar • Vocabulary • Volume • Enunciation 	45	
<i>Attitude and personality</i> <ul style="list-style-type: none"> • Forcefulness • Poise • Temperament • Sincere 	45	
<i>Ability to convince or impress interviewer</i> <ul style="list-style-type: none"> • Persuasiveness • Self-confidence 	45	
<i>Knowledge and presentation of abilities</i> <ul style="list-style-type: none"> • Educational experience • Occupational experience 	45	
<i>Reliability</i> <ul style="list-style-type: none"> • Frankness • Consistency • Accuracy 	45	
<i>Poise</i> <ul style="list-style-type: none"> • Tact • Discretion • Questions asked of interviewer 	45	
<i>Career Objective</i> <ul style="list-style-type: none"> • Degree to which the contestant had determined career objective 	45	
Conclusion of interview	45	
Grand Total	450	

Judge's Name

Judge's Signature

Date

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

FINAL ROUND FOLLOW-UP LETTER SCORECARD

	POSSIBLE POINTS	SCORE
General appearance	5	
Composition	10	
Express appreciation	10	
Comments on interview activities	10	
Express interest in position	15	
Review of relevant qualification	15	
Is requested information addressed	15	
Provisions for follow-up stated	20	
Grand Total	100	

Judge's Name

Judge's Signature

Date

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

RESUME SCORECARD

GENERAL APPEARANCE	POSSIBLE POINTS	SCORE
Presented in proper format and printed as outlined on page 224 paragraph b.1	15	
Pleasing to the eye <ul style="list-style-type: none"> • Captures interest • Layout • Easily read 	40	
Grammar <ul style="list-style-type: none"> • Punctuation • Typing • Spelling 	20	
<i>General Appearance Sub Total:</i>	<i>75</i>	
COMPOSITION		
Personal data	10	
Career objective	10	
Educational background	20	
Work experience/skills	20	
Special experiences, activities, honors	10	
References	5	
<i>Composition Sub Total:</i>	<i>75</i>	
<i>Composition Sub Total:</i>	<i>75</i>	
<i>Content Sub Total:</i>	<i>75</i>	
<i>Subtotal:</i>	<i>150</i>	
Deduction for materials received after the postmark deadline: 10% or 15 points maximum		
Total Points Earned		

Judge's Name

Judge's Signature

Date

Job Interview

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

TELEPHONE INTERVIEW SCORECARD

	POSSIBLE POINTS	SCORE
Introduction	22	
Initiative	22	
Communicated effectively	26	
Exhibited ambition and efficiency	30	
Diplomatic and courteous	26	
Gathered appropriate information <ul style="list-style-type: none"> • Contact name • Address • Date • Time 	24	
Grand Total	150	

Judge's Name

Judge's Signature

Date

18

CHAPTER

NATIONAL FFA

LIVESTOCK EVALUATION

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. OBJECTIVES

1. To understand and to interpret the value of performance data based on industry standards.
2. To measure the students' knowledge in the following categories:
 - a. to make accurate observations of livestock
 - b. to determine the desirable traits in animals
 - c. to make logical decisions based on these observations
 - d. to discuss and to defend their decisions for their placing
 - e. to instill an appreciation for desirable selection, management and marketing techniques
3. To develop the ability to select and market livestock that will satisfy consumer demands and provide increased economic returns to producers. Provide positive economic returns to producers as well as meet the needs of the industry.
4. To become proficient in communicating in the terminology of the industry and the consumer.
5. To identify the criteria used in grading livestock. Scenarios will be used in the selection process.
6. To provide an opportunity for participants to become acquainted with professionals in the industry.

II. EVENT RULES

1. Participants will report to the event superintendent for instructions at the time and place shown in the current year's team orientation packet.
2. Data may be added or deleted as technology changes. When new criteria are adopted, the information will be forwarded to all states by January 1 of the event year by the National FFA Program Manager responsible for Career Development Events.

III. EVENT FORMAT

A. Equipment

Materials students must provide- Participants must bring two (No. 2) pencils.

Equipment provided- Participants are not to bring any paper or clipboards. All paper and support boards will be provided.

B. Team Activity (*50 points/class 150 points total*)

Keep/cull classes- There will be three female selection classes, one each in beef, sheep and hogs, made up of eight animals. Participants will be required to select the four best animals from the eight, using visual appraisal and performance data. Performance data will be provided. All three of the female selection classes will make up the cooperative team activity.

Performance Records (including EPD's) may be used in the breeding and the keep/cull classes of beef, sheep and swine. Performance criteria, when used, shall be based on standards developed and used by the Beef Improvement Federation, the Sheep Industry Development Program, Inc. and the National Swine Improvement Federation. Participants will be allowed 15 minutes for each keep/cull class.

C. Individual Activities

1. **Livestock classes-** Six classes of livestock of four animals each will be placed using a computerized scorecard. There will be one class each of breeding and market beef, sheep and swine. Participants will be allowed 15 minutes for each class. (50 points/class 300 points total)
2. **Oral reasons-** Four sets of oral reasons will be designated by the event superintendent at the beginning of the event. One set of reasons will be given on the production data class. Reasons will be given after all classes have been placed. Notes will not be permitted; however, participants may use a card with only their placing of the class written on it. (50 points/class 200 points total)
3. **Beef slaughter class-** One class of 5 slaughter cattle will be graded individually, according to the latest U.S.D.A. market grades. Forms will be provided in the team orientation packets that are distributed annually prior to the event. The class will also be graded according to cutability. (50 points)
4. **Production Data Class:** One class of breeding beef, sheep or swine (4 animals) will be evaluated. Production data will be provided for each animal and will be utilized in the final placing of the class. This class will also be one of the four oral reasons classes. Participants are expected to utilize the production data information provided as part of their oral reasons.
5. **Written test-** A multiple choice exam will be given. The objective exam is designed to determine team members understanding of the livestock industry. The exam will consist of 50 multiple choice questions. Sixty minutes will be given for the exam. (100 points)

IV. SCORING

Possible Points		
	Individual	Team
Selection Classes		
Beef		
Placings [2]	100	300
Oral Reasons [1]	50	150
Sheep		
Placings [2]	100	300
Oral Reasons [1]	50	150
Swine		
Placings [2]	100	300
Oral Reasons [1]	50	150
Beef Slaughter Class	50	150
Production Data Class	50	150
Production Data Oral Reasons	50	150
Written Test	100	300
Team Activity (Keep/Cull)		150
Total Team Score**	700	2250
**(top 3 individual's scores plus Team Activity)		

V. TIEBREAKERS

If ties occur, the following events will be used in order to determine award recipients:

1. Total of oral reasons
2. Total of placing classes
3. Total of grading classes

VI. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

The individual and the team scoring the highest in each species of livestock and oral reasons shall receive special recognition.

VII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

- For the most current copies of U.S.D.A. market standards and posters (large and small) illustrating market grades, write:

Agricultural Marketing Service, U.S.D.A.
Livestock Seed Event-
Standard and Review Branch
Room 2641 South Building
Washington, DC 20250

- For the most current copies of performance criteria standards write:

Beef Improvement Federation
Department of Animal Sciences and Food
Kansas State University
Northwest Research Extension Center
105 Experiment Farm Road
Colby, KS 67701

National Swine Improvement Federation
204 Polk Hall
North Carolina State University
Raleigh, NC 27695-7621

Gillispie, James R. *Modern Livestock and Poultry Production*. 7th Edition. Albany, NY: Delmar Publishers, Inc. 2004.

Hunsley, R. *Livestock Judging, Selection and Evaluation*. 5th Edition. Danville, IL: Interstate Publishers, 2001.

Agriscience 332 – Animal Science (8831B).
Instructional Materials Service, Texas A & M
University 2588 TAMUS, College Station TX
77843-2588 (979)845-6601

Agriscience 231 – Plant and Animal Production
(8651B). Instructional Materials Service, Texas A
& M University, 2588 TAMUS, College Station
TX 77843-2588 (979)845-6601

VIII. EXAMPLE

KEEP/CULL CLASS SAMPLE CARD

Beef/Sheep/Swine

Participant/Team Name: _____

Participant/Team No.: _____

Circle or list the numbers of the 4 animals you want to keep as replacements.

1 - 2 - 3 - 4 - 5 - 6 - 7 - 8

Event officials will assign a point value to each one of the individual animals, giving the most points to the most desirable animal and the least points to the least desirable animal. If the participant selects the best four animals, full credit will be given.

OFFICIAL PLACING- KEEP/CULL

8	7	6	5	4	3	2	1	Animal
18	13	11	8	7	4	3	0	Points

KEEP/CULL CLASS SCORES

Participant									Score
A	6	11	3	4	4	7	2	3	25
B	8	18	7	13	6	11	5	8	50
C	7	13	6	11	5	8	1	0	32

Animals selected are shown in regular font with point values for that particular animal shown in bold font. Point values are established by official judges and will differ with each class.

Keep/Cull Team Activity Scorecard

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

KEEP/CULL TEAM ACTIVITY

BEEF/SHEEP/SWINE – (SELECT ONLY ONE SPECIES)

Circle or list the numbers of the 4 animals you want to keep as replacements.

1 - 2 - 3 - 4 - 5 - 6 - 7 - 8

Event officials will assign a point value to each one of the individual animals, giving the most points to the most desirable animal and the least points to the least desirable animal. If the participant selects the best four animals, full credit will be given.

OFFICIAL PLACING- KEEP/CULL

	8	7	6	5	4	3	2	1	Animal
	18	13	11	8	7	4	3	0	Points
Participant									Score
A	6	11	3	4	4	7	2	3	25
B	8	18	7	13	6	11	5	8	50
C	7	13	6	11	5	8	1	0	32

Animals selected are shown in regular font with point values for that particular animal shown in bold font. Point values are established by official judges and will differ with each class.

*Judge's Name*_____
*Judge's Signature*_____
Date

19

CHAPTER

NATIONAL FFA

MARKETING PLAN

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The marketing plan event is designed to assist students with developing practical skills in the marketing process through the development and presentation of a marketing plan. Students research and present a marketing plan for an agricultural product, supply or service. It is intended as a competitive activity involving a team of three persons working for a local community agri-business to support the FFA's outreach mission.

Local chapters may involve the entire chapter, a specific agriculture class or a three-person team. The intent is to have a three-person team present the results of primary research involving the local community that provides a reasonable and logical solution to a marketing problem. Understanding of the marketing process is manifested in the marketing plan, which is presented in a five to

eight page document and in a live presentation before qualified judges. Though only three individuals are on a team, any number of students may assist with the primary and secondary research.

II. OBJECTIVES

1. To develop an understanding of the marketing plan process.
2. To provide an activity to focus student and community attention on the agrimarketing curriculum.
3. To allow students to explore and prepare for possible careers in agrimarketing.
4. To help develop partnerships and improve relations with agricultural industries, local FFA chapters and the general public.

III. EVENT RULES

1. The event is open to one team per state as certified by the State Supervisor to the Program Manager responsible for National Career Development Events.
2. It is highly recommended that participant's be in official FFA dress at all events.

IV. EVENT FORMAT

1. **Team Make-up-** A team representing a state will consist of three members listed at the state and national levels from the same chapter. There are no alternates allowed in competition. Only the three certified team members can take an active role in the set-up of props, in the presentation of materials or use of technology during the presentation.
2. At least three qualified judges will be used. If more than six teams are in a section, two sets of judges should be used. Judges should be selected to represent a mix of industry, education and communication, if possible. They should have some understanding of the marketing planning process.
3. The judges will give a written evaluation after the finals and scoring is completed.
4. Twenty (20) copies of the plan must be sent to the Career Development Event Program Manager, National FFA Center postmarked by September 15th prior to the National FFA Convention at which the plan is to be presented.
5. A timekeeper will be designated, possibly from one of the three judges.

A. Equipment

Equipment provided at the event site- Two tripod easels (24" x 36"); one screen; one table and three chairs

B. Team Activity-

1. Written Plan- 35 Points

- a. Select a local community agricultural business that serves the community, and decide on the product or service for the marketing plan. Work with either existing or start-up situations. Plan to work with an off campus organization. Do not use your chapter as a client.
 - b. Emphasis should be placed on the "value added" concept using marketing techniques to increase the value of products or services.
 - c. A marketing plan deals with the future. Historical information is very valuable, but the actual plan must be a projection. A plan presented in the current year should be developed for the following year. A two-year timeframe might be needed, which would mean the inclusion of the two years following the current year. Marketing plans may vary from one to ten years depending on your client and the type of product or service
 - d. The project outline should include the following aspects of the marketing process.
1. Analysis of market – "Where are we now?"; "Why were we hired?" (10 points)
 - a. Industry trends.
 - b. Buyer profile and behavior.
 - c. Competition's strengths and weakness.
 - d. Your product's/firm's strengths and weakness.
 - e. Original research results.
 2. Business Proposition – "Where do we want to be?" (5 points)

- a. Key planning assumptions. (cite sources of information)
- b. Measurable and attainable goals - must be measurable, have completion dates, be specific and attainable.
- c. Target market – identify specific market segments which achieve your goals.
3. Strategies and Action Plan – How and when will we get there? (10 points)
 - a. Product attributes: size, quality, service, etc.
 - b. How will you distribute and sell?
 - 1) marketing channels
 - 2) physical distribution modes
 - c. What will be the price structure?
 - d. How will you promote the products? Which promotional activities, or combinations of activities, are appropriate for your product or service? How much promotion can you afford?
 - 1) personal selling
 - 2) direct sales promotion
 - 3) public relations
 - 4) advertising – mass media
 - e. Develop a mission statement and predict competitor reactions, if any.
4. Projected budget – “How much will it cost to get there?” (5 points)
 - a. What will be strategies cost?
 - b. Pro forma income statement which highlights cost of the strategies on an incremental or start-up basis.
 - c. Calculate the financial return of the marketing plan
5. Evaluation – “Did we get there?” (5 points)
 - a. Specific measurement tools to measure the accomplishments of the goals at the end of the time period.

- b. Recommendations for future action and contingencies.

Procedures

1. Twenty (20) copies of the plan must be sent to the Career Development Event Program Manager, National FFA Center postmarked by September 15th prior to the National FFA Convention at which the plan is to be presented. A penalty of 10% will be assessed for documents received after the postmark deadline. If document is not received seven days after postmark deadline, the team may be subject to disqualification. States qualifying after the September 15th deadline will have seven days from state qualifying event date to submit their marketing plan.
2. The document will not exceed eight pages and must be ten point or larger type size.: The 8 pages are calculated on an 8 1/2” x 11” basis. Different formats and page sizes can be used as long as the document does not exceed the equivalent of 8 – 8 1/2” x 11” pages. A five (5) point deduction will be applied to all marketing plans that do not follow these guidelines.
 - a. title page – project title, team name, state and date [1 page]
 - b. text – marketing plan [5 pages]
 - c. appendices – surveys, graphs, maps, promotional pieces, etc. [2 pages]
3. Written expression is important. Attention should be given to language, general appearance, structure and format.

2. Live Presentation – 65 Points

1. Each team will be allowed 5 minutes to set up before their 15-minute time allowance begins and 3 minutes to reset the equipment, as they found it, after the presentation. If there is an equipment failure during the presentation,

the team will be allowed five minutes to set up again.

2. A live presentation not exceeding 15 minutes duration should be planned and given. Five points will be deducted from the final score for each minute or major fraction thereof, over 15 minutes for the presentation. The timekeeper shall be responsible for keeping an accurate record of time. The presentation will be followed by five minutes maximum of “clarifying” questions, during the preliminary and semi-final rounds. During the final round the presentation will be followed by 10 minutes maximum of “clarifying” questions. Judges will ask at least one question for each member of the team.
3. The focus of the presentation should be to the top management of an agribusiness or farm. The team should assume the role of a marketing consultant, as found in industry. The team will inform the judges of their role in the team's presentation.
4. Visual aids are only limited by your imagination. Do not assume that the lights can be adjusted or the competition room can be drastically remodeled. Scoring will be based on how effectively visual aids are used, not how elaborate they are. Remember that visual aids should enhance and clarify what the speakers are saying; not replace them.

V. SCORING

Written Plan

Market Analysis	10 points
Business Proposal	5 points
Strategies and Action Plan	10 points
Evaluation	5 points
Budget	5 points
Points Possible	35 points

Live Presentation

Marketing Process	25 points
(Demonstrate understanding of the five parts of the marketing plan.)	
Original Research	15 points
(Evidence of meaningful original market research)	
Effectiveness of the Presentation	10 points
(Organization, professionalism, effectiveness of visuals and adherence to guidelines.)	
Questions and Answers	15 points
Points Possible	65 points
TOTAL POINTS POSSIBLE	100 POINTS

Teams shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each team then shall be added, and the winner will be that team whose total ranking is the lowest. Other placings will be determined in the same manner (low rank method of selection).

■ VI. TIEBREAKER

Ties will be broken based on the greatest number of low ranks. Team low ranks will be counted and the team with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the team's response to questions. The team with the lowest rank from the response to questions will be declared the winner. If a tie still exists then the team's raw scores will be totaled. The team with the greatest total of raw points will be declared the winner.

■ AWARDS

Awards will be presented at an awards ceremony. Awards are presented to individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation. Teams participating in the preliminary round will receive a bronze emblem plaque, teams continuing on to the semi-final round will receive a silver emblem plaque and all teams competing at the final round will receive a gold emblem plaque.

Marketing Plan Score Sheet

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

	Possible Points	Earned	Comments
WRITTEN PLAN			
Market Analysis	10		
Business Proposal	5		
Strategies and Action Plan	10		
Evaluation	5		
Budget	5		
Deduction – Marketing Plan received after postmark deadline. Deduction 10% of possible Plan Score or 3.5 points			
Deduction – 5 points will be deducted for not following plan format listed on page 243 of CDE Handbook.			
Written Plan Total Points:	35		
PRESENTATION			
Marketing Process (Understanding and clear presentation of the five parts of the marketing plan)	25		
Primary Research (Involvement in solving a local community-oriented agribusiness marketing problem)	15		
Effectiveness of the Presentation (Organization, professionalism, effectiveness of visuals and adherence to guidelines)	10		
Questions and Answers	15		
Presentation Total:	65		
SUB-TOTAL (WRITTEN & PRESENTATION)	100		
DEDUCTIONS			
Deduct 5 points for each minute, or major fraction thereof, the presentation went over 15 minutes			
NET TOTAL POINTS			
Team Ranking:			

Judge's Name

Judge's Signature

Date

20

CHAPTER

NATIONAL FFA

MEATS EVALUATION AND TECHNOLOGY

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. OBJECTIVES

1. To develop employment skills for students who are interested in exploring or pursuing career opportunities in the meat animal industry.
2. To assist the local agricultural education instructor in motivating students to become knowledgeable consumers of meat and meat animal products and/or involved in the industry of meat animal marketing and merchandising.
3. To encourage the development of broader analytical skills, critical thinking strategies and an understanding of appropriate meat terminology for high school students.
4. To develop the ability to evaluate meat animal products in order to optimize economic returns to producers and industry as well as to meet the needs of the consumer.

5. To develop good cooperation and communication skills in working together to accomplish a goal.

II. EVENT RULES

3. Participants will report for instructions to the event superintendent at the time and place indicated in the current year's team orientation packet.
4. **Clothing-** Participants must come to the event prepared to work in a cold storage facility (approximately 0° C) for approximately two hours. Participants are required to wear protective clothing: 1) hard hats 2) clean, white frocks 3) hairnets 4) warm clothing and footwear. While official FFA dress is not worn during the event, it is required for all awards presentation activities.

5. All participants are expected to be prompt at their stations throughout the event; no provision will be made for tardiness and will most certainly cause late participants to lose event points. No conversation will be allowed between participants after the event begins. (Conversation among participants constitutes disqualification.)
6. Participants and official judges are to make their placings and identifications without handling the meat.
7. Two minutes stand back time on placing classes will be utilized when possible.

III. EVENT FORMAT

A. EQUIPMENT

Materials student needs to provide: Each participant must bring two sharpened No. 2 pencils and an electronic calculator. Calculators used in the event should be battery powered, non-programmable and silent. Participants must not bring any blank paper, notes, training aids, other electronic items, purses or backpacks. Students with special needs must contact the event superintendent prior to the event.

B. TEAM ACTIVITY

Beef Carcass Order Fulfillment

In the team activity all members from each team will work together to fill a customer order for beef carcasses. As students go through the event they will keep a quality and yield grade sheet on all beef carcasses. At the conclusion of event, team members will be allowed to work together to determine how a specified order for beef carcasses will be filled. Notepaper will be provided for this section of the event.

Example: As the manager of a local beef processing plant you have received the following order:

1. 2 beef rounds— mid choice quality grade, yield grade 2 or 3
2. 200 lbs., 15% fat ground beef
3. 4 beef loins — high select to mid-choice quality grade, yield grade 1, 2 or 3
4. 4 beef chucks — quality grade, select yield grade 1 or 2

Using the information you have accumulated during the beef carcass grading, which carcasses can be used to fill the above order? Indicate your answers on the computerized scanning sheet(s) provided.

C. INDIVIDUAL ACTIVITIES

1. Meat Formulation Problem Solving and Written Test

Students will complete a meat formulation problem solving exercise. An example is at the end of this section. Nine questions are to be answered using the computerized scorecard. The one solution to the meat formulation problem will be worth 10 points. The other 8 questions based on the correct formulation will be valued at 5 points each.

Each participant will be given a written test of 25 questions relating to meat selection, storage, cookery, nutrition and safety. All questions will be based on materials taken from *Yellow Pages - Answers to Predictable Questions Consumers Ask About Meat.* No questions will be taken from cooking charts or the Glossary of Better Known Sausage and Prepared Meat (located in the *Yellow Pages*). Questions will be multiple-choice using a computer

scorecard. Each question will be valued at 3 points. Examples for this section of the Meats Evaluation CDE are at the end of this section.

2. Retail Meat Cuts Identification

Students will identify 40 retail meats cuts found on the “Meats Identification Card”. The official key (Retail Cuts Coding – Training Aid I) is located at the end of the Meat Evaluation section of this handbook. Only the cuts listed are eligible to be used in this event. Students will be given one point for correct species identification, two points for correct primal cut identification and three points for correct retail trade name. Answers will be recorded on a computerized scorecard.

3. Beef Quality and Yield Grading

Participants will quality and yield grade six beef carcasses.

Quality Grading: Using Training Aid II (located at end of Meats Evaluation section), the student may give the carcass a maturity score and a marbling score based on USDA standards and then determine the quality grade. The student should complete the section of answers for quality grading on the computerized scorecard.

Yield Grading: Using Training Aid II, students may write in the carcass weight which is given for each carcass, give the carcass a preliminary yield grade based on USDA Standards, and then adjust the preliminary yield grade using “Ribeye Area” and “% Kidney, Pelvic and Heart Fat.” After completing these steps, the student may write in the final “Yield Grade”. The student should complete the

section of answers for yield grading on the computerized scorecard.

A deduction of two points will be made for a one-third grade above or below the official grade; five points will be deducted for two-thirds grade above or below the official grade; eight points will be deducted for one full grade above or below the official grade. A perfect score will be sixty points for Quality grading and sixty points for Yield grading.

4. Placing of Four Classes

Four classes from the following list will be placed with selected placings completed on the computerized scorecard. All classes will consist of four exhibits per class.

- 1.) Beef carcasses
- 2.) Retail cuts
- 3.) Pork carcasses
- 4.) Wholesale/subprimal pork cuts
- 5.) Lamb carcasses
- 6.) Wholesale/subprimal beef cuts

5. Questions on Placing of Two Classes and Ten Questions

Two selected classes listed in “Individual Activities, Item 4- Placing of Four Classes” will be placed. A total of ten questions will be asked covering both classes. Answers will be transferred to the appropriate computerized scorecard. Notepaper will be provided for this section. Students will not be able to use their notes when answering questions.

Sample Question: “Which beef carcass had the highest percentage of KPH fat?”

IV. SCORING

The event will be divided in the following sections and scored as follows:

Section Points

Written Test (25 items) and Meat

Formulation Problem Solving (9 items)

Written Test 75

Meat Formulation 50

Retail Meat Cuts Identification

40 retail cuts 240

Beef Quality and Yield Grading

Six carcasses 120

Placing of Four Classes

Four classes. 200

Placing of Two Classes and Ten Questions

Two placing classes. 100

Ten questions 50

Total per individual 835

Team Activity

Beef carcass order fulfillment. 40

Total per team* 2545

*(top 3 individual's scores plus Team Activity score)

V. TIEBREAKERS

If ties occur, the following events will be used in order to determine award recipients:

1. Identification Retail Meat Cuts
2. Questions About Classes Score
3. Total Score Carcass Grading

VI. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Meats Identification Tutorial CD-ROM (MID-05) \$99.00 available from the National FFA Organization 1-888-332-2668 or on line at <http://www.ffaunlimited.org/pavicdeha.html>

AMSA Meat Evaluation Handbook

AMSA Guide to Identifying Meat Cuts

USDA Marbling Photographs

Materials available from:

American Meat Science Association (AMSA)

1111 North Dunlap Avenue

Savoy, Illinois 61874

Phone: 217-356-5368

Fax: 217-398-4119

<http://www.meatscience.org/>

E-mail: info@meatscience.org

Beef Ribeye Grids

Art Services, Inc.

3015 Earl Place, N.E.

Washington, D.C., 20018

Phone: 202-526-5607

Preliminary Yield Grade Rulers

NASCO

901 Janesville Avenue

P.O. Box 901

Fort Atkinson, WI 53538-0901

Phone: 1-800-558-9595

Fax: 920-563-8296

<http://www.nascofa.com/prod/BrowseMinorIndex?quickkey=222&text=Measuring+Equipment&title=Agricultural+Sciences&seqid=13>

Meats Evaluation Materials

CEV Multimedia

P.O. Box 65265

Lubbock, TX 79464

Phone: 1-800-922-9965

National Cattlemen's Beef Association

Customer service department for brochures and materials

1-800-368-3138

Example Meats Events/Classes/Materials

<http://aggiemeat.tamu.edu/judging/meatjudging.html>

<http://animalscience.unl.edu/meats/id/>

<http://www.ca.uky.edu/agripedia/agrimania.html>

<http://www.meatscience.org/judging/default.htm>

<http://www.meatscience.org/judging/Eastern.htm>

Yellow Pages

Instructional Materials Service

<http://www-ims.tamu.edu>

Select "Catalog Shopping"

Phone: 979-845-6601

VIII. EXAMPLES

Meat Formulation Problem Solving and Written Test Examples

Sample Questions:

What is the maximum amount of fat that ground beef can contain?

*A. 30% C. 40%

B. 10% D. 20%

What is the least desirable method of thawing frozen meat?

- *A. Defrosting at room temperature
- B. Defrosting in refrigerator
- C. Defrosting in a microwave
- D. Cooking from frozen state

Students will be given a situational problem involving the least cost formulation of a batch of particular meat products (hamburger, wiener, bologna, etc.) This problem will be worth 50 points and consist of procedural questions and the actual determination of the least cost price.

Ground Beef Formulation Problem

Training Materials

Assume that you manage a meat plant that manufactures ground beef for a chain of retail stores. Your goal is to produce a fresh, wholesome product which complies with all meat inspection regulations and which will have three days' shelf life in the meat case. The fat content must comply with the specifications of the stores. The cost of the product should be as low as possible. All problems will be worked to three decimal places and rounded to two places.

Ground Beef Regulations (USDA)

GROUND BEEF: The terms "Ground Beef" and "Chopped Beef" are synonymous. Products so labeled must be made with fresh and/or frozen beef with or without seasoning, and without the addition of fat as such, and shall contain no more than 30% fat. It may contain added water, binders or extenders. It may contain beef cheek meat not to exceed 25%. Heart and tongue are not acceptable ingredients.

If the name is qualified by the name of a particular cut, such as "Ground Beef Round" or "Beef Chuck, Ground" the product must consist entirely of meat from the particular cut or part.

Industry Guidelines on Ground Beef Manufacture

1. To get the most desirable color and maximum shelf life, all boneless meats used to manufacture ground beef shall be fresh not frozen), well chilled

(temperature no higher than 35° F), and shall arrive at the plant within 96 hours of animal slaughter.

2. A least-cost determination shall be performed on acceptable meat ingredients to select those meats that produce the lowest cost product that meets all ground beef guidelines.
3. To simplify the grinding and blending operation, only two meat ingredients will be used for each batch.
4. Rounding of decimals - 5-9 will be rounded up; 1-4 will be rounded down.

EXAMPLE: Utilize the Pearson Square to formulate a batch of ground beef to the desired fat content.

Meats:

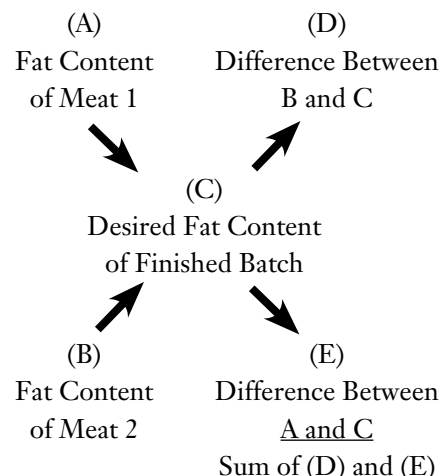
- (1) Boneless cow meat (10% fat - \$.99/lb.)
 - (2) 75% lean beef trimmings (25% fat - \$.79/lb.)
- Desired Final Fat Content: 20%
Batch Size: 1,000 lbs.

Determine:

- a. The amounts of the two types of meat that must be blended together to give the desired fat content.
- b. The meat cost of the finished product.*

*NOTE: You will only be determining meat costs. In an actual situation overhead cost must also be added to the cost of the ground beef to account for labor, equipment, transportation, etc. In this exercise the student need not be concerned with these overhead costs.

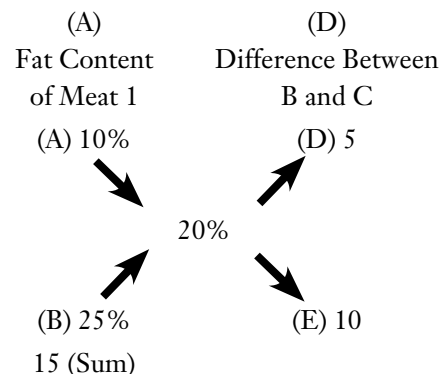
Pearson Square



Proportion of ingredient (A) = (D)/(Sum)

Proportion of ingredient (B) = (E)/(Sum)

For Previous Information:



Proportions:

- (1) Boneless cow = $5/15 = 0.33$
($\times 1000 \text{ lbs.} = 330 \text{ lbs.}$)
- (2) 75% Beef trim = $10/15 = 0.67$
($\times 1000 \text{ lbs.} = 670 \text{ lbs.}$)

Verify Final Fat Content

$330 \text{ lbs.} \times 0.10 \text{ (fat)} = 33 \text{ lbs.}$

$670 \text{ lbs.} \times 0.25 \text{ (fat)} = \underline{167 \text{ lbs.}}$

$= 200 \text{ lbs. fat/}$
 $1,000 \text{ lbs. batch}$
 $(20\% \text{ fat})$

Cost per Pound

Boneless cow meat $0.33 \times \$0.99/\text{lb.} = .33$

75% trim $0.67 \times \$0.79/\text{lb.} = .53$

$\$0.86/\text{lb.}$

SAMPLE PROBLEM

You must follow all government regulations and company policies listed in the training materials. Determine which available ingredients to use (and at what levels) to make the lowest priced ground beef acceptable.

SPECIFICATIONS:

Desired fat content of finished product is 18%

Batch Size = 5000 lbs.

Manufacturing Date = February 10

No product over 5 days old may be used.

No variety meats may be used.

No product over 35° F may be used.

BONELESS MEAT INGREDIENTS AVAILABLE

	Slaughter Date	Temp.	Fat Content	Price
Bull meat	February 6	33°F	8%	\$1.05
Boneless Chuck	February 7	35°F	14%	\$1.00
75% lean trim	February 4	32°F	25%	\$0.75
50% lean trim	February 6	31°F	50%	\$0.55
Beef chuck	February 7	37°F	12%	\$0.70
Beef hearts	February 6	32°F	15%	\$0.35

Solution:

Do all potential ingredients meet government regulations and company specifications?

Acceptable

Not Acceptable

Bull meat 75% lean trim (too old)

Boneless chuck Beef chuck (too warm)

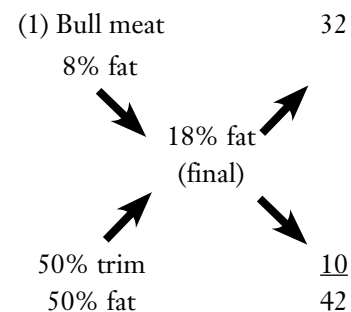
50% lean trim Beef hearts (not allowed)

Therefore, to produce desired fat content, product could be made from either of the following two combinations:

(1) Bull meat and 50% lean trim

(2) Boneless chuck and 50% lean trim

Which combination results in the lowest meat cost?



Proportions:

Bull meat = $32/42 = 0.76 \dots (3,800 \text{ lbs.})$

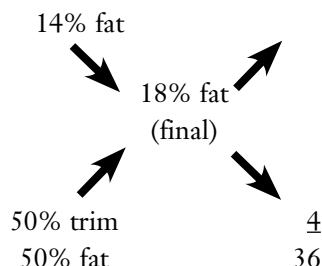
50% trim = $10/42 = 0.24 \dots (1,200 \text{ lbs.})$

5,000 lbs.

Cost:

$$\begin{aligned} \text{Bull meat} &= 0.76 \times \$1.05 = \$0.798 \\ 50\% \text{ trim} &= 0.24 \times \$0.55 = \underline{\$0.132} \\ &0.93 \text{ or} \\ &\$0.93/\text{lb.} \end{aligned}$$

(2) Boneless chuck 32



Proportions:

$$\text{Boneless chuck} = 32/36 = 0.89 \text{ (4,450 lbs.)}$$

$$50\% \text{ trim} = 4/36 = 0.11 \dots \dots \dots (\underline{550 \text{ lbs.}}) \\ 5,000 \text{ lbs.}$$

Cost:

$$\begin{aligned} \text{Boneless chuck} &= 0.89 \times \$1.00 = \$0.89 \\ 50\% \text{ trim} &= 0.11 \times \$0.55 = \underline{\$0.06} \\ &\$0.95 \\ &\text{or } \$0.95/\text{lb} \end{aligned}$$

Final Solution: Meats to be used:

Bull meat 3,800 lbs.

50% trim 1,200 lbs.

Meat Costs: \$ 0.93 per pound

Scoring:

The answer to the formulation problem will count ten points. There will be an additional eight questions, worth five points each. To facilitate computer scoring of this exercise, the participants will be given a list of ten or more meat/price combinations, and be required to select the correct one, based upon the above calculation. Answers to the eight additional questions will be selected from four choices.

Example: Check the correct solution:

1. Bull and chuck meat (0.89)
2. Boneless chuck and 75% lean trim (0.91)
3. Bull meat and 50% lean trim (0.93)
4. Boneless chuck and 50% less trim (0.90)
5. Bull meat and 50% lean trim (0.88)
6. Beef hearts and 75% lean trim (0.68)
7. Bull meat and 50% lean trim (0.97)
8. Beef chuck meat and bull meat (1.04)
9. 75% lean trim and 50% lean trim (0.67)
10. 50% lean trim and bull meat (0.87)

Example questions: All problems will be worked to three decimal places and rounded to two places. If the third decimal is 5 or more, the number will be rounded up.

1. Which ingredients do not meet company temperature constraints?
Answer: Beef chuck
2. Which ingredients do not meet company freshness requirements?
Answer: 75% lean trim
3. Which ingredients do not meet government regulations?
Answer: Beef hearts

RETAIL CUTS CODING

Primal Cuts	Retail Cut	Species	Primal	Retail
BEEF				
BRISKET	Brisket, Whole (Bnls)	B	2	11
	Brisket, Corned	B	2	102
	Flat Half (Bnls)	B	2	20
	Point Half (Bnls)	B	2	27
CHUCK	Arm Roast	B	3	3
	Arm Pot Roast (Bnls)	B	3	4
	Arm Steak	B	3	46
	Arm Steak (Bnls)	B	3	47
	Blade Roast	B	3	6
	Blade Steak	B	3	48
	Chuck Eye Roast (Bnls)	B	3	14
	Mock Tender Roast	B	3	26
	Mock Tender Steak	B	3	54
	Seven (7) Bone Roast	B	3	31
	Seven (7) Bone Steak	B	3	59
	Top Blade Steak (Bnls)	B	3	70
FLANK	Flank Steak	B	4	53
LOIN	Porterhouse Steak	B	8	56
	Sirloin Steak	B	8	60
	Sirloin Steak (Bnls)	B	8	61
	T - Bone Steak	B	8	66
	Tenderloin Roast (Whole)	B	8	40
	Tenderloin Steak	B	8	67
	Top Loin Steak	B	8	71
	Top Loin Steak (Bnls)	B	8	72
	Top Sirloin Steak (Bnls)	B	8	74
PLATE	Short Ribs	B	9	33
	Skirt Steak (Bnls)	B	9	63
BRISKET	Brisket, Whole (Bnls)	B	2	11

RETAIL CUTS CODING (continued)

Primal Cuts	Retail Cut	Species	Primal	Retail
RIB	Eye Roast	B	10	18
	Eye Steak	B	10	51
	Large End Roast	B	10	24
	Small End Roast	B	10	37
	Small End Steak	B	10	64
	Small End Steak (Bnls)	B	10	65
ROUND	Bottom Round Roast (Bnls)	B	11	8
	Bottom Round Rump Roast (Bnls)	B	11	9
	Bottom Round Steak	B	11	49
	Eye Round Roast	B	11	19
	Eye Round Steak	B	11	52
	Heel of Round Roast	B	11	23
	Round Steak	B	11	57
	Round Steak (Bnls)	B	11	58
	Tip Roast	B	11	41
	Tip Roast, Cap Off	B	11	42
	Tip Steak	B	11	68
	Tip Steak, Cap Off	B	11	69
	Top Round Roast	B	11	45
	Top Round Steak	B	11	73
SHANK	Cross Cuts	B	12	16
	Cross Cuts (Bnls)	B	12	17
VARIETY MEATS	Heart	B	16	87
	Kidney	B	16	88
	Liver	B	16	89
	Oxtail	B	16	90
	Sweetbread	B	16	91
	Tongue	B	16	92
	Tripe	B	16	93

Primal Cuts	Retail Cut	Species	Primal	Retail
VARIOUS	Beef for Stew	B	17	94
	Cube Steak	B	17	95
	Ground Beef	B	17	96
PORK, FRESH				
HAM/LEG	Center Slice	P	5	50
	Rump Portion	P	5	30
	Shank Portion	P	5	32
LOIN	Back Ribs	P	8	5
	Blade Chop	P	8	76
	Blade Chop (Bnls)	P	8	77
	Blade Roast	P	8	6
	Butterfly Chop (Bnls)	P	8	78
	Center Loin Roast	P	8	12
	Center Rib Roast	P	8	13
	Country Style Ribs	P	8	15
	Loin Chop	P	8	80
	Rib Chop	P	8	81
	Sirloin Chop	P	8	83
	Sirloin Cutlets	P	8	62
	Sirloin Roast	P	8	35
	Tenderloin Roast (Whole)	P	8	40
	Top Loin Chop	P	8	84
	Top Loin Chop (Bnls)	P	8	85
	Top Loin Roast (Bnls)	P	8	43
	Top Loin Double Roast (Bnls)	P	8	44
SHOULDER	Arm Picnic	P	13	2
	Arm Roast	P	13	3
	Arm Steak	P	13	46
	Blade, Boston	P	13	7
	Blade Steak	P	13	48
SIDE "BELLY"	Fresh Side	P	14	22

RETAIL CUTS CODING (continued)

Primal Cuts	Retail Cut	Species	Primal	Retail
SPARERIBS	Spareribs	P	15	38
VARIETY MEATS	Heart	P	16	87
	Kidney	P	16	88
	Liver	P	16	89
	Tongue	P	16	92
VARIOUS	Cube Steak	P	17	95
	Ground Pork	P	17	97
	Hocks	P	17	98
	Sausage	P	17	99
	Sausage Links	P	17	100
PORK, SMOKED/CURED				
HAM/LEG	Center Slice	P	5	104
	Ham (Bnls)	P	5	105
	Ham (Whole)	P	5	106
	Rump Portion	P	5	112
	Shank Portion	P	5	113
JOWL	Jowl	P	6	108
LOIN	Back Ribs	P	8	101
	Canadian Bacon	P	8	103
	Loin Chop	P	8	109
	Rib Chop	P	8	111
SHOULDER	Picnic (Whole)	P	13	110
SIDE "BELLY"	Slab Bacon	P	14	114
	Sliced Bacon	P	14	115
SPARERIBS	Spareribs	P	15	116
VARIOUS	Hocks	P	17	107

Primal Cuts	Retail Cut	Species	Primal	Retail
LAMB				
BREAST	Breast	L	1	10
	Riblets	L	1	29
LEG	American Style Roast	L	7	1
	Center Slice	L	7	50
	Frenched Style Roast	L	7	21
	Sirloin Chop	L	7	83
	Sirloin Half	L	7	36
	Shank Portion	L	7	32
LOIN	Double Chop	L	8	79
	Loin Chop	L	8	80
	Loin Roast	L	8	25
RIB	Rib Chop	L	10	81
	Rib Chop (Frenched)	L	10	82
	Rib Roast	L	10	28
SHOULDER	Arm Chop	L	13	75
	Blade Chop	L	13	76
	Neck Slice	L	13	55
	Shoulder (Bnls)	L	13	34
	Square Cut (Whole)	L	13	39
VARIETY MEATS	Heart	L	16	87
	Kidney	L	16	88
	Liver	L	16	89
	Tongue	L	16	92

CARCASS YIELD GRADING

	PYG				Rib Eye Area		% KPH		
Carcass NO.	Est.	Adj.	Carcass Weight	Required REA	Est.	Adj.	Est.	Adj.	FYG
1									
2									
3									
4									
5									
6									

Yield Grade 1 (YG1)	Yield Grade 2 (YG2)	Yield Grade 3 (YG3)	Yield Grade 4 (YG4)	Yield Grade 5 (YG5)
High - 1.00 - 1.33	High - 2.00 - 2.33	High - 3.00 - 3.33	High - 4.00 - 4.33	High - 5.00 - 5.33
Avg. - 1.34 - 1.66	Avg. - 2.34 - 2.66	Avg. - 3.34 - 3.66	Avg. - 4.34 - 4.66	Avg. - 5.34 - 5.66
Low - 1.67 - 1.99	Low - 2.67 - 2.99	Low - 3.67 - 3.99	Low - 4.67 - 4.99	Low - 5.67 - 5.99

Place yield grade and corresponding letter (H- High, A-Avg., L-Low) under the column marked Final Yield Grade(FYG). Ten points are allowed for the correct grading of each carcass. A deduction of two points will be made for a one-third grade above or below the official grade; five points will be deducted for two-thirds grade above or below the official grade; eight points will be deducted for one full grade above or below the official grade; ten points will be deducted for more than one full grade above or below the official grade. Perfect score will be sixty points.

CARCASS QUALITY GRADING

	Maturity			
Carcass No.	Bone	Lean	Marbling	Quality Grade
1				
2				
3				
4				
5				
6				

Prime High	Select High	Commercial High
Prime Avg.	Select Low	Commercial Ave.
Prime Low	Standard High.	Commercial Low
Choice High	Standard Low	Utility High
Choice Avg.		Utility Avg.
Choice Low		Utility Low

Place the grade in the space for "Quality Grade." Ten points are allowed for the correct grading of each carcass. A deduction of two points will be made for a one-third grade above or below the official grade; five points will be deducted for two-thirds grade above or below the official grade; eight points will be deducted for one full grade above or below the official grade; ten points will be deducted for more than one full grade above or below the official grade. Perfect score will be sixty points.

Canner and Cutter grades will not be used in the event. Since maturity is a factor between Standard and Commercial grades, carcasses which are close to the borderlines of maturity between these grades are not included in the event. There is not a Commercial grade for the carcasses from young animals; therefore, the spaces given to "Commercial" are not considered when scoring the carcasses from young animals.

Name _____ ID Number _____ Chapter _____ State _____

Select: Species (1 pt): Primal Cut (2 pts); and Retail Name (3pts from the listings below and fill in the column blanks beside the cut number. The score column is for tabulation only. Total - 240 points.

Species - (1 pt) - B-Beef, P-Pork, L-Lamb

PRIMAL CUTS - 2 Points

- | | |
|------------|-------------------|
| 1. Breast | 10. Rib |
| 2. Brisket | 11. Round |
| 3. Chuck | 12. Shank |
| 4. Flank | 13. Shoulder |
| 5. Ham/Leg | 14. Side "Belly" |
| 6. Jowl | 15. Spareribs |
| 7. Leg | 16. Variety Meats |
| 8. Loin | 17. Various Meats |
| 9. Plate | |

**RETAIL NAMES - 3 Points
ROASTS/POT ROASTS**

- | | |
|-----------------------------|----------------------------|
| 1. American Style | 24. Large End |
| 2. Arm Picnic | 25. Loin |
| 3. Arm Roast | 26. Mock Tender |
| 4. Arm Pot Roast (Bnls) | 27. Point Half (Bnls) |
| 5. Back Ribs | 28. Rib |
| 6. Blade | 29. Riblets |
| 7. Blade Boston | 30. Rump Portion |
| 8. Bottom Round (Bnls) | 31. Seven (7) Bone |
| 9. Bottom Round Rump (Bnls) | 32. Shank Portion |
| 10. Breast | 33. Short Ribs |
| 11. Brisket, Whole (Bnls) | 34. Shoulder (Bnls) |
| 12. Center Loin | 35. Sirloin |
| 13. Center Rib | 36. Sirloin Half |
| 14. Chuck Eye Roast (Bnls) | 37. Small End |
| 15. Country Style Ribs | 38. Spareribs |
| 16. Cross Cuts | 39. Square Cut (Whole) |
| 17. Cross Cuts (Bnls) | 40. Tenderloin (Whole) |
| 18. Eye | 41. Tip |
| 19. Eye Round | 42. Tip, Cap Off |
| 20. Flat Half (Bnls) | 43. Top Loin (Bnls) |
| 21. Frenched Style | 44. Top Loin Double (Bnls) |
| 22. Fresh Side | 45. Top Round |
| 23. Heel of Round | |

STEAKS

- | | |
|--------------------|------------------------|
| 46. Arm | 61. Sirloin (Bnls) |
| 47. Arm (Bnls) | 62. Sirloin Cutlets |
| 48. Blade | 63. Skirt (Bnls) |
| 49. Bottom Round | 64. Small End |
| 50. Center Slice | 65. Small End (Bnls) |
| 51. Eye | 66. T-Bone |
| 52. Eye Round | 67. Tenderloin |
| 53. Flank | 68. Tip |
| 54. Mock Tender | 69. Tip, Cap Off |
| 55. Neck Slice | 70. Top Blade (Bnls) |
| 56. Porterhouse | 71. Top Loin |
| 57. Round | 72. Top Loin (Bnls) |
| 58. Round (Bnls) | 73. Top Round |
| 59. Seven (7) Bone | 74. Top Sirloin (Bnls) |
| 60. Sirloin | |

CHOPS

- | | |
|----------------------|---------------------|
| 75. Arm | 81. Rib |
| 76. Blade | 82. Rib (Frenched) |
| 77. Blade (Bnls) | 83. Sirloin |
| 78. Butterfly (Bnls) | 84. Top Loin |
| 79. Double | 85. Top Loin (Bnls) |
| 80. Loin | |

VARIETY MEATS

- | | |
|------------|----------------|
| 87. Heart | 91. Sweetbread |
| 88. Kidney | 92. Tongue |
| 89. Liver | 93. Tripe |
| 90. Oxtail | |

VARIOUS MEATS

- | | |
|-------------------|--------------------|
| 94. Beef for Stew | 98. Hocks |
| 95. Cube Steak | 99. Sausage |
| 96. Ground Beef | 100. Sausage Links |
| 97. Ground Pork | |

SMOKED/CURED MEATS

- | | |
|----------------------|---------------------|
| 101. Back Ribs | 109. Loin Chop |
| 102. Brisket, Corned | 110. Picnic (Whole) |
| 103. Canadian Bacon | 111. Rib Chop |
| 104. Center Slice | 112. Rump Portion |
| 105. Ham (Bnls) | 113. Shank Portion |
| 106. Ham (Whole) | 114. Slab Bacon |
| 107. Hocks | 115. Sliced Bacon |
| 108. Jowl | 116. Spareribs |

CUT #	SPECIES	PRIMAL	RETAIL	SCORE
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				
31.				
32.				
33.				
34.				
35.				
36.				
37.				
38.				
39.				
40.				

21

CHAPTER

NATIONAL FFA

NURSERY/ LANDSCAPE

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. EVENT SCOPE

The Nursery/Landscape Career Development Event includes all aspects of the industry in producing, marketing, utilizing and maintaining landscape plants (woody and herbaceous plants and turf grasses), plus related products, equipment and services including landscape design.

II. EVENT PURPOSE

To stimulate career interest, encourage proficiency development and recognize excellence in students of nursery practices and landscaping through the agricultural education curriculum.

III. OBJECTIVES

PLANT MATERIALS — to demonstrate the ability to identify nursery and landscape plant materials and turf grasses commonly used in the United States.

PLANT DISORDERS — to demonstrate the ability to identify unhealthy plant conditions due to pests, nutritional or physiological disorders and mechanical or chemical injury.

CULTURAL PRACTICES— to demonstrate knowledge of the principles and skills involved in propagation, growth requirements, growing techniques, harvesting, marketing and maintenance of nursery plants and landscape turf.

DESIGN AND CONSTRUCTION— to demonstrate knowledge of the principles and techniques of landscape design and construction.

SUPPLIES AND EQUIPMENT— to demonstrate the ability to identify, select, use and maintain appropriate supplies and equipment for nursery and landscape operations, including equipment and procedures in mechanization and automation.

SAFETY— to demonstrate knowledge of safety practices in nursery and landscape operations.

INTERPERSONAL RELATIONS — to demonstrate skills in oral and written business communications.

MARKETING — to demonstrate understanding of marketing principles and proper sales and service skills.

RECORDS AND REPORTS— to demonstrate the ability to prepare accurate and legible records and reports and to interpret business documents.

IV. RULES OF THE EVENT

1. Under no circumstances will any participant be allowed to touch or handle plant materials or other specimens during the event except as expressly permitted in certain practicums.
2. Coaches may accompany participants to the event site but then must leave the area. At the conclusion of all event components, the superintendent will announce when participants and coaches may enter the competition area to review the materials and organization.

V. EVENT FORMAT

A. Equipment

Materials student must supply — Each participant must have the following individual tools: a clean clipboard, at least two No. 2 pencils, a ball-point or felt-tip pen, a calculator, a 12-inch ruler for use as a straightedge, an architect's scale and an engineer's scale. Calculators used in this event should be battery operated, non-programmable and silent with large keys and large displays. Calculators may have only these functions – addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used

during the event. Additional items allowed but not required include the following: a circle template, a plastic block or stick eraser, a pocket-size dictionary or electronic speller, and a personal hand pruner or knife. Note that landscape symbol templates are not allowed.

B. Team Activity

Phase 1 — (50 points each + 100 team points)

This practicum involves the team members working together towards accomplishing an assignment. It is designed to evaluate individual and group contributions in coordination and cooperation of knowledge, evaluation and decision-making. The team activity has two parts, described below.

1. **Team Preparation** — The team members work as a group in evaluating a landscape or nursery business-type situation (production, service, personnel, or business operations or relations), as in the following examples:
 - a. A landscape plan (new or renovation) with a planting plan, hardscapes (patio, etc.) plan, irrigation system plan, and landscape maintenance plan, with each of the components evaluated to describe them verbally.
 - b. Two landscape plans of the same property to evaluate for making a verbal comparative description and recommendation on which plan is preferred by the team.
 - c. Preparation of a 4 × 5 inch newspaper advertisement (e.g., for the school paper promoting enrollment in the school nursery and landscape program).

The team will have 30 minutes for this preparation part. Notepaper and other supplies, including computer resources that may be appropriate for the situation

will be available. References will not be provided or needed for this preparation part. A judge will be observing and scoring during this time but not interacting with the team. If needed, the team may ask the judge basic questions about the assignment or materials provided.

2. **Team Presentation** — Each of the team members will make a verbal presentation to a judge based on decisions made during the preparation part. For the examples above this might be conducted as follows:
 - a. Each team member separately describes one of the plan components (plants, hardscapes, irrigation and maintenance).
 - b. Positive and negative qualities of Plan A are described by a team member, repeated for Plan B by another, the team recommendation is provided by the third, while the fourth serves as moderator.
 - c. Members separately discuss the audience characteristics, program features considered and selected for promotion, ad layout and ad timing.

The team will have 15 minutes for individual presentations and interaction with the judge. The presentation format is informal and conversational with all seated at a conference table, not a prepared visual-aid speech. Division of the time and organization of the presentations is at the team's discretion. The judge may ask questions of the presenter or other team members during this time. Information will be provided on the judge's role as business client, supervisor or other appropriate party to facilitate the dialogue.

Scoring criteria for the team preparation and presentation portions are given on the "Team Activity" scorecard. Individual components

from both phases have a value of 50 points added to the individual score, while the team components of both phases have a value of 100 points added to the composite team score.

C. Individual Activities

Phase 2 — General Knowledge Examination (150 points)

Fifty objective multiple-choice questions will be prepared on topics reflecting subject areas in the objectives. This phase will evaluate the participant's knowledge and understanding of basic horticultural principles in producing, marketing, using and maintaining landscape plants and turf. Participants are allowed 50 minutes to complete this phase. Each answer has a value of three points. Participants will record their answers on a scanning sheet.

Phase 3 — Identification of Plants, Pests, Disorders, Equipment and Supplies (150 points)

Participants will identify 50 items selected from the provided list covering the following categories:

- Plant Materials
- Pests and Disorders
- Equipment and Supplies

Plants to identify will be presented as intact, live specimens. Equipment may be either an intact item or photograph. Pest and disorder items may be presented as an intact specimen, photograph or preserved specimen (herbarium sheet, insect mount, etc.). When a problem must be presented with an affected plant, a "Disorder" label will be with the item to designate identification of the problem rather than the plant.

Each specimen will be designated by a station number (1-50). When the participant identifies the item, its name is then located on the identification list. The participant then records the

number by that name on a scanning sheet at the respective station number.

Each participant will be provided a copy of the list at the event site. Three points will be awarded for each correct identification, and participants have 50 minutes to complete this event phase.

No specimens or items may be touched or handled in any way.

Phase 4 — Landscape Estimating (100 points)

This practicum is designed to evaluate participant knowledge of and ability in 1) evaluating a landscape design 2) reading a landscape drawing 3) measuring and calculating materials needed to execute a landscape plan 4) evaluating factors that affect profitability of a landscape business.

A landscape drawing and scratch paper will be provided to the participants. There will be 20 objective questions about the landscape plan, and each correct answer has a value of five points. The questions may include such areas as determining how accent was provided in the public area, the form and size specified for a certain plant, the cost of fencing, the number of patio pavers required, the area of sod to be installed, the volume of mulch required and the labor cost to install a ground cover bed. Fifty minutes will be allowed for this practicum. Participants will record their answers using a scanning sheet.

Phase 5 — Landscape Drawing (50 points)

This practicum is designed to evaluate participant knowledge of and ability in applying the tools of landscape design through preparation of a plan drawing. Written information about a property will be given, including such details as lot dimensions and orientation; house size and setbacks; size and location of paving, decking and fencing; and the location, size and type of plant materials to be included. This will be translated into a scale drawing on 8.5 x 11-inch grid paper provided. An objective score sheet specific to the assignment will be used by a judge to evaluate that all compo-

nents are included with appropriate size, location, symbol, and label, for a possible 50 points total. Participants will have 30 minutes to prepare the drawing. Allowed drawing aids are a straightedge, ruler or scale, and circle template along with the pencil, eraser, and calculator. Templates with landscape symbols are not allowed.

Phase 6 – Verbal Customer Assistance (50 points)

This interpersonal relations practicum is designed to evaluate participant knowledge of and ability in 1) verbal communication 2) sales and customer assistance skills 3) preparation of business documents 4) plant materials, plant culture and problems and garden center supplies and equipment.

The participant will assume the role of a customer service representative (garden center or other related business or an educational agency) responding to an assistance need of a customer or client (the judge). Example situations might include, but are not limited to, the following individually or in combination:

Assistance with product purchase and use — from a selection of merchandise and related informational materials provided.

Disorder diagnosis and treatment recommendation — from a sample of the pest or symptoms, photograph, or verbal description (from the list in Phase 3) and selection of specimen labels from common retail-packaged garden chemicals.

Advice on plant selection or culture questions — from informational materials provided.

Assistance with a client complaint or problem — from personnel instructions and procedures provided.

Each participant will be located at a separated station with one minute allotted to review the materials and information provided prior to arrival of the judge. These materials may be handled and referred to as appropriate for the

conversation with the judge. Plants and disorders presented will come from the current list for Phase 3. Tools and supply items, if not on the Phase 3 list, will be appropriately labeled for identification and use. Depending on the situation presented, preparation of a store order form may also be appropriate.

Seven minutes will be allowed for completion of this practicum. Scoring criteria are presented on the “Verbal Customer Assistance” score card, to be recorded by the judge.

Phase 7 — Written Customer Assistance (50 points)

This interpersonal relations practicum has the same objectives as in Phase 6 – Verbal Customer Assistance applied to written communication.

The participant will assume the role of a customer service representative. A copy of correspondence about a plant, landscape or business question will be provided, along with the appropriate response information. Each participant will hand-write in ink pen and in business letter format the response to the writer. Scratch paper will be provided for a rough draft in pencil if desired. Only the final draft in ink on the letterhead stationary provided will be scored.

Thirty minutes will be allowed for this practicum. A pocket-size dictionary or electronic speller is allowed for checking spelling. Scoring criteria are presented on the “Written Customer Assistance” score card, which will be recorded by a judge.

Phase 8 — Nursery Production Practices (50 points)

This practicum is designed to evaluate participant knowledge of and ability in performing fundamental nursery production practices. All participants will perform one of the following exercises. The selected exercise will not be announced prior to the start of the event.

Propagating Nursery Stock — Each participant will be furnished a stock plant, rooting flat and media, rooting powder, a hand pruner and a label and marking pen. (Personal knives or pruners are allowed, if desired.) Participants are to prepare the designated softwood or hardwood cuttings and place them in the media with a single label. Seven minutes will be allowed for making and sticking up to 20 cuttings. An official will observe and score each participant during this practicum. Scoring criteria are presented on the “Propagating Nursery Stock” score card.

Potting Nursery Stock — Each participant will be furnished a supply of plants, nursery containers or pots of appropriate size and media. Hand pruners, a label and a marking pen will also be provided. (Personal pruners are allowed, if desired.) The participants will pot the plants, one per container, using standard nursery practices. Plant division or grading of liners may be involved. One finished container will be labeled. Seven minutes will be allowed for potting up to 10 containers. An official will observe and score each participant during this practicum. Scoring criteria are presented on the “Potting Nursery Stock” score card.

Phase 9 – Assessment and Solution (50 points)

This practicum is designed to evaluate participant knowledge of and ability in 1) assessing the request or problem presented 2) reviewing alternative procedures or courses of action based on individual knowledge or reference information provided 3) deciding on a solution. Possible solutions will be presented in multiple-choice form for the participant to mark on a scanning sheet.

Ten situations will be presented from the following four areas:

Measuring Nursery Stock — One nursery plant will be measured for market size (height, spread or caliper as appropriate) according to the American Standard for Nursery Stock for BR and B&B evergreen and deciduous trees and shrubs. A

caliper and measuring rule will be provided. Plants presented in containers will be assumed as growing in the field, and a label will advise on whether it is to be dug BR or B&B. Cut trunk sections may be presented for larger tree measurement.

Pruning Nursery Stock — One or more nursery plants will be displayed with points marked for possible pruning cuts. No plant will be actually pruned. Participants are to evaluate each labeled point and decide if the plant part should be pruned or not for improvement of the plant's health, form and overall quality. The answer choice then will be the combination of cuts that should be made.

Equipment Maintenance – Tools from the list in Phase 3, a part for a tool and/or an operating manual will be presented with answer choices of possible maintenance needs, corrective actions and/or operating specifications. Examples of possible choices are low oil, uneven height setting, blade needs sharpening, incorrect gas:oil ratio provided or replace broken handle.

Equipment will be placed to allow observing all components in the answer choices without handling the item. If handling should be required, allowance for this will be stated with that answer choice.

Problem Solving — Other situations of nursery and landscape plants, supplies or practices where observation and analysis of the subject and resource materials are involved in a decision-making process. Example situations may include the following:

- According to the sample label provided, a spill of this chemical must be handled by _____?
- From the information provided on these catalog pages, one bag of the designated medium will fill ___pots of the size and shape presented.

- According to the information provided, which plants in this list would likely need a protected site for winter survival in the Indianapolis, Indiana area?

Participants have 10 minutes to complete this phase. Each correct solution has a value of five points.

VI. SCORING

Participant scores are the sum of the nine individual phases of the event, and team scores are the sum of the three highest member scores plus the group portion of the team activity. Possible points are as follows:

Phase	Member	Team
1A. Team Activity – Individual . . .	50	150
1B. Team Activity – Group		100
2. Examination	150	450
3. Identification	150	450
4. Landscape Estimating	100	300
5. Landscape Drawing	50	150
6. Verbal Customer Assistance . . .	50	150
7. Written Customer Assistance . .	50	150
8. Production Practices	50	150
9. Assessment and Solution	50	150
INDIVIDUAL TOTAL . . .	700	2100
TEAM TOTAL		2200

VII. TIEBREAKERS

If needed in the case of tied individual or team total scores, final placings will be determined by comparing, in order, scores for the following:

1. Phase 2 – Written Exam
2. Phase 3 – Identification Section
3. Phase 4 – Landscape Estimating
4. Phase 9 – Assessment & Solution

VIII. AWARDS

Awards will be presented at the awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

In addition to the general awards of the career development events, the top three participants in the following two areas will be specially recognized:

Nursery/Landscape Knowledge and Principles — based on the composite score from Written Exam and Identification section.

Nursery/Landscape Applications — based on the composite score from the seven practicums from the following sections: Team Activity – Individual; Landscape Estimating; Landscape Drawing; Verbal Customer Assistance; Written Customer Assistance; Production Practices; Assessment and Solution.

IX. RECOMMENDED REFERENCES

The following list of references is a guide to team training. Some content areas have more than one title listed. This reflects the wide array of quality references available that will provide a proper foundation for this event. No single reference is recommended as superior over others in that area. However, multiple references for the plant materials may be desirable as no single source is comprehensive for the entire country or plant list. Other references than those listed may be equally valuable resources, along with the many video and computer-based training aids that are available.

Books

Introduction to Horticulture. 4th Edition, 2004. Charles B. Schroeder, Eddie Dean Seagle,

Lorrie M. Felton, John M. Ruter, William Terry Kell, and Gerard Krewer. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0130364134

Introductory Horticulture. 6th Edition, 2002. H. Edward Reiley and Carroll L. Shry, Jr. Delmar Publishers Inc., Albany, NY. ISBN 0766815676

Ornamental Horticulture: Science, Operations and Management. 3rd Edition, 2001. Jack Ingels. Delmar Publishers Inc., Albany, NY. ISBN 0766814173

Introduction to Plant and Soil Science and Technology. 2003. Ronald J. Biondo and Jasper S. Lee. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0813432162

Principles of Plant Science: Environmental Factors and Technology in Growing Plants. 2005. Dennis R. Decoteau. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0130163015

Practical Horticulture. 5th Edition. 2003. Laura W. Rice and Robert P. Rice. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0130946346

Plant Propagation: Principles and Practices. 6th Edition, 1997. Hudson T. Hartmann, Fred T. Davies, Jr., Dale E. Kester, and Robert L. Genieve. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0132061031

Nursery Production - A Teachers Manual. Revised edition, 1989. Department of Agricultural Education, Pennsylvania State University, University Park, PA.

Nursery Management: Administration and Culture. 4th Edition, 2000. Harold Davidson, Roy Mecklenburg, and Curtis Peterson. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0138579962

American Standard for Nursery Stock. 2004. American Association of Nurserymen, Inc., 1250 I St., NE, Suite 500, Washington, DC. (available as pdf file free to nonmembers at <http://www.anla.org>)

Landscape Plants, Their Identification, Culture, and Use. 2nd Edition, 2003. Ferrell M. Bridwell. Delmar Publishers Inc., Albany, NY. ISBN 0766836347

Manual of Woody Landscape Plants. 5th Edition, 1998. Michael A. Dirr. Stipes Publishing Co., Champaign, IL. ISBN 0875638007

Trees for Urban and Suburban Landscapes. 1997. Edward Gilman. Delmar Publishers Inc., Albany, NY. ISBN 0827370539

A Field Guide to Woody Landscape Plants of the Southeast. 2002. Rex Bishop. Tea Olive Productions. Marietta, GA. ISBN 097253430X

Know It and Grow It III: A Guide to the Identification and Use of Landscape Plants. 1999. Carl E. Whitcomb. Lacebark, Inc. Stillwater, OK. ISBN 0961310910

Introduction to Landscaping: Design, Construction, and Maintenance. 3rd Edition. 2003. Ronald J. Biondo and Charles B. Schroeder. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0813431719

Landscaping Principles and Practices. 6th Edition, 2004. Jack Ingels. Delmar Publishers Inc., Albany, NY. ISBN 1401834108

Landscape Design: A Practical Approach. 5th Edition, 2002. Leroy G. Hannebaum. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0130105813

An Illustrated Guide to Landscape Design, Construction, and Management. 1998. Gregory M. Pierceall. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0813430194

Landscaping Construction. 2nd Edition, 2005. David Sauter. Delmar Publishers Inc., Albany, NY. ISBN 140184281X

Landscape Construction Procedures, Techniques, and Design. 4th Edition, 1999. Floyd Giles. Stipes Publishing Co., Champaign, IL. ISBN 0875638848

Landscape Operations: Management, Methods, and Materials. 3rd Edition, 1999. Leroy Hannebaum. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0138569150

Professional Landscape Management. 1994. David L. Hensley. Stipes Publishing Co., Champaign, IL. ISBN 0875635210

Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines. 4th Edition, 2004. Richard W. Harris, James R. Clark, and Nelda P. Matheny. Prentice-Hall, Inc., Englewood Cliffs, NJ. ISBN 0130888826

Turfgrass Science and Management. 3rd Edition, 2000. Robert D. Emmons. Delmar Publishers Inc., Albany, NY. ISBN 076681551X

Turfgrass Management. 7th Edition, 2005. A.J. Turgeon. Prentice-Hall, Inc. Englewood Cliffs, NJ. ISBN 0131140000

Turfgrass Management Handbook. 6th Edition, 2002. Charles B. Schroeder and Howard B. Sprague. Prentice-Hall, Inc. Englewood Cliffs, NJ. ISBN 0813430836

Ortho Problem Solver. 6th Edition, 2003. Michael McKinley (ed.). Meredith Books. Des Moines, IA. ISBN 0897214943

Home Gardener's Problem Solver. 2001. Michael McKinley. Meredith Books. Des Moines, IA. ISBN 0897214706

Insects That Feed on Trees and Shrubs. 2nd Edition, 1991. Wren T. Johnson and Howard H. Lyon. Comstock Publishing Associates, Ithaca, NY. ISBN 0801426022

Diseases of Trees and Shrubs. 1987. Wayne A. Sinclair, Howard H. Lyon, and Warren T. Johnson. Comstock Publishing Associates, Ithaca, NY. ISBN 0801415179

Math for Horticulture. 1994. Ohio Agricultural Education Curriculum Materials Service, The

Ohio State University, Columbus, OH. Item #9512M.

Care and Operation of Small Gasoline Engines. 1990. American Association for Vocational Instructional Materials, Athens, GA. No. 1086W.

Reference Manual for Office Personnel. 6th Edition, 1999. Clifford R. House. South-Western Publishing Co., Cincinnati, OH. ISBN 0538114517

Business Communications. 2004. A.C. Krizon, Patricia Merrier, Carol Jones Larson. South-Western Publishing Co., Cincinnati, OH. ISBN 0324272251

Trade Periodicals

American Nurseryman. American Nurserymen Publishing Co., Chicago, IL

Grounds Maintenance. Primedia, Overland Park, KS.

Catalogs

Many horticultural supply company catalogs can be utilized for reference support on tools, equipment, and supplies that may not be illustrated in other sources. The following company has given permission for listing their catalog:

A.M. Leonard, Inc., 665 Spiker Road, Piqua, OH 45356 (513/773-2697 or <http://www.amleo.com/index1.html>)

Websites and Problem Samples

Visit the National FFA website at <http://www.ffa.org/> for information on career development events, access to prior-year event materials, and links to additional study aids. The Nursery/Landscape CDE committee website at <http://www.hort.vt.edu/faculty/McDaniel/nationalFFA.htm> also offers additional aids for team preparation. Additional links and resources will be included as they are developed or identified, along with the following links of the CDE sponsors:

<http://www.stihlusa.com/knowhow/>

<http://www.kubota.com>

<http://www.arvesta.com/>

Special Note for State Events

No national listings of plant materials and disorders can match perfectly the industry situation in every state due to the wide range of environments across the U.S. Thus, the national event committee recommends that state event coordinators, wherever feasible, modify both sections of the list to serve better their industry and student educational needs.

NURSERY/LANDSCAPE PLANT IDENTIFICATION

Participant Name/Number _____

No.	Botanical Name/Common Name	No.	Botanical Name/Common Name
101	<i>Abelia x grandiflora</i> / Glossy Abelia	128	<i>Dracaena fragrans</i> 'Massangeana' / Corn Plant
102	<i>Abies concolor</i> / White Fir	129	<i>Echinacea purpurea</i> / Purple Coneflower
103	<i>Acer palmatum</i> cv. / Japanese Maple	130	<i>Epipremnum spp.</i> / Pothos
104	<i>Acer platanoides</i> cv. / Norway Maple	131	<i>Euonymus alatus</i> / Winged Euonymus
105	<i>Acer rubrum</i> cv. / Red Maple	132	<i>Euonymus fortunei</i> cv. / Wintercreeper
106	<i>Acer saccharum</i> cv. / Sugar Maple	133	<i>Fagus sylvatica</i> cv. / European Beech
107	<i>Ajuga reptans</i> cv. / Carpet Bugle	134	<i>Festuca spp.</i> and cv / Fescue
108	<i>Antirrhinum majus</i> cv / Snapdragon	135	<i>Ficus benjamina</i> / Benjamin Fig
109	<i>Aquilegia x hybrida</i> cv. / Columbine	136	<i>Ficus elastica</i> 'Decora' / Decora Rubber Plant
110	<i>Amelanchier arborea</i> / Downy Serviceberry	137	<i>Forsythia x intermedia</i> cv. / Border Forsythia
111	<i>Astilbe hybrid</i> cv. / Astilbe	138	<i>Fraxinus americana</i> cv. / White Ash
112	<i>Begonia semperflorens-cultorum</i> / Wax Begonia	139	<i>Gaillardia aristata</i> cv. / Common Blanketflower
113	<i>Berberis x mentorensis</i> / Mentor Barberry	140	<i>Gardenia jasminoides</i> 'Fortuniana' / Common Gardenia
114	<i>Betula nigra</i> / River Birch	141	<i>Ginkgo biloba</i> / Ginkgo, Maidenhair Tree
115	<i>Brassaia actinophylla</i> / Schefflera, Octopus Tree	142	<i>Gleditsia triacanthos inermis</i> cv. / Thornless Honeylocust
116	<i>Buxus microphylla</i> cv. / Littleleaf Boxwood	143	<i>Hedera helix</i> cv. / English Ivy
117	<i>Camellia japonica</i> cv. / Common Camellia	144	<i>Hemerocallis spp.</i> and cv. / Day lily
118	<i>Cedrus atlantica</i> 'Glaucua' / Blue Atlas Cedar	145	<i>Hosta x hybrida</i> cv. / Plaintain Lily
119	<i>Cercis canadensis</i> / Redbud	146	<i>Hydrangea quercifolia</i> / Oakleaf Hydrangea
120	<i>Chaenomeles speciosa</i> cv. / Japanese (Flowering) Quince	147	<i>Ilex cornuta</i> cv. / Chinese Holly
121	<i>Cornus florida</i> cv. / Flowering Dogwood	148	<i>Ilex crenata</i> cv. / Japanese Holly
122	<i>Cotoneaster dammeri</i> / Bearberry Cotoneaster	149	<i>Ilex x meserveae</i> cv. / Meserve Holly
123	<i>Cotoneaster divaricatus</i> / Spreading Cotoneaster	150	<i>Impatiens hybrid</i> cv. / Impatiens
124	<i>Crataegus phaenopyrum</i> / Washington Hawthorn	151	<i>Iris x germanica florentina</i> cv. / Bearded Iris
125	<i>Cynodon dactylon</i> cv / Bermudagrass	152	<i>Juniperus chinensis</i> cv. / Chinese Juniper
126	<i>Dieffenbachia maculata</i> cv. / Spotted Dumb Cane	153	<i>Juniperus horizontalis</i> cv. / Creeping Juniper
127	<i>Dracaena deremensis</i> 'Warneckii' / Striped Dracaena	154	<i>Lagerstroemia indica</i> cv / Crape Myrtle
		155	<i>Leucanthemum x superbum</i> cv. / Shasta Daisy

No.	Botanical Name/Common Name	No.	Botanical Name/Common Name
156	<i>Liquidambar styraciflua</i> / Sweet Gum	187	<i>Prunus laurocerasus</i> cv. / Cherry Laurel
157	<i>Liriodendron tulipifera</i> / Tuliptree	188	<i>Prunus serrulata</i> 'Kwanzan' / Kwanzan Japanese Flowering Cherry
158	<i>Liriope</i> spp. cv. / Lily-Turf	189	<i>Pyracantha coccinea</i> cv. / Firethorn
159	<i>Lobularia maritima</i> / Sweet Alyssum	190	<i>Quercus alba</i> / White Oak
160	<i>Lonicera japonica</i> 'Halliana' / Hall's Japanese Honeysuckle	191	<i>Quercus palustris</i> / Pin Oak
161	<i>Magnolia grandiflora</i> cv. / Southern Magnolia	192	<i>Quercus rubra</i> / Red Oak
162	<i>Magnolia x soulangiana</i> cv. / Chinese (Saucer) Magnolia	193	<i>Rhododendron x catawbiense</i> / Catawba Hybrid Rhododendron
163	<i>Mahonia aquifolia</i> cv. / Oregon Grape	194	<i>Rhododendron Hybrid</i> / Exbury Hybrid Azalea
164	<i>Malus</i> spp. and cv. / Flowering Crabapple	195	<i>Rosa</i> spp. Class Hybrid Tea cv. / Hybrid Tea Rose
165	<i>Myrica pensylvanica</i> / Bayberry	196	<i>Salvia nemorosa</i> cv. / Meadow Sage
166	<i>Nandina domestica</i> / Heavenly Bamboo	197	<i>Sedum spurium</i> cv. / Sedum
167	<i>Narcissus pseudonarcissus</i> cv. / Daffodil	198	<i>Solenostemon scutellarioides</i> / Coleus
168	<i>Nyssa sylvatica</i> / Sour (Black) Gum	199	<i>Sorbus aucuparia</i> / European Mountain Ash
169	<i>Pachysandra terminalis</i> / Japanese Spurge	200	<i>Spiraea x bumalda</i> / Bumalda Spirea
170	<i>Paeonia hybrid</i> cv. / Peony	201	<i>Syringa vulgaris</i> cv. / Common Lilac
171	<i>Parthenocissus tricuspidata</i> / Boston Ivy	202	<i>Tagetes</i> spp. cv. / Marigold
172	<i>Pelargonium x hortorum</i> cv. / Zonal Geranium	203	<i>Taxodium distichum</i> / Bald Cypress
173	<i>Pennisetum ruppelia</i> / Fountain Grass	204	<i>Taxus</i> spp. and cv. / Yew
174	<i>Petunia x hybrida</i> cv. / Petunia	205	<i>Thuja occidentalis</i> cv. / American Arborvitae
175	<i>Philodendron scandens oxycardium</i> / Heartleaf Philodendron	206	<i>Tilia cordata</i> / Littleleaf Linden
176	<i>Picea abies</i> / Norway Spruce	207	<i>Tsuga canadensis</i> / Canadian Hemlock
177	<i>Picea pungens</i> cv. / Colorado (Blue) Spruce	208	<i>Tulipa</i> spp. cv. / Tulip
178	<i>Pieris japonica</i> / Lily-of-the-Valley Bush	209	<i>Verbena x hybrida</i> cv. / Garden Verbena
179	<i>Pinus mugo</i> / Mugo Pine	210	<i>Viburnum x burkwoodii</i> / Burkwood Viburnum
180	<i>Pinus strobus</i> / Eastern White Pine	211	<i>Viburnum trilobum</i> / American Cranberrybush Viburnum
181	<i>Pinus sylvestris</i> / Scotch Pine	212	<i>Vinca minor</i> cv. / Periwinkle
182	<i>Pinus thunbergiana</i> / Japanese Black Pine	213	<i>Viola x wittrockiana</i> cv. / Pansy
183	<i>Platanus x acerifolia</i> / London Planetree	214	<i>Wisteria sinensis</i> cv. / Chinese Wisteria
184	<i>Poa pratensis</i> cv Kentucky Bluegrass	215	<i>Yucca filamentosa</i> / Adam's Needle
185	<i>Podocarpus macrophyllus</i> / Southern Yew	216	<i>Zinnia elegans</i> / Zinnia
186	<i>Potentilla fruticosa</i> cv. / Shrubby Cinquefoil		

NURSERY/LANDSCAPE PESTS AND DISORDERS IDENTIFICATION

No.	Item Name	No.	Item Name	No.	Item Name
Insects		230	Botrytis	244	Nutsedge
217	Aphid	231	Canker	245	Oxalis
218	Bagworm	232	Cedar-Apple Rust	246	Purslane
219	Borer	233	Crown Gall	247	White Clover
220	Leafhopper	234	Fireblight	Physiological Problems	
221	Leaf Miner	235	Powdery Mildew	248	Frost/Freeze Injury
222	Scale	236	Root Rot	249	Iron Deficiency
223	Spider Mite	Weeds		250	Leaf Scorch (drought/ winter burn)
224	Snail/Slug	237	Annual Bluegrass	251	Nitrogen Deficiency
225	Whitefly	238	Broadleaf Plantain	252	Pot-bound roots
226	White Grub	239	Buckhorn Plantain	253	String Trimmer Injury
Diseases		240	Chickweed	254	2,4-D Injury
227	Anthraxnose	241	Crabgrass		
228	Apple Scab	242	Dandelion		
229	Black Spot	243	Henbit		

NURSERY/LANDSCAPE EQUIPMENT AND SUPPLIES IDENTIFICATION

No.	Item Name	No.	Item Name	No.	Item Name
255	anvil-and-blade pruner	275	edger (power or hand)	294	hose-end repair fitting
256	architect's scale	276	edging	295	hose-end sprayer
257	ball cart (B&B truck)	277	engineer's scale	296	hose-end washer
258	bark mulch	278	erosion netting	297	hose repair coupling
259	bark medium	279	fertilizer tablet	298	impulse sprinkler
260	bow saw	280	galvanized pipe	299	landscape fabric
261	brick paver	281	garden (spading) fork	300	leaf rake
262	broadcast (cyclone)	282	garden (bow) rake	301	loppers
	spreader	283	gas mask	302	mattock
263	bubbler head, irrigation	284	grafting band	303	measuring wheel
264	bulb planter	285	grafting tool	304	mist nozzle (mist bed)
265	burlap	286	granular fertilizer	305	mower blade balancer
266	chaps	287	gravity (drop) spreader	306	nursery container
267	compressed air sprayer	288	grass shears	307	oscillating sprinkler
268	core aerifier	289	ground/pelleted	308	peat moss
269	chain saw		limestone	309	pick axe
270	cut-off machine	290	hearing protection	310	planting/earth/soil auger
271	drip emitter, irrigation	291	hedge shears	311	planting bar
272	dry-lock wall block	292	hoe	312	pole pruner
273	duster	293	hook-and-blade pruners	313	polyethylene film
274	dust mask				

No.	Item Name	No.	Item Name	No.	Item Name
314	polyethylene pipe	327	rototiller	342	square point (flat) shovel
315	pop-up irrigation head	328	round point shovel	343	string trimmer
316	post-hole digger	329	safety goggles	344	tape measure
317	power blower	330	sand	345	timeclock
318	power hedge trimmer	331	scoop shovel	346	topsoil
319	pot-in-pot units	332	shade fabric	347	tree caliper
320	propagation mat	333	sharpening stone	348	tree wrap
321	pruning saw	334	siphon proportioner	349	trowel
322	PVC (polyvinylchloride) pipe	335	soaker hose	350	T-square
323	reel mower	336	soil sampling tube	351	vermiculite
324	resin-coated fertilizer	337	solenoid valve	352	vertical mower
325	respirator	338	spade	353	water breaker
326	rotary mower	339	spark plug gap gauge	354	wire tree basket
		340	sphagnum moss		
		341	spray suit		

Nursery/Landscape

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

POTTING NURSERY STOCK PRACTICUM SCORECARD

	POSSIBLE POINTS	MEMBER SCORE
POTTING PROCESS (35 POINTS)		
PREPARATION OF PLANTS		
<ul style="list-style-type: none"> Plants selected for quality and uniformity Inspects/prunes/grooms damaged parts Prunes excess root length Handles plants properly 	10	
PLACEMENT OF PLANTS IN CONTAINERS		
<ul style="list-style-type: none"> Plant centered and vertical Roots carefully and properly spread Plant at proper depth Plant roots covered 	10	
MEDIA FILLING AND SETTLING		
<ul style="list-style-type: none"> Sufficient media added Media settled by bumping Plant remains stable 	10	
LABELING OF COMPLETED UNITS		
<ul style="list-style-type: none"> Plant (variety) name and date Legible 	2	
SAFETY PRACTICES APPLIED		
<ul style="list-style-type: none"> Proper cutting technique Tool closed when finished Minimal clutter/good organization in work area 	3	
POTTING PRODUCTIVITY (15 POINTS)		
NUMBER OF UNITS COMPLETED _____	10	
QUALITY OF UNITS COMPLETED		
<ul style="list-style-type: none"> Overall quality and uniformity of lot 	5	
TOTAL POINTS (50 POINTS)		

Judge's Name

Judge's Signature/Date

Nursery/Landscape

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

PROPAGATING NURSERY STOCK PRACTICUM SCORECARD

	POSSIBLE POINTS	MEMBER SCORE
PROPAGATION PROCESS (35 POINTS)		
REMOVAL OF CUTTINGS		
<ul style="list-style-type: none"> • Selects best quality, uniform stock • Cuts at appropriate lengths • Makes clean cuts 	5	
PREPARATION OF CUTTINGS		
<ul style="list-style-type: none"> • Leaves stripped/trimmed/groomed as needed • Proximity of cuts to nodes • Angled or wounded basal cut • Cutting/buds not damaged 	10	
APPLICATION OF PROPER HORMONE		
<ul style="list-style-type: none"> • Sufficient applied and excess removed • Hormone kept clean 	7	
PLACEMENT OF CUTTINGS IN MEDIA		
<ul style="list-style-type: none"> • Proper medium depth, as applicable • Media furrow cut and closed • Proper sticking depth • Efficient row and cutting spacing 	8	
LABELING OF COMPLETED UNITS		
<ul style="list-style-type: none"> • Plant (variety) name, date, treatment • Legible 	2	
SAFETY PRACTICES APPLIED		
<ul style="list-style-type: none"> • Proper cutting technique • Tool closed when finished • Minimal clutter in work area 	3	
POTTING PRODUCTIVITY (15 POINTS)		
NUMBER OF UNITS COMPLETED	10	
QUALITY OF UNITS COMPLETED		
<ul style="list-style-type: none"> • Uniform size and placement • Cuttings stable in media 	5	
Total Points	(50 points)	

Judge's Name

Judge's Signature/Date

Nursery/Landscape

Name: _____

Chapter: _____

State: _____

Team No.: _____

Member No.: _____

TEAM ACTIVITY SCORECARD

TEAM PREPARATION	INDIVIDUAL POSSIBLE SCORE	1	2	3	4	TEAM	ACTUAL TEAM SCORE
• Team leadership roles established/evident							(10)
• Project assignment and goal defined						(10)	
• Member responsibilities outlined and defined						(10)	
• Members effective in individual tasks	(10 pts each)						
• Members supportive of each other	(10 pts each)						
• Members interact in positive/constructive way	(10 pts each)						
Sub-Total (A)	(30 possible)						
• Agreement reached on individual evaluation						(10)	
• Presentation plan developed (who does what/when)						(10)	
Sub-Total (B)						(50)	
TEAM PRESENTATION	INDIVIDUAL POSSIBLE SCORE	1	2	3	4	TEAM	ACTUAL SCORE
• Positive voice, grammar, eye contact	(5 pts each)						
• Effective organization of information	(5 pts each)						
• Effective communication of information	(5 pts each)						
• Demonstrates knowledge of subject	(5 pts each)						
Sub-Total (C)	(20 possible)						
• Effective team interaction during presentations						(15)	
• Appropriate participation from each team member						(15)	
• Effective total team presentation						(10)	
• Team Assignments fulfilled						(10)	
Sub-Total (D)							
Total Team Member Points (A + C)	(50 possible)						

Judge's Name, section A & B

Signature/Date

Nursery/Landscape

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

VERBAL CUSTOMER ASSISTANCE PRACTICUM SCORECARD

	POSSIBLE POINTS	MEMBER SCORE
CONVERSATION (35 POINTS)		
APPROACH		
<ul style="list-style-type: none"> Effective greeting and offer to help Positive, enthusiastic; not hesitant 	4	
PERSONALITY		
<ul style="list-style-type: none"> Pleasant, friendly manner Not pushy in selling 	7	
VOICE		
<ul style="list-style-type: none"> Easy to hear and understand Proper grammar used; good speaking form 	7	
INFORMATION REQUESTED FROM CUSTOMER		
<ul style="list-style-type: none"> Determines assistance needs Effectively ask details/preferences 	7	
SALESMANSHIP		
<ul style="list-style-type: none"> Effective; tries to expand sale Develops customer confidence in product/service 	7	
CLOSING		
<ul style="list-style-type: none"> Repeats order, handles payment (as applicable) Asks if instructions understood Thank you close 	3	
PRODUCT/PROBLEM/PROCEDURE PRESENTATION * (15 POINTS)		
CORRECT PRODUCT/PROCEDURE/SELECTIONS	6	
CORRECT PRODUCT/PROBLEM INFORMATION PROVIDED	6	
CLARITY OF INFORMATION PROVIDED TO CUSTOMER	3	
Total Points	(50 points)	

* Includes, as applicable, evaluation of order form for completeness, spelling and arithmetic accuracy, clarity.

Judge's Name

Judge's Signature/Date

Nursery/Landscape

Name: _____ Chapter: _____

State: _____ Team No.: _____

Member No.: _____

WRITTEN CUSTOMER ASSISTANCE PRACTICUM SCORECARD

	POSSIBLE POINTS	MEMBER SCORE
<i>Customer Relations</i> <ul style="list-style-type: none"> Does the letter create/maintain goodwill (is it free of negative words that create an unpleasant tinge)? Is the tone appropriate for the letter purpose? Does the letter emphasize reader (you) rather than writer (I)? Is the tone and reading level appropriate for reader? 	10	
<i>Business Letter Form</i> <ul style="list-style-type: none"> Is the letter written in acceptable business format including the date, inside address, salutation, body, complimentary close, signature and additional data (pc, enclosure, etc.)? 	10	
<i>Organization</i> <ul style="list-style-type: none"> Is the content organized in logical, coherent order? Is the letter properly divided into paragraphs with topic sentences? Is the letter divided into sentences which clearly convey key points? Does the letter use short conversational words? 	10	
<i>Technical Information</i> <ul style="list-style-type: none"> Is the technical information provided in letter correct? Is the information provided in simple, clear, concise manner? Does the letter relate directly to the inquiry? 	10	
<i>Grammar/Punctuation</i> <ul style="list-style-type: none"> Is the letter free of grammatical errors and misspelled words? 	10	
Total Score:	50	
<i>Deductions(i.e., Rules Infractions, Missing Content)</i>		()
Grand Total:		

*Judge's Name*_____
Judge's Signature/Date

22 CHAPTER

NATIONAL FFA

PARLIAMENTARY PROCEDURE

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The purpose of the Parliamentary Procedure Career Development Event is to encourage students to learn to effectively participate in a business meeting and to assist in the development of their leadership skills.

II. OBJECTIVES

Students will be able to:

1. Use parliamentary procedure to conduct an orderly and efficient meeting.
2. Demonstrate knowledge of parliamentary law.
3. Present a logical, realistic and convincing debate on motions.
4. Record complete and accurate minutes.

III. EVENT RULES

1. Team Make-up- A team representing a state will consist of six members from the same chapter.

2. The event is open to one team per state as certified by the State Supervisor to the Education Division Program Manager responsible for National Career Development Events.
3. The event will have four phases: A written examinations, a ten minute team presentation of parliamentary procedure, oral questions following the presentation and minutes prepared by the team secretary in consultation with the team chair.
4. The advisor shall not consult with the team after beginning the event.
5. Official FFA dress is highly recommended for participation in the parliamentary procedure career development event. Official FFA dress is required for the awards banquet.

IV. EVENT FORMAT

A. Equipment

Materials student must provide- Each participant must bring a minimum of two sharpened No. 2 pencils.

A gavel will be supplied for the President. Teams may choose to use their own gavel if they so desire.

B. Team Activity

Presentation (750 points)

1. Rounds

The national event will have three rounds: a preliminary round, a semi-final round and a final round. The preliminary round will have four to six sections. A section shall be made up of six to nine teams. Two teams from each of the sections, for a total of twelve teams will advance to the semi-final round. The semi-final round is composed of two sections with six teams in each section. Two teams in each semi-final section will advance to the final round of four teams.

2. Seeding Process

Teams will be placed into preliminary and semi-final rounds based on a procedure determined by the officials in charge of the event.

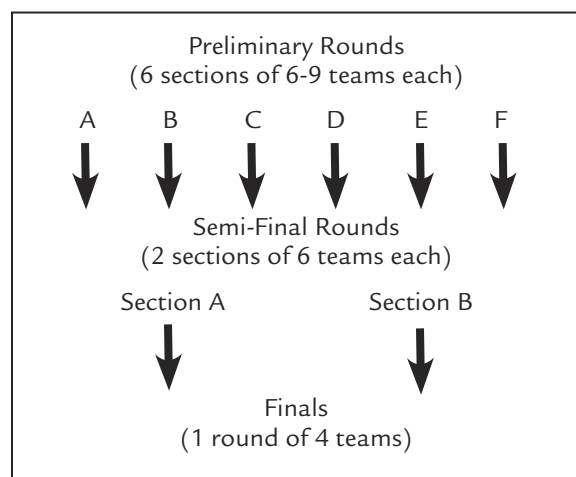
3. Item of Business

Each team will address a local chapter item of business, which would normally be a part of a chapter's Program of Activities (e.g., Food for America, PALS, GLOBAL, fundraisers, recreation, etc.) Consult the Official FFA Manual and Student Handbook for specific activities. The motion will be specific and must be moved as an original main motion as it is written on the card.

4. Event Card

The event officials will select two subsidiary, two incidental and one privileged motion or a motion that brings a question again before the assembly from the list of permissible motions. These motions will be on an index card and one will be randomly assigned to each team member, except the chair. All teams in each section will be assigned the same motions. Team members will have one minute to review the main motion, the motions to be demonstrated and to identify his/her motion (which may be noted by bolding, underlining or highlighting). Members may not confer during the one-minute time period or during the demonstration.

TEAM PROGRESSION CHART



SAMPLE CARD

Main Motion:

I move that our chapter sell citrus as a fundraiser.

Required Motions:

Lay on the Table

Amend

Suspend the Rules

Appeal

Reconsider

5. Opening the Demonstration

The team demonstrating should assume that a regular chapter meeting is in progress and new business is being handled on the agenda. The Chair shall tap the gavel once to signify the end of the previous item of business then start the presentation by saying, "Is there any new business that should be presented at this time?" A team member should then move the assigned main motion as written on the card.

6. Original Main Motion

The event official will assign the original main motion on an index card. This is to be the first item of business presented. All teams in each section will use the same main motion. This original main motion must be the first motion presented, unless orders of the day, take from the table, reconsider or rescind are required.

7. Alternative Main Motion

An alternate main motion not pertaining to the assigned main motion may be used to facilitate the correct demonstration of the motion, "Call for the orders of the day," should that privileged motion be designated as one to be demonstrated by the officials in charge. If an alternative main motion is used, the member will

NOT be given credit for an additional motion.

8. Take from the Table

If the officials in charge designate Take from the Table as a motion to be demonstrated, you should assume that you would take from the table a motion that was laid on the table earlier in the present meeting. Example: "I move to take from the table the motion to hold an FFA hayride." The original main motion, assigned on the card, cannot be taken from the table. The motion should not be used unless it is a required motion.

9. Reconsider

If the officials in charge designate Reconsider as a motion to be demonstrated, you should assume that you would reconsider a motion you did earlier in the present meeting. Example: "I move to reconsider the motion adopted earlier to hold an FFA hayride." This motion should not be used unless it is a required motion. Unrealistic or canned debate on the motion to reconsider may be penalized at the judges discretion.

10. Rescind

If the officials in charge designate Rescind as a motion to be demonstrated, you should assume that you would rescind a motion adopted at the last meeting. Example: "I move to rescind the motion that was adopted at our last meeting to hold an FFA hayride." This motion should not be used unless it is a required motion. Unrealistic or canned debate on the motion to rescind may be penalized at the judges' discretion.

11. Call for the Orders of the Day

If the event officials designate Call for the Orders of the Day as a motion to be demonstrated, you may use an alternative main motion not pertaining to the assigned main motion to facilitate the correct demonstration of the motion. If an alternative main motion is used, the member will not be given credit for an additional motion.

12. Number of Motions

There shall be no limitation to the number of subsidiary, incidental, privileged motions or a motion that brings a question again before the assembly demonstrated by the team. However, the team must demonstrate two subsidiary, two incidental and one privileged or a motion which brings a question again before the assembly designated by the officials in charge. The team may use more than one original main motion as long as it pertains to the assigned main motion. While acceptable, this practice is strongly discouraged.

13. Using a Motion Twice

A member's required motion will not be counted as an additional motion for another member. The person who makes the assigned original main motion will be given credit for an additional motion (20 pts). If an alternative main motion is used, the member will NOT be given credit for an additional motion.

14. Debate

The top four debates per member will be tabulated in the presentation score. No more than two debates per member per motion will be tabulated, even if the subsidiary motion to extend the limits of debate has been adopted.

15. Time Limit and Deductions

A team shall be allowed 10 minutes in which to demonstrate knowledge of parliamentary law. Thirty (30) seconds past 10 minutes will be allowed without penalty. A deduction of 2 points/second for every second over 10:30 will be assessed. Example: 10:35 =10 point deduction. A timekeeper will furnish the time used by each team at the close of the event.

Oral Questions (100 points)

Individual Questions

The team members (not including the chair) will be asked a planned question, which may include 1-3 parts, relating to their assigned motion. No one may step forward to help another member answer their individual question. The Chair will be asked a question relating to presiding, debate, assigning the floor or other general parliamentary procedures.

General Questions

The judges will have three minutes to ask general questions to clarify the team's demonstration. Questions may be directed to the team or an individual member. Team members may volunteer to answer the question for the team or to help another member.

Presentation Minutes (50 points)

Each team will have a secretary take minutes of the presentation. A possible score of 50 points will be allowed for the minutes. Pencil and paper will be supplied to take notes during the presentation. **If paper and pencil are not present it is the secretary's responsibility to request these items from the judges or event officials. Following the presentation, the secretary, in consultation with the president, will have 20 minutes to prepare the official minutes.** Notes taken by the secretary during the presentation must be turned in with the official copy of the

minutes on Form 1. (The lowest possible score for the section is zero (0).) Event officials shall use Form 3 to score the official minutes of the presentation.

Instructions on Minutes

1. Use the example of proper minutes as illustrated in the Official FFA Secretary's Book and/or outlined in *Robert's Rules of Order* Newly Revised.
2. A dictionary will be permitted for writing the official minutes of the presentation.
3. The minutes will begin by recording the first item of business presented. Opening ceremonies and other preliminary information will not be used. Example: "It was moved by John Smith to conduct a Food for America program during the month of April."
4. The chair and the secretary may consult in preparing the official minutes of the presentation. A total of 20 minutes will be allowed to prepare the minutes.
5. A judge will read, review and grade the official minutes of the presentation after completion of each round of the event. The scores will be provided to the presentation judges for use in computing final scores.

C. Individual Activity

Written Test (100 points)

A written test will consist of 25 objective-type multiple choice questions covering basic parliamentary law and information pertaining to minutes. Thirty minutes will be allowed to complete the test. Each participant may score a maximum of 100 points. The average score of the six-team members will be used to compute the total team score in each round.

V. SCORING

A. Guidelines for Scoring Debate

1. It is essential that each judge observes and maintains consistent criteria in scoring debate for the duration of the event.
2. Judges must overlook personal opinions and beliefs and score debate in an unbiased manner. All debate should be scored at the time it is delivered.
3. Characteristics of effective debate include a) completeness of thought, b) logical reasoning, c) clear statement of speaker's position, d) conviction of delivery and e) concise and effective statement of debate.
4. A suggested grading scale is as follows:

Excellent	16–20 points
Good	11–15 points
Average	6–10 points
Poor	0–5 points

5. An excellent debate would be extremely unusual and would be characterized by a truly stirring delivery and brilliant in terms of information provided and/or suggestions for action offered. Poor debate would be characterized by a lack of effective delivery, poor grammar, reasoning and substance. An example might be: "I think this is a good idea."
6. Most debate would fall in the range of 6–15 points. An example of a debate might be: "I think this is a very significant motion which should be adopted for the following reasons (new, informative and logically related)." Each debate should have a logical conclusion. Good debate would be characterized by effective delivery, substance, creative and visionary thought delivered in a convincing and compelling manner.

7. Each time a participant in the presentation debates any motion, they may earn a score. However, an individual may never earn more than 60 points in a given presentation. Furthermore, no more than 20 points may be earned during one recognition by the chair.
8. The top four debates per member will be tabulated in the presentation score. No more than two debates per member per motion will be tabulated.

B. Guidelines for Scoring the Chair

1. Ability to preside – handling of motions, keeping members informed, use of the gavel, distribution of discussion. (80 points)
2. Leadership – stage presence, poise, self-confidence, politeness and voice. (20 points)

The judges will use Form 2 to score the event. The top four teams will be ranked based on the judges' lowest combined rank. The remaining teams will be designated gold, silver or bronze awards.

SCORING

Phase	Breakdown of Points	Section Points	Total Points
Written Test (average of 6 members scores).....			100
Presentation . .			750
Total of 5 members on the floor.....	500		
Required motion	20		
Debate (max. of 4 debates @ 20 pts. each)	60		
Additional motion	20		
Chair	100		
Ability to preside	80		
Leadership	20		
Team's General Effect.....	150		
Conclusions Reached by Team	50		
(Team's use of motions and debate support disposal of the main motion)			
Team Effect (Degree to which debate	50		
was convincing, logical, realistic, orderly, and efficient)			
Team's voice, poise, expression and appearance	50		
Oral Questions.....			100
Total for members' questions (6 × 12 pts)	72		
Additional clarification questions	28		
Presentation Minutes			50
Completeness and accuracy	25		
Format.....	10		
Grammar, style, legibility	15		
Deductions			
Deductions for parliamentary mistakes	5–20 pts/minor mistake		
Deductions for omitting assigned motion.	50		
Deductions for going overtime	2 pts. /second over 10:30		
TOTAL			1000

VI. TIEBREAKERS

Tiebreakers for teams will be:

1. the total presentation score
2. the team's average score on the written test
3. the total score for oral questions

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams and individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

Each state will be provided a plaque for their state winning team. The first place national team will be presented a trophy plaque. Each member of the first place team will be presented an individual team member plaque. A national gold plaque and individual medals will be presented to the top 12 teams competing in the event; silver plaques and individual medals to the middle 18; and remaining teams and individuals competing will receive bronze. The top four teams will each receive a designated gold plaque.

Scholarships may be awarded as funded by special project sponsors. Collegiate scholarships awarded to FFA members competing at or above the local level in parliamentary procedure events may be available.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

The official text will be the latest edition of *Robert's Rules of Order Newly Revised*.

Additional parliamentary procedure resources, The Core Catalog from National FFA Organization at www.ffaunlimited.org. Go to "The Core", the new name of education resource offerings, and look for the link to other instructional aids and materials.

Parliamentary Procedure Oral Questions (reference for oral questions) Manual of Parliamentary Procedure Test Questions. (reference for written exam) from Parliamentary Procedure Instructional Materials Center: Shane Dunbar, (425) 337-9307; 12731 25th Ave. S.E.; Everett, Washington 98208.

Additional references may include *FFA New Horizons* magazine, the Official FFA Manual, the FFA Student Handbook and the Official Chapter Secretary's Book.

CHART OF PERMISSIBLE MOTIONS FOR THE NATIONAL FFA PARLIAMENTARY PROCEDURE CAREER DEVELOPMENT EVENT

Motion	Second Required	Debatable	Amendable	Vote Required	Reconsider
Privileged Motions					
Fix the Time to Which to Adjourn	Yes	No	Yes	Majority	Yes
Adjourn	Yes	No	No	Majority	No
Recess	Yes	No	Yes	Majority	No
Raise a Question of Privilege	No	No	No	Chair Grants	No
Call for the Orders of the Day	No	No	No	No vote, demand	No
Subsidiary Motions					
Lay on the Table	Yes	No	No	Majority	Neg only (3)
Previous Question	Yes	No	No	2/3	Yes
Limit or Extend Limits of Debate	Yes	No	Yes	2/3	Yes
Postpone to a Certain Time (or Definitely)	Yes	Yes	Yes	Majority	Yes
Commit or Refer	Yes	Yes	Yes	Majority	Yes
Amend	Yes	Yes (1)	Yes	Majority	Yes
Postpone Indefinitely	Yes	Yes	No	Majority	Affirm. Only
Main Motion	Yes	Yes	Yes	Majority	Yes
Incidental Motions					
Appeal	Yes	Yes (1)	No	Majority	Yes
Division of the Assembly	No	No	No	No vote, demand	No
Division of a Question	Yes	No	Yes	Majority	No
Objection to the Consideration of a Question	No	No	No	2/3	Neg. Only
Parliamentary Inquiry	No	No	No	Chair answers	No
Point of Order	No	No	No	Normally no vote Chair rules	No
Suspend the Rules	Yes	No	No	(2)	No
Withdraw a Motion	No (3)	No	No	Majority (3)	Neg. Only
Motions That Bring A Question Again Before The Assembly					
Reconsider (4)	Yes	Yes (1)	No	Majority	No
Rescind (4)	Yes	Yes	Yes	Maj. with notice, 2/3, or maj. of membership (3)	Neg. only
Take from the Table (4)	Yes	No	No	Majority	No

(1) If applied to a debatable motion

(2) Rules of Order 2/3 vote, standing rules - majority vote

(3) Refer to Robert's Rules of Order Newly Revised (10th edition) for rule(s)

(4) Refer to CDE rules #8-10 before using these motions in the demonstration

Parliamentary Procedure Form 1

Chapter: _____ Date: _____

State: _____ Place: _____

NATIONAL PARLIAMENTARY PROCEDURE EVENT

Official Minutes

Chair's Signature: _____ Secretary's Signature: _____

Add Additional Pages if Needed

Parliamentary Procedure Form 3

Chapter: _____ Team No.: _____

State: _____

TABULATION SHEET FOR SCORING MINUTES

	POSSIBLE POINTS	POINTS EARNED
Completeness and Accuracy <ul style="list-style-type: none"> Minutes accurately reflect all business transacted during presentation. 	25	
Format of Minutes <ul style="list-style-type: none"> Chapter Name State Name Date Place Signatures 	10	
Grammar, Style and Legibility <ul style="list-style-type: none"> Complete Sentences [0-5 pts] Correct Spelling [deduct 1 pt/mistake] Correct Punctuation [deduct 1 pt/mistake] Legibility/Clarity [0-10 pts] 	15	
Total Score:	50	

Judge's Name: _____ Signature/Date: _____

National FFA Parliamentary Procedure CDE Form 2 Team Score Sheet

Chapter: _____ State: _____ Team No.: _____

Participants	Required Motion [20 pts. max/ member]	Debate [60 pts. max/member] [20 pts. max/ debate]	Additional Motion [20 pts. max/ member]	Individual Questions [12 pts. max/ member]	Individual Total 112 pts. max/ member
1					
2					
3					
4					
5					
Chair	Chair's Question ~ [12 points maximum]				
	Ability to Preside ~ handling of motions, keeping members informed, use of the gavel, distribution of debate. [80 points maximum]				
	Leadership ~ stage presence, poise, self-confidence, politeness and voice [20 points maximum]				
Team's General Effect	Conclusions Reached by Team ~ [50 points maximum]				
	Team Effect ~ [50 points maximum]				
General Questions	Team's voice, poise, expression and appearance ~ [50 points maximum]				
Written Test	Questions for clarification of the presentation [28 points maximum]				
	Average of the six individual test scores [100 points maximum]				
Secretary Minutes	Score for presentation minutes ~ [50 points maximum]				
	Subtotal				
Deductions	Deductions for parliamentary mistakes ~ [5 to 20 points per mistake] [omitting assigned motion - 50 points]				
	Deductions for overtime ~ [2 pts./second over 10:30]				
Total Team Score					

Judge's Name: _____ Signature/Date: _____

23

CHAPTER

NATIONAL FFA POULTRY EVALUATION

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The National FFA Poultry Evaluation Career Development Event stimulates learning activities relative to production and management, processing, marketing and consumption of poultry products.

II.-OBJECTIVES

The National FFA Poultry Evaluation Career Development Event provides opportunities for the participant to:

- make accurate observations and logical decisions.
- discuss and justify decisions (orally and written).
- communicate industry and product terminology.
- promote USDA standards of product quality.

- identify consumer preferences for products.
- recognize economic importance of value-added products.
- collaborate with others for solutions to industry problems.
- demonstrate the use of appropriate information technology used in the poultry industry.

Specifically, participants will:

- evaluate and select live meat-type chickens for broiler breeding purposes and orally defend the selection.
- evaluate and place live egg-type hens and orally defend the selection.
- evaluate and grade ready-to-cook carcasses and parts of chickens and turkeys.

- evaluate, grade and place ready-to-cook carcasses of turkeys and orally defend the placing.
 - evaluate and grade individual shell eggs for interior quality.
 - evaluate and grade individual shell eggs for exterior quality and indicate factors governing the grading.
 - evaluate further-processed poultry meat products (e.g., precooked, coated chicken meat patties, tenders, nuggets or wings) and indicate factors governing the grading.
 - identify poultry carcass parts.
 - complete a written examination on poultry production and management.
 - perform a team activity related to poultry science.
5. Each team will report to the event superintendent for instructions at the specified time and place listed in the current year's team orientation packet. No participant, coach or advisor may enter the event area before the specified time.
 6. Participants will have ten minutes per class to complete Classes 1 through 11. An appropriate amount of time, as determined by the event officials, will be provided for Classes 12 and 13. A warning signal will inform the participants when time expires for each class. Participants will have one minute to move from class to class.
 7. A reliable technique will be used to identify the poultry and poultry products in the placing, selection, grading and identification classes.

III. EVENT RULES

1. **Team Make-up:** Teams may consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team. Teams that have fewer than three members are not eligible for team awards, but students may receive individual awards.
2. **Humane Treatment of Live Animals:** All live animals must be treated with the utmost care and respect. Violation of this rule will automatically disqualify an offending team member from the event. The supervision, interpretation and enforcement of this rule will be the responsibility of the event superintendent and/or his/her designee.
4. Each team will receive computer scan sheets during the National FFA Poultry Career Development Event team orientation meeting.

IV. EVENT FORMAT

A. Equipment

Materials provided by the student:

Each participant must have two (2) clean, sharpened No. 2 pencils and an electronic calculator. Calculators permissible for use in this event are those that are battery operated, non-programmable and silent.

A calculator may have the following functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. Calculators that are capable of storing equations, definitions and/or terms are not permitted. Participant use of unauthorized electronic devices will result in disqualification.

Materials provided by the event officials:

Participants will be provided a clipboard for the purpose of providing a "backing" and protection while completing the event scan

sheet and for storage of the scan sheet during the event. No other containers or devices (e.g., student provided clipboards, folders or envelopes) will be permitted for participant use during the event. In addition, participants will be provided a standard form (“Official Notes of National FFA Poultry Career Development Event Placings/Grades”) for recording decisions made during the event. This document will serve as a participant’s personal record of decisions made during the event. **NO OTHER MATERIALS** will be permitted. Participants attempting to use unauthorized materials will be disqualified.

B. Team Activity

The team activity and written examination will be administered at the beginning of the event. For the team activity, all members of a team will work collaboratively to perform an activity related to poultry science. Team members will observe **and/or** be provided information about a poultry industry situation or problem scenario. Then, team members will answer 15 questions related to the information gained from the situation/ scenario and from reference material studied in preparation for the career development event. The team activity may require participants to use information technology that is appropriate for the poultry industry (e.g., computers, software applications, Internet resources and related technologies).

Class #	Points
13. Team Activity	200

C. Individual Activities

Live Poultry

- Each participant will select the four best potential broiler breeders from a class of eight meat-type cockerels or pullets. The keep-cull birds may have trimmed beaks. Each

participant will be permitted to “handle” the birds, as long as the birds are inspected in a professional and humane manner. Following this class, participants will have ten minutes to prepare oral reasons for presentation.

- Each participant will present oral reasons for either the selection class of broiler breeders or for the class of four egg-type hens. The class for which participants should develop oral reasons for presentation will be clearly identified during the event. Participants will have two minutes to present their oral reasons. Reasons should include current USDA and poultry industry terminology and standards.
- Each participant will place a class of four egg-type hens. The birds will be Single-Comb White Leghorns, or commercial strains of Leghorn-type (inbred cross). The birds may have trimmed beaks. Each participant will be permitted to “handle” the birds, as long as the birds are inspected in a professional and humane manner.

Class #	Points
1. Eight meat-type cockerels <u>or</u> pullets for broiler breeder selection	50
2. Evaluating hens for production	50
3. Oral reasons for Class 1 <u>or</u> 2	50

Ready-to-Cook Poultry

- Each participant will grade a class of ten ready-to-cook chicken **and/or** turkey carcasses **and/or** parts. Criteria for grading will be derived from USDA standards for chicken carcasses weighing two pounds to six pounds and for turkey carcasses weighing six pounds to sixteen pounds. Four categories may be used, including the USDA quality grades A, B, C and the category NG (nongradable). Participants may not touch any carcass or part; doing so will result in

disqualification. If used, the shackle holding a carcass may be rotated to show the entire carcass.

2. Each participant will place a class of four ready-to-cook turkey carcasses. Criteria for placing will be derived from USDA standards for turkey carcasses weighing six pounds to sixteen pounds. Participants may not touch any carcass; doing so will result in disqualification. If used, the shackle holding a carcass may be rotated to show the entire carcass. Following this class, participants will have ten minutes to prepare oral reasons for presentation.
3. Each participant will present oral reasons for their placing of the class of ready-to-cook turkey carcasses. Participants will have two minutes to present their reasons. Reasons should include current USDA and poultry industry terminology and standards.

Class #	Points
4. Ten chicken and/or turkey carcasses and/or parts for quality grading	50
5. Four carcasses for placing	50
6. Oral reasons for Class 5	50

Shell Eggs

1. Each participant will grade a class of ten white (or white-tint)-shell eggs. Criteria for grading will be derived from USDA standards for interior quality of market eggs. The USDA quality grades will be AA, A, B and Loss. Participants must candle the eggs to determine the appropriate USDA quality grade, but improper handling of eggs will result in disqualification.
2. Each participant will grade a class of ten shell eggs. Criteria for grading will be derived from USDA standards for exterior quality of market eggs. The USDA quality grades will be AA/A, B and NG (nongradable). Criteria for grading may include decisions related to

the following quality factors (i.e., defects): Soundness (unbroken, check, dented check or leaker); Stains (slight/moderate stain or prominent stain); Adhering Dirt or Foreign Material; Egg Shape (approximately normal shape, unusual or decidedly misshapen); Shell Texture (shell faulty in soundness and strength, large calcium deposits or pronounced ridges); Shell Thickness (pronounced thin spots); No Defect.

3. Each participant will determine written factors for the grading of the exterior chicken eggs. The written factors will relate to the criteria used for grading exterior quality of eggs.

Class #	Points
7. Ten white-shell eggs for interior quality grading	50
8. Ten chicken eggs for exterior quality grading	50
9. Evaluation criteria for Class 8	50

Further Processed Poultry

1. Each participant will determine written quality factors for a class of ten further-processed poultry meat products (e.g., precooked, coated chicken meat patties, tenders, nuggets or wings). Criteria for evaluation will include coating defects (void and color), appropriateness of shape (inconsistent shape and broken), inconsistent size, clusters/marriages, miscuts in wings (miscut and broken) and evidence of feathers or foreign material. Participants may not touch any product; doing so will result in disqualification.
2. Each participant will identify ten poultry parts. Poultry parts to be identified will be randomly selected and consistent with those used in the chicken processing and merchandising industries. The participant may not

touch any part; doing so will result in disqualification.

Class #	Points
10. Ten further-processed poultry meat products for evaluation	100
11. Ten chicken carcass parts for identification	50

Poultry Management Written Exam

1. The written examination and the team activity will be administered at the beginning of the event.
2. Each participant will complete a 30 item written examination on poultry production, management, anatomy and physiology. Five or more items will require mathematical calculations. Examination items will be developed from information found in the references (see Section VIII).

Class #	Points
12. Written Examination	150

V. SCORING

Point Value of 12 Classes/Individual . . 750 (Total Possible Individual Points)

Point Value of 13 Classes
2,450 (Total Possible Team Points) (including the Team Activity@200 Points)

VI. TIEBREAKERS

If ties occur, the following classes will be used in order to determine the ranking of award recipients:

1. Written Management Exam
2. Evaluation of Live Birds

VII. AWARDS

Awards will be presented at an awards ceremony. Awards are presented to teams as well as indi-

viduals based on their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

VIII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

*Available from Instructional Materials Service (IMS), Texas A&M University, 2588 TAMUS, College Station, TX 77843-2588 (Phone: 979-845-6601; FAX: 979-845-6608; ims@tamu.edu; <http://www-ims.tamu.edu/>).

- a. Poultry Science Manual for National FFA Career Development Events.* (Fifth edition) (IMS Catalog #0418-5) (or from the National FFA Educational Resource Catalog product number PSM 888-332-2668 on online at <http://www.ffaunlimited.org/agedrescat1.html>)

For even-number years (2006, 2008 and 2010) examination items will be derived from this reference except for those sections related to health, waste, environment and marketing.

For odd-number years (2007 and 2009) examination items will be derived from this reference except for those sections related to poultry hatcheries, broiler breeders, market broilers, and turkey breeders.

(Note: Reference b, c and d are additional sources for the examination items.)

- b. Evaluation of Precooked, Breaded Chicken Patties* (14 color slides with four-page script) (IMS Catalog #5140)

- c. Poultry Grading Manual - Agriculture Handbook Number 31* (latest USDA edition) (IMS Catalog #0414)
- d. Egg-Grading Manual - Agriculture Handbook Number 75* (latest USDA edition) (IMS Catalog #0417)

The Hormel Computing Slide is available through the National FFA Agricultural Education Resources Catalog, Item #HCSS, 888-332-2668 or online at <http://www.ffaunlimited.org/horcomslidfo.html>

IX. EXAMPLES

Scoring Format Summary

Placing Classes

Class 2 and 5 are placing classes. Each class has a value of 50 points per participant.

The event superintendent obtains (from the judge) the “official placing” of the class and the “basis of grading” (numerical difference or “cut” between each of the three pairs—top, middle and bottom—in the placing class). The three “cuts” are totaled; the total cannot exceed 15 points. From the judge’s information and the directions printed on the Hormel Computing Slide, the correct scores are obtained for all (24) possible placings (refer to REFERENCES section for the source of the computing slide). The computer scoring system uses the Hormel Scoring “format” when calculating a participant’s score for each placing class.

Selection Class

Class 1, a keep-cull class, has a value of 50 points per participant, which is the sum of the point values given by the judge to the four birds selected to be “kept.” **Participants must identify four birds to keep as well as four birds to cull.** A participant’s score is calculated from a scorecard, which designates the point value for each of the eight birds in the class.

EXAMPLE SELECTION CLASS

8	7	6	5	4	3	2	1	Bird Numbers
(18)	(13)	(11)	(8)	(7)	(4)	(3)	(0)	Point Values ¹

Oral Reasons Classes

Insert Fig: *ExemplSeleClass.eps*

Class 3 and Class 6 are oral reasons for Class 1 or 2 and Class 5, respectively. Each class has a value of 50 points per participant. The score is calculated from a scorecard (refer to the “Presenting Oral Reasons” section of the Poultry Science Manual for National FFA Career Development Events, Fifth edition.)

Grading Classes

Classes 4, 7 and 8 are grading classes. Each class has a value of 50 points per participant.

Participant’s Grade

OFFICIAL GRADE

	A	B	C	NG
A	5	3	1	0
B	3	5	3	0
C	1	3	5	0
NG	0	0	0	5

As shown above, Class 4 is scored based on the USDA quality grades A, B, C and the category NG. Each correct grade receives a score of five points. If the item is graded one quality grade below or above the correct grade, two points will be deducted to obtain a score of three points. If the item is graded two quality grades below or above the correct grade, four points are deducted to obtain a score of one point. However, if the “NG” line is “crossed” (i.e., an incorrect judgment) all five points are deducted to obtain a score of zero points.

¹ Adapted from information provided by Don Sheets, Retired, Kansas Board of Agriculture, Topeka, Kansas.

Scoring for Interior Egg Quality Grading Class 7

Participant's Grade	OFFICIAL GRADE			
	AA	A	B	Loss
AA	5	3	1	0
A	3	5	3	0
B	1	3	5	0
Loss	0	0	0	5

As shown above, Class 7 is scored based on the USDA quality grades AA, A, B and Loss. In the case of Class 7, each correct grade receives a score of five points. If the item is graded one quality grade below or above the correct grade, two points will be deducted to obtain a score of three points. If the item is graded two quality grades below or above the correct grade, four points are deducted to obtain a score of one point. However, if the “Loss” line is “crossed” (i.e., an incorrect judgment) all five points are deducted to obtain a score of zero points.

Scoring for Exterior Egg Quality Grading Class 8

Participant's Grade	OFFICIAL GRADE		
	AA/A	B	NG
AA/A	5	3	0
B	3	5	0
NG	0	0	5

As shown above, class 8 is scored based on the USDA quality grades AA/A, B and NG (nongradable). In the case of class 8, each correct grade receives a score of five points. If the item is graded one quality grade below or above the correct

grade, two points will be deducted to obtain a score of three points. However, if the “Loss” line is “crossed” (i.e., an incorrect judgment) all five points are deducted to obtain a score of zero points.

EXTERIOR EGG QUALITY SCORE CARD

Egg Exterior Quality Grading			
Egg Number	Class 8 Exterior Quality Grades		
	AA/A	B	NG
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Written Factors Classes

Class 9 is written factors for Class 8 and has a value of 50 points per participant. Class 10 is written factors for further processed poultry meat products and has a value of 100 points per participant.

For Class 9, each item is evaluated for thirteen different quality factors. For Class 10, each item is evaluated for 10 different quality factors. Each

item may be determined to have “no defect” or to have one or more defects.

- For each correct match with the judge, zero points are deducted.
- For each “defect” or “no defect” missed or added three (3) points are deducted.
- No score will be less than zero.

EGG EXTERIOR QUALITY WRITTEN FACTORS - CLASS 9

Egg Exterior Quality - Written Factors										
Defect	Class 9 Egg Number									
	1	2	3	4	5	6	7	8	9	10
Checked										
Dented Checked										
Leaker										
Slight/Moderate Stain										
Prominent Stain										
Adhering Dirt/Foreign Material										
Decidedly Misshapen										
Faulty Soundness/Strength										
Large Calcium Deposits										
Body Check										
Pronounced Ridges										
Pronounced Thin Spots										
No Defect										

FURTHER PROCESSED POULTRY MEAT PRODUCTS—CLASS 10

Further-Processed Poultry Meat Products Evaluation										
Defect	Class 10 Product Number									
	1	2	3	4	5	6	7	8	9	10
Coating Void										
Inconsistent Coating Color										
Inconsistent Shape										
Broken										
Inconsistent Size										
Cluster/Marriages										
Miscut Wings (<i>including mixed parts</i>)										
Broken Wings										
Feathers/Foreign Materials										
No Defect										

Identification Class

Class 11 is an identification class consisting of ten poultry carcass parts. The class has a value of 50 points per participant. Each correct answer receives a score of five points.

Written Examination Class

Class 12 is an examination consisting of 30 multiple-choice items. The class has a value of 150 points per participant. Each correct answer receives a score of five points.

Team Activity Class

Class 13 is a team activity containing 15 questions. The class has a value of 200 points **per team**. Each correct answer receives a score of 13.33 points. (Note: This class does not apply to individual participant scores.)

SAMPLE SCORECARD FOR IDENTIFICATION OF PARTS

Directions: Darken the poultry carcass part that you consider correct for each of the ten items.

Part No.	1	2	3	4	5	6	7	8	9	10
Half	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Front Half	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rear Half	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole breast with ribs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bnls., skinless whole breast with rib meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole breast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bnls., skinless whole breast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Split breast with ribs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bnls., skinless; split breast with rib meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Split breast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bnls., skinless split breast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Breast quarter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Breast quarter without wing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenderloin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wishbone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leg quarter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thigh w/ back portion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thigh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bnls., skinless thigh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drumstick	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bnls., skinless drum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drumette	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wing Portion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liver	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gizzard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paws	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Poultry Evaluation

*SAMPLE SCORECARD FOR ORAL REASONS: BROILER BREEDER SELECTION OR EGG-TYPE HENS AND R-T-C TURKEY CARCASSES

* To be used as a scoring “guide” by the Official Judges.

	Possible Points	Participant's Score
1. APPEARANCE AND DELIVERY		
a. Did the participant stand still on two feet and face the judge?	2	_____
b. Did the participant speak clearly, distinctly and loud enough to be heard?	2	_____
c. Did the participant have an appropriate opening and closing statement?	2	_____
d. Did the participant speak smoothly without long pauses?	2	_____
e. Was the participant confident? Was the participant convincing?	4	_____
TOTAL POINTS	12	_____
2. PROPER USE OF TERMS		
a. Did the participant use relevant terminology properly?	4	_____
b. Did the participant understand the terms used?	3	_____
c. Was the participant able to define the terms used?*	3	_____
(**Participants may be asked to define terms used.)		
TOTAL POINTS	10	_____
3. ACCURACY OF STATEMENTS		
a. Did the participant describe the birds/carcasses based on their actual visual appearance?	5	_____
b. Did the participant present accurate statements?	5	_____
TOTAL POINTS	10	_____
4. IMPORTANCE OF POINTS COVERED		
a. Did the participant actually tell why one bird/carcass was selected/placed over another, or did the participant only vaguely describe the birds/carcasses?	5	_____
b. Did the participant stress the crucial differences, or did he/she make stereotypic (“canned”) comparisons of various factors?	8	_____
c. Did the participant state all there was to tell of importance, or were there other significant reasons that should have been given for the selection/placing?	5	_____
TOTAL POINTS	18	_____
GRAND TOTAL OF POINTS	50	_____

24 CHAPTER

NATIONAL FFA

PREPARED PUBLIC SPEAKING

CAREER DEVELOPMENT EVENT

A Special Project of the National FFA Foundation

IMPORTANT NOTE

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. PURPOSE

The National FFA Prepared Public Speaking Career Development Event is designed to develop agricultural leadership by providing for member participation in agricultural public speaking activities and stimulating interest in leadership and citizenship. The national event will be held in conjunction with the National FFA Convention.

II. EVENT RULES

1. The National FFA Prepared Public Speaking Career Development Event will be limited to one participant from each state association.
2. The National FFA Prepared Public Speaking Career Development Event will follow the general rules and policies for all National FFA Career Development Events. A participant cannot serve as a member of the national officer nominating committee.
3. Each participant's manuscript will be the result of his or her own efforts. It is expected that the participant will take advantage of all available training facilities at their local school in developing their speaking ability. Facts and working data may be secured from any source, but must be appropriately documented.
4. Participants will report to the event superintendent for instructions at the time and place shown in the current year's "Program for National FFA Events."
5. It is highly recommended that participant's be in official FFA dress as defined in the current Official FFA Manual.
6. Each state with a speaker shall provide a competent individual to judge the national event. Judges for the final round will be representatives from agricultural education

related organizations. Three to six competent and impartial persons will be selected to judge the event.

7. The Board of National Officers and National Board of Directors of the FFA will be in charge of this event.

III. EVENT FORMAT

A. Materials To Be Submitted By August 15:

1. Fifteen —double-spaced typewritten copies of the speech on 8 1/2" × 11" white bond paper with cover page that gives the speech title, participant's name, state and date. The body of the manuscript will have 1" margins. Fonts size must be 10-12 using Times New Roman, Arial or Courier font. Follow APA style manual for developing references and bibliography. Do not bind, but place a staple in upper left corner. Manuscripts not meeting these guidelines will be penalized.
2. (Redacted)
3. A complete and accurate bibliography/reference list following APA publication manual citing all sources used in writing the speech. All participants in the National FFA Prepared Public Speaking Career Development Event should give credit to others where any direct quotes, phrases or special dates are used in the manuscript, in order not to be guilty of plagiarism.

The Boards of National Officers and Directors of FFA at the October 1960 meeting in Kansas City, Missouri, adopted the following:

"A bibliography MUST be included as part of the public speaker's manuscript and direct quotes from

any source of information must be marked in "quotes" on the manuscript and be identified in the bibliography. Failure to do so will automatically disqualify a participant. This applies to all events above the local level."

4. Fifteen (15) copies of the manuscripts, per guidelines laid out in the handbook, must be sent to the CDE Program Manager, National FFA Center postmarked by August 15th. A penalty of 30 points (10% of available manuscript points) will be assessed by the judges scoring the manuscripts for any late submissions. Any manuscripts received that are postmarked later than August 22nd will not be entered into the event and the speaker will be disqualified from speaking in the event.

B. Subjects

Participants may choose any current subject for their speeches, which is of an agricultural nature. This may include agriscience and technology, agribusiness, agrimarketing, international agricultural relations and agricultural communications. Official judges of any National FFA Prepared Public Speaking Career Development Event shall disqualify a participant if he or she speaks on a non-agricultural subject.

C. Time Limit

Each speech shall be a minimum of six minutes in length and a maximum of eight minutes. Each participant will be allowed five minutes additional time in which he or she will be asked questions relating to his or her speech. Participants are to be penalized one point per second on each judge's score sheet for being under six minutes or over eight minutes. No time warnings will be given.

D. Judging

1. Event officials will randomly determine the speaking order. The program chairman shall introduce each participant by name in order of the drawing. A

participant will be permitted to use notes while speaking, but deductions in scoring may be made for this practice if it detracts from the effectiveness of the presentation. No props are to be used. Applause shall be withheld until all participants have spoken.

2. A timekeeper(s) shall be designated who will record the time used by each participant in delivering his or her speech, noting under time or overtime, if any, for which deductions will be made. Timekeepers should be sitting together.
3. Prior to the event, the content and composition of all manuscripts will be judged and scored by qualified individuals using the manuscript score sheet. Manuscript scores will be averaged and supplied to the presentation judges after they have scored the oral presentation. Manuscript comment cards will be completed by manuscript judges and presented to the contestants at the awards function. Presentation judges will be furnished with typewritten copies of the participants' manuscripts, which they will use to formulate questions.
4. At the time of the event, the judges will be seated in different sections of the room in which the event is held. They will score each participant on the delivery of the production, using the score sheet provided. They will also complete a judge's comment card, which will be presented to the participant at the awards function.
5. Each judge shall formulate and ask questions. Questions shall pertain directly to the speaker's subject. Questions containing two or more parts should be avoided. Judges will score each participant on the ability to answer all questions asked

by all judges. The full five minutes for questions should be used.

6. When all participants have finished speaking, each judge will total the score on composition and delivery for each participant. The timekeeper(s) record will be used in computing the final score for each participant. The judges' score sheets will then be submitted to event officials to determine final ratings of participants.
7. Participants shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each participant then shall be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low rank method of selection)

IV. SCORING

Explanation of Score Sheet Points

Scoring Content and Composition

1. Content of the manuscript. . . . 200 points
 - Importance and appropriateness of the subject
 - Suitability of the material used
 - Accuracy of the statements included
 - Evidence of purpose
 - Completeness and accuracy of bibliography
2. Composition of the manuscript: 100 points
 - Organization of the content
 - Unity of thought
 - Logical development
 - Language used
 - Sentence structure
 - Accomplishment of purpose-conclusions

Scoring Delivery of Production

1. Voice 100 points
 - Quality
 - Pitch
 - Pronunciation
 - Articulation
 - Force
2. Stage Presence 100 points
 - Personal appearance
 - Poise and body posture
 - Attitude
 - Confidence
 - Personality
 - Ease before audience
3. Power of expression: 100 points
 - Fluency
 - Emphasis
 - Directness
 - Sincerity
 - Communicative ability
 - Conveyance of thought and meaning
4. Response to questions: 300 points
 - Ability to answer satisfactorily questions asked by the judges on the speech, indicating originality, familiarity with subject and ability to think quickly.
5. General effect: 100 points
 - Extent to which the speech was interesting, understandable, convincing, pleasing and held attention.

V. TIEBREAKERS

Ties will be broken based on the greatest number of low ranks. Participant's low ranks will be counted and the participant with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent

will rank the participant's response to questions. The participant with the lowest rank from the response to question will be declared the winner. If a tie still exists then the participant's raw scores will be totaled. The participant with the greatest total of raw points will be declared the winner.

VI. AWARDS

Awards will be presented to individuals based upon their rankings at an awards ceremony. At that time foundation pins, manuscript judges' comment cards and presentation judges' comment cards will be presented to the participants. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

Plaques will be awarded to the national participants by the National FFA Organization. The National FFA Foundation may provide cash awards, if funding is available, as follows:

1st place	\$300
2nd place	\$275
3rd place	\$250
4th place	\$225

VII. REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Factual information pertaining to agriculture is available from:

1. United States Department of Agriculture, Washington, DC 20250
2. State Colleges, Research Centers and/or Experiment Stations

3. The Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.
4. Great Speeches and Presentation Guide (GUIDE-SPEECH) \$45.00: The National FFA Organization Core Catalog: 1-888-332-2668 or on line at <http://www.ffaunlimited.org/pavicdeha.html>

National FFA

Name: _____

Chapter: _____

State: _____

Team No.: _____

PREPARED PUBLIC SPEAKING

	MAX. POINTS	ONE	TWO	THREE	FOUR	FIVE	SIX	SEVEN	EIGHT
CONTENT OF MANUSCRIPT	200								
<ul style="list-style-type: none"> Importance and appropriateness of the subject Suitability of the material used Accuracy of the statements Evidence of purpose Completeness and accuracy of bibliography 									
COMPOSITION OF MANUSCRIPT	100								
<ul style="list-style-type: none"> Organization of contents Unity of thought Logical development Language used Sentence structure Accomplishment of purpose-conclusion 									
VOICE	100								
<ul style="list-style-type: none"> Quality, pitch Articulation Pronunciation Force 									
STAGE PRESENCE	100								
<ul style="list-style-type: none"> Personal appearance Poise and body posture Attitude, confidence and personality Ease before an audience 									
POWER OF EXPRESSION	100								
<ul style="list-style-type: none"> Communicative ability including: fluency, emphasis, directness sincerity Conveyance of thought and meaning 									
RESPONSE TO QUESTIONS*	300								
<ul style="list-style-type: none"> Ability to answer the questions on the speech, which are asked by the judges, indicating originality, familiarity with subject and ability to think quickly. 									
GENERAL EFFECT	100								
<ul style="list-style-type: none"> Extent to which the speech was interesting, understandable, convincing, pleasing and held attention 									
Gross Total Points:	1000								
Less Time Deduction**:									
Late Manuscript Deduction***									
Net Total Points									
Participant Ranking:									

* - Judges should meet prior to the event to prepare and clarify the types of questions to be asked.

** - 1 point per second over, as determined by the timekeepers

*** - 10% point deduction for late manuscript

Judge's Name: _____ Signature/Date: _____

APPENDIX

The following scan forms are used by the National FFA Career Development Events

Scan forms are available through The Core Catalog, National FFA Customer Service Department 1-888-332-2668.

Agricultural Communications 228574 (product # NCS 574)	Environmental/Natural Resources 228576 (product # NCS 576)	Livestock Evaluation 239559-3 (product #NCS 559-3) 205948 *
Agricultural Issues 205948 * (product # NCS 948)	Extemporaneous Public Speaking 205948 * (product # NCS 948)	(product # NCS 948)
Agricultural Mechanics 228574 (product # NCS 574)	Farm Business Management 228574 (product # NCS 574)	Marketing Plan 205948 * (product # NCS 948)
Agricultural Sales 228574 (product # NCS 574)	Floriculture 228576 (product # NCS 576) 205948 *	Meats Evaluation and Technology 239562-3 (product # NCS 562-3)
Agronomy 228576 (product # NCS 576)	(product # NCS 948)	Nursery Landscape 228576 (product # NCS 576) 205948 *
Creed Speaking 205948 * (product # NCS 948)	Food Science 228576 (product # NCS 576)	(product # NCS 948)
Dairy Cattle Evaluation 239560-2 (product # NCS 560) 205948 * (product # NCS 948)	Forestry 239564-2 (product # NCS 564) 205948 * (product # NCS 948)	Parliamentary Procedure 228574 (product # NCS 574) 205948 * (product # NCS 948)
Dairy Foods 239561-3 (product # NCS 561-3)	Horse Evaluation 239559-3 (product # NCS 559-3) 205948 * (product # NCS 948)	Poultry Evaluation 239563-3 (product # NCS 563-3) 205948 * (product # NCS 948)
	Job Interview 228574 (product # NCS 574)	Prepared Public Speaking 205948 * (product # NCS 948)

* One form per group of students or teams, each form records scores for up to 60 students or teams. If there are more than 60 students or teams use additional forms. Example 1 form per set of oral reasons class/60 students. Team Events one form per event.

[illegible]

Team Name

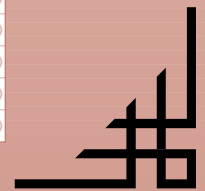
Correct Mark

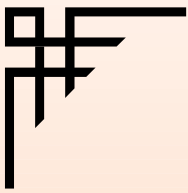
[illegible][illegible][illegible]

Practicums (Judges)											
1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9

Written Exam I																													
1	A	B	C	D	E	21	A	B	C	D	E	41	A	B	C	D	E	61	A	B	C	D	E	81	A	B	C	D	E
2	A	B	C	D	E	22	A	B	C	D	E	42	A	B	C	D	E	62	A	B	C	D	E	82	A	B	C	D	E
3	A	B	C	D	E	23	A	B	C	D	E	43	A	B	C	D	E	63	A	B	C	D	E	83	A	B	C	D	E
4	A	B	C	D	E	24	A	B	C	D	E	44	A	B	C	D	E	64	A	B	C	D	E	84	A	B	C	D	E
5	A	B	C	D	E	25	A	B	C	D	E	45	A	B	C	D	E	65	A	B	C	D	E	85	A	B	C	D	E
6	A	B	C	D	E	26	A	B	C	D	E	46	A	B	C	D	E	66	A	B	C	D	E	86	A	B	C	D	E
7	A	B	C	D	E	27	A	B	C	D	E	47	A	B	C	D	E	67	A	B	C	D	E	87	A	B	C	D	E
8	A	B	C	D	E	28	A	B	C	D	E	48	A	B	C	D	E	68	A	B	C	D	E	88	A	B	C	D	E
9	A	B	C	D	E	29	A	B	C	D	E	49	A	B	C	D	E	69	A	B	C	D	E	89	A	B	C	D	E
10	A	B	C	D	E	30	A	B	C	D	E	50	A	B	C	D	E	70	A	B	C	D	E	90	A	B	C	D	E
11	A	B	C	D	E	31	A	B	C	D	E	51	A	B	C	D	E	71	A	B	C	D	E	91	A	B	C	D	E
12	A	B	C	D	E	32	A	B	C	D	E	52	A	B	C	D	E	72	A	B	C	D	E	92	A	B	C	D	E
13	A	B	C	D	E	33	A	B	C	D	E	53	A	B	C	D	E	73	A	B	C	D	E	93	A	B	C	D	E
14	A	B	C	D	E	34	A	B	C	D	E	54	A	B	C	D	E	74	A	B	C	D	E	94	A	B	C	D	E
15	A	B	C	D	E	35	A	B	C	D	E	55	A	B	C	D	E	75	A	B	C	D	E	95	A	B	C	D	E
16	A	B	C	D	E	36	A	B	C	D	E	56	A	B	C	D	E	76	A	B	C	D	E	96	A	B	C	D	E
17	A	B	C	D	E	37	A	B	C	D	E	57	A	B	C	D	E	77	A	B	C	D	E	97	A	B	C	D	E
18	A	B	C	D	E	38	A	B	C	D	E	58	A	B	C	D	E	78	A	B	C	D	E	98	A	B	C	D	E
19	A	B	C	D	E	39	A	B	C	D	E	59	A	B	C	D	E	79	A	B	C	D	E	99	A	B	C	D	E
20	A	B	C	D	E	40	A	B	C	D	E	60	A	B	C	D	E	80	A	B	C	D	E	100	A	B	C	D	E

Written Exam II																													
1	A	B	C	D	E	21	A	B	C	D	E	41	A	B	C	D	E	61	A	B	C	D	E	81	A	B	C	D	E
2	A	B	C	D	E	22	A	B	C	D	E	42	A	B	C	D	E	62	A	B	C	D	E	82	A	B	C	D	E
3	A	B	C	D	E	23	A	B	C	D	E	43	A	B	C	D	E	63	A	B	C	D	E	83	A	B	C	D	E
4	A	B	C	D	E	24	A	B	C	D	E	44	A	B	C	D	E	64	A	B	C	D	E	84	A	B	C	D	E
5	A	B	C	D	E	25	A	B	C	D	E	45	A	B	C	D	E	65	A	B	C	D	E	85	A	B	C	D	E
6	A	B	C	D	E	26	A	B	C	D	E	46	A	B	C	D	E	66	A	B	C	D	E	86	A	B	C	D	E
7	A	B	C	D	E	27	A	B	C	D	E	47	A	B	C	D	E	67	A	B	C	D	E	87	A	B	C	D	E
8	A	B	C	D	E	28	A	B	C	D	E	48	A	B	C	D	E	68	A	B	C	D	E	88	A	B	C	D	E
9	A	B	C	D	E	29	A	B	C	D	E	49	A	B	C	D	E	69	A	B	C	D	E	89	A	B	C	D	E
10	A	B	C	D	E	30	A	B	C	D	E	50	A	B	C	D	E	70	A	B	C	D	E	90	A	B	C	D	E
11	A	B	C	D	E	31	A	B	C	D	E	51	A	B	C	D	E	71	A	B	C	D	E	91	A	B	C	D	E
12	A	B	C	D	E	32	A	B	C	D	E	52	A	B	C	D	E	72	A	B	C	D	E	92	A	B	C	D	E
13	A	B	C	D	E	33	A	B	C	D	E	53	A	B	C	D	E	73	A	B	C	D	E	93	A	B	C	D	E
14	A	B	C	D	E	34	A	B	C	D	E	54	A	B	C	D	E	74	A	B	C	D	E	94	A	B	C	D	E
15	A	B	C	D	E	35	A	B	C	D	E	55	A	B	C	D	E	75	A	B	C	D	E	95	A	B	C	D	E
16	A	B	C	D	E	36	A	B	C	D	E	56	A	B	C	D	E	76	A	B	C	D	E	96	A	B	C	D	E
17	A	B	C	D	E	37	A	B	C	D	E	57	A	B	C	D	E	77	A	B	C	D	E	97	A	B	C	D	E
18	A	B	C	D	E	38	A	B	C	D	E	58	A	B	C	D	E	78	A	B	C	D	E	98	A	B	C	D	E
19	A	B	C	D	E	39	A	B	C	D	E	59	A	B	C	D	E	79	A	B	C	D	E	99	A	B	C	D	E
20	A	B	C	D	E	40	A	B	C	D	E	60	A	B	C	D	E	80	A	B	C	D	E	100	A	B	C	D	E





Multi Purpose B

CDE form# 228576

Incorrect Marks Correct Mark

✓ X ○ ●

Team Name

Team/Schl ID#	State	Full Name (Last name followed by a space followed by first name)
0 0 0 0		
1 1 1 1	A A	A A A A A A A A A A A A A A A A A A
2 2 2 2	B B	B B B B B B B B B B B B B B B B B B
3 3 3 3	C C	C C C C C C C C C C C C C C C C C C
4 4 4 4	D D	D D D D D D D D D D D D D D D D D D
5 5 5 5	E E	E E E E E E E E E E E E E E E E E E
6 6 6 6	F F	F F F F F F F F F F F F F F F F F F
7 7 7 7	G G	G G G G G G G G G G G G G G G G G G
8 8 8 8	H H	H H H H H H H H H H H H H H H H H H
9 9 9 9	I I	I I I I I I I I I I I I I I I I I I
	J J	J J J J J J J J J J J J J J J J J J
	K K	K K K K K K K K K K K K K K K K K K
	L L	L L L L L L L L L L L L L L L L L L
	M M	M M M M M M M M M M M M M M M M M M
	N N	N N N N N N N N N N N N N N N N N N
	O O	O O O O O O O O O O O O O O O O O O
	P P	P P P P P P P P P P P P P P P P P P
	Q Q	Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q
	R R	R R R R R R R R R R R R R R R R R R
	S S	S S S S S S S S S S S S S S S S S S
	T T	T T T T T T T T T T T T T T T T T T
	U U	U U U U U U U U U U U U U U U U U U
	V V	V V V V V V V V V V V V V V V V V V
	W W	W W W W W W W W W W W W W W W W W W
	X X	X X X X X X X X X X X X X X X X X X
	Y Y	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y
	Z Z	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z

Codes			
Sheet	Test	Team	Student
0 0 0 0			
1 1 1 1			
2 2 2 2			
3 3 3 3			
4 4 4 4			
5 5 5 5			
6 6 6 6			
7 7 7 7			
8 8 8 8			
9 9 9 9			

Team Activity		Practicums (Judges)					
Team	Ind.	1	2	3	4	5	6
0 0 0 0 0 0							
1 1 1 1 1 1							
2 2 2 2 2 2							
3 3 3 3 3 3							
4 4 4 4 4 4							
5 5 5 5 5 5							
6 6 6 6 6 6							
7 7 7 7 7 7							
8 8 8 8 8 8							
9 9 9 9 9 9							

Assessment and Solution									
1 A B C D E	11 A B C D E	21 A B C D E	31 A B C D E						
2 A B C D E	12 A B C D E	22 A B C D E	32 A B C D E						
3 A B C D E	13 A B C D E	23 A B C D E	33 A B C D E						
4 A B C D E	14 A B C D E	24 A B C D E	34 A B C D E						
5 A B C D E	15 A B C D E	25 A B C D E	35 A B C D E						
6 A B C D E	16 A B C D E	26 A B C D E	36 A B C D E						
7 A B C D E	17 A B C D E	27 A B C D E	37 A B C D E						
8 A B C D E	18 A B C D E	28 A B C D E	38 A B C D E						
9 A B C D E	19 A B C D E	29 A B C D E	39 A B C D E						
10 A B C D E	20 A B C D E	30 A B C D E	40 A B C D E						

Placing Classes													
Place		Class										Place	
		1	2	3	4	5	6	7	8	9	10		
1	1 2 3 4											1	1 2 3 4
2	1 2 4 3											2	1 2 4 3
3	1 3 2 4											3	1 3 2 4
4	1 3 4 2											4	1 3 4 2
5	1 4 2 3											5	1 4 2 3
6	1 4 3 2											6	1 4 3 2
7	2 1 3 4											7	2 1 3 4
8	2 1 4 3											8	2 1 4 3
9	2 3 1 4											9	2 3 1 4
10	2 3 4 1											10	2 3 4 1
11	2 4 1 3											11	2 4 1 3
12	2 4 3 1											12	2 4 3 1
13	3 1 2 4											13	3 1 2 4
14	3 1 4 2											14	3 1 4 2
15	3 2 1 4											15	3 2 1 4
16	3 2 4 1											16	3 2 4 1
17	3 4 1 2											17	3 4 1 2
18	3 4 2 1											18	3 4 2 1
19	4 1 2 3											19	4 1 2 3
20	4 1 3 2											20	4 1 3 2
21	4 2 1 3											21	4 2 1 3
22	4 2 3 1											22	4 2 3 1
23	4 3 1 2											23	4 3 1 2
24	4 3 2 1											24	4 3 2 1

Exam					Exam 2/Team				
1 A B C D E	26 A B C D E	1 A B C D E			1 A B C D E				
2 A B C D E	27 A B C D E	2 A B C D E			2 A B C D E				
3 A B C D E	28 A B C D E	3 A B C D E			3 A B C D E				
4 A B C D E	29 A B C D E	4 A B C D E			4 A B C D E				
5 A B C D E	30 A B C D E	5 A B C D E			5 A B C D E				
6 A B C D E	31 A B C D E	6 A B C D E			6 A B C D E				
7 A B C D E	32 A B C D E	7 A B C D E			7 A B C D E				
8 A B C D E	33 A B C D E	8 A B C D E			8 A B C D E				
9 A B C D E	34 A B C D E	9 A B C D E			9 A B C D E				
10 A B C D E	35 A B C D E	10 A B C D E			10 A B C D E				
11 A B C D E	36 A B C D E	11 A B C D E			11 A B C D E				
12 A B C D E	37 A B C D E	12 A B C D E			12 A B C D E				
13 A B C D E	38 A B C D E	13 A B C D E			13 A B C D E				
14 A B C D E	39 A B C D E	14 A B C D E			14 A B C D E				
15 A B C D E	40 A B C D E	15 A B C D E			15 A B C D E				
16 A B C D E	41 A B C D E	16 A B C D E			16 A B C D E				
17 A B C D E	42 A B C D E	17 A B C D E			17 A B C D E				
18 A B C D E	43 A B C D E	18 A B C D E			18 A B C D E				
19 A B C D E	44 A B C D E	19 A B C D E			19 A B C D E				
20 A B C D E	45 A B C D E	20 A B C D E			20 A B C D E				
21 A B C D E	46 A B C D E	21 A B C D E			21 A B C D E				
22 A B C D E	47 A B C D E	22 A B C D E			22 A B C D E				
23 A B C D E	48 A B C D E	23 A B C D E			23 A B C D E				
24 A B C D E	49 A B C D E	24 A B C D E			24 A B C D E				
25 A B C D E	50 A B C D E	25 A B C D E			25 A B C D E				

[illegible][illegible]

Team Name/Additional Info

Correct Mark

[illegible]

Sheet	Test	Term	Student
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

[illegible][illegible][illegible]

Class 14 - Questions on Placing Classes																			
1	(1)	(2)	(3)	(4)	11	(1)	(2)	(3)	(4)	21	(1)	(2)	(3)	(4)	31	(1)	(2)	(3)	(4)
2	(1)	(2)	(3)	(4)	12	(1)	(2)	(3)	(4)	22	(1)	(2)	(3)	(4)	32	(1)	(2)	(3)	(4)
3	(1)	(2)	(3)	(4)	13	(1)	(2)	(3)	(4)	23	(1)	(2)	(3)	(4)	33	(1)	(2)	(3)	(4)
4	(1)	(2)	(3)	(4)	14	(1)	(2)	(3)	(4)	24	(1)	(2)	(3)	(4)	34	(1)	(2)	(3)	(4)
5	(1)	(2)	(3)	(4)	15	(1)	(2)	(3)	(4)	25	(1)	(2)	(3)	(4)	35	(1)	(2)	(3)	(4)
6	(1)	(2)	(3)	(4)	16	(1)	(2)	(3)	(4)	26	(1)	(2)	(3)	(4)	36	(1)	(2)	(3)	(4)
7	(1)	(2)	(3)	(4)	17	(1)	(2)	(3)	(4)	27	(1)	(2)	(3)	(4)	37	(1)	(2)	(3)	(4)
8	(1)	(2)	(3)	(4)	18	(1)	(2)	(3)	(4)	28	(1)	(2)	(3)	(4)	38	(1)	(2)	(3)	(4)
9	(1)	(2)	(3)	(4)	19	(1)	(2)	(3)	(4)	29	(1)	(2)	(3)	(4)	39	(1)	(2)	(3)	(4)
10	(1)	(2)	(3)	(4)	20	(1)	(2)	(3)	(4)	30	(1)	(2)	(3)	(4)	40	(1)	(2)	(3)	(4)

Reasons			
Class 15	Class 16	Class 17	Class 18
0 0	0 0	0 0	0 0
1 1	1 1	1 1	1 1
2 2	2 2	2 2	2 2
3 3	3 3	3 3	3 3
4 4	4 4	4 4	4 4
5 5	5 5	5 5	5 5
6 6	6 6	6 6	6 6
7 7	7 7	7 7	7 7
8 8	8 8	8 8	8 8
9 9	9 9	9 9	9 9

PLEASE DO NOT WRITE IN THIS AREA

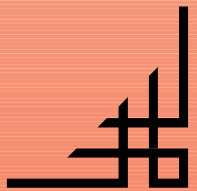
[illegible]

SERIAL #

[illegible]

Written Exam I																													
1	A	B	C	D	E	21	A	B	C	D	E	41	A	B	C	D	E	61	A	B	C	D	E	81	A	B	C	D	E
2	A	B	C	D	E	22	A	B	C	D	E	42	A	B	C	D	E	62	A	B	C	D	E	82	A	B	C	D	E
3	A	B	C	D	E	23	A	B	C	D	E	43	A	B	C	D	E	63	A	B	C	D	E	83	A	B	C	D	E
4	A	B	C	D	E	24	A	B	C	D	E	44	A	B	C	D	E	64	A	B	C	D	E	84	A	B	C	D	E
5	A	B	C	D	E	25	A	B	C	D	E	45	A	B	C	D	E	65	A	B	C	D	E	85	A	B	C	D	E
6	A	B	C	D	E	26	A	B	C	D	E	46	A	B	C	D	E	66	A	B	C	D	E	86	A	B	C	D	E
7	A	B	C	D	E	27	A	B	C	D	E	47	A	B	C	D	E	67	A	B	C	D	E	87	A	B	C	D	E
8	A	B	C	D	E	28	A	B	C	D	E	48	A	B	C	D	E	68	A	B	C	D	E	88	A	B	C	D	E
9	A	B	C	D	E	29	A	B	C	D	E	49	A	B	C	D	E	69	A	B	C	D	E	89	A	B	C	D	E
10	A	B	C	D	E	30	A	B	C	D	E	50	A	B	C	D	E	70	A	B	C	D	E	90	A	B	C	D	E
11	A	B	C	D	E	31	A	B	C	D	E	51	A	B	C	D	E	71	A	B	C	D	E	91	A	B	C	D	E
12	A	B	C	D	E	32	A	B	C	D	E	52	A	B	C	D	E	72	A	B	C	D	E	92	A	B	C	D	E
13	A	B	C	D	E	33	A	B	C	D	E	53	A	B	C	D	E	73	A	B	C	D	E	93	A	B	C	D	E
14	A	B	C	D	E	34	A	B	C	D	E	54	A	B	C	D	E	74	A	B	C	D	E	94	A	B	C	D	E
15	A	B	C	D	E	35	A	B	C	D	E	55	A	B	C	D	E	75	A	B	C	D	E	95	A	B	C	D	E
16	A	B	C	D	E	36	A	B	C	D	E	56	A	B	C	D	E	76	A	B	C	D	E	96	A	B	C	D	E
17	A	B	C	D	E	37	A	B	C	D	E	57	A	B	C	D	E	77	A	B	C	D	E	97	A	B	C	D	E
18	A	B	C	D	E	38	A	B	C	D	E	58	A	B	C	D	E	78	A	B	C	D	E	98	A	B	C	D	E
19	A	B	C	D	E	39	A	B	C	D	E	59	A	B	C	D	E	79	A	B	C	D	E	99	A	B	C	D	E
20	A	B	C	D	E	40	A	B	C	D	E	60	A	B	C	D	E	80	A	B	C	D	E	100	A	B	C	D	E

1	A	B	C	D	E	21	A	B	C	D	E	41	A	B	C	D	E	61	A	B	C	D	E	81	A	B	C	D	E
2	A	B	C	D	E	22	A	B	C	D	E	42	A	B	C	D	E	62	A	B	C	D	E	82	A	B	C	D	E
3	A	B	C	D	E	23	A	B	C	D	E	43	A	B	C	D	E	63	A	B	C	D	E	83	A	B	C	D	E
4	A	B	C	D	E	24	A	B	C	D	E	44	A	B	C	D	E	64	A	B	C	D	E	84	A	B	C	D	E
5	A	B	C	D	E	25	A	B	C	D	E	45	A	B	C	D	E	65	A	B	C	D	E	85	A	B	C	D	E
6	A	B	C	D	E	26	A	B	C	D	E	46	A	B	C	D	E	66	A	B	C	D	E	86	A	B	C	D	E
7	A	B	C	D	E	27	A	B	C	D	E	47	A	B	C	D	E	67	A	B	C	D	E	87	A	B	C	D	E
8	A	B	C	D	E	28	A	B	C	D	E	48	A	B	C	D	E	68	A	B	C	D	E	88	A	B	C	D	E
9	A	B	C	D	E	29	A	B	C	D	E	49	A	B	C	D	E	69	A	B	C	D	E	89	A	B	C	D	E
10	A	B	C	D	E	30	A	B	C	D	E	50	A	B	C	D	E	70	A	B	C	D	E	90	A	B	C	D	E
11	A	B	C	D	E	31	A	B	C	D	E	51	A	B	C	D	E	71	A	B	C	D	E	91	A	B	C	D	E
12	A	B	C	D	E	32	A	B	C	D	E	52	A	B	C	D	E	72	A	B	C	D	E	92	A	B	C	D	E
13	A	B	C	D	E	33	A	B	C	D	E	53	A	B	C	D	E	73	A	B	C	D	E	93	A	B	C	D	E
14	A	B	C	D	E	34	A	B	C	D	E	54	A	B	C	D	E	74	A	B	C	D	E	94	A	B	C	D	E
15	A	B	C	D	E	35	A	B	C	D	E	55	A	B	C	D	E	75	A	B	C	D	E	95	A	B	C	D	E
16	A	B	C	D	E	36	A	B	C	D	E	56	A	B	C	D	E	76	A	B	C	D	E	96	A	B	C	D	E
17	A	B	C	D	E	37	A	B	C	D	E	57	A	B	C	D	E	77	A	B	C	D	E	97	A	B	C	D	E
18	A	B	C	D	E	38	A	B	C	D	E	58	A	B	C	D	E	78	A	B	C	D	E	98	A	B	C	D	E
19	A	B	C	D	E	39	A	B	C	D	E	59	A	B	C	D	E	79	A	B	C	D	E	99	A	B	C	D	E
20	A	B	C	D	E	40	A	B	C	D	E	60	A	B	C	D	E	80	A	B	C	D	E	100	A	B	C	D	E

SERIAL #

CDE form # 239560-2

Correct Mark



Team/Schl ID	State	Full Name (Last name followed by a space followed by first name)
0 0 0 0		
1 1 1 1	A A	A A
2 2 2 2	B B	B B
3 3 3 3	C C	C C
4 4 4 4	D D	D D
5 5 5 5	E E	E E
6 6 6 6	F F	F F
7 7 7 7	G G	G G
8 8 8 8	H H	H H
9 9 9 9	I I	I I

Codes			
Sheet	Test	Team	Student
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Placing Classes												
	Placing	Class									Placing	
		1	2	3	4	5	6	7	8	9		
1	1 2 3 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4	1
2	1 2 4 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 2 4 3	2
3	1 3 2 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 3 2 4	3
4	1 3 4 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 3 4 2	4
5	1 4 2 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 4 2 3	5
6	1 4 3 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 4 3 2	6
7	2 1 3 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 1 3 4	7
8	2 1 4 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 1 4 3	8
9	2 3 1 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 3 1 4	9
10	2 3 4 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 3 4 1	10
11	2 4 1 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 4 1 3	11
12	2 4 3 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 4 3 1	12
13	3 1 2 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 1 2 4	13
14	3 1 4 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 1 4 2	14
15	3 2 1 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 2 1 4	15
16	3 2 4 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 2 4 1	16
17	3 4 1 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 4 1 2	17
18	3 4 2 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 4 2 1	18
19	4 1 2 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 1 2 3	19
20	4 1 3 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 1 3 2	20
21	4 2 1 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 2 1 3	21
22	4 2 3 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 2 3 1	22
23	4 3 1 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 3 1 2	23
24	4 3 2 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 3 2 1	24
		1	2	3	4	5	6	7	8	9		

Herd Record Judge																																					
	1			2			3			4			5			6			7			8			9			10			11			12			13
0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	14			15			16			17			18			19			20			21			22			23			24			25			
0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6		6	6	6	6	6																													

Frequency	Percentage
Never	0%
Rarely	0%
Sometimes	0%
Often	0%
Always	0%

SERIAL #

Linear Evaluation Classes																		Written Exam																			
Form				Rump		Legs & Feet		Udder				Teats																									
Stature	Strength	Body Depth	Dairy Form	Rump Angle	Rump Width	Side View Rear Legs	Foot Angle	Fore Udder Attachment	Rear Udder Height	Rear Udder Width	Udder Cleft	Udder Depth	Front Teat Placement	Teat Length																							
<div>C</div> <div>l</div> <div>a</div> <div>s</div> <div>s</div> <div>10</div>																		<div>1</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>26</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>2</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>27</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>3</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>28</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>4</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>29</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>5</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>30</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>6</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>31</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>7</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>32</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>8</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>33</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>9</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>34</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>10</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>35</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
<div>C</div> <div>l</div> <div>a</div> <div>s</div> <div>s</div> <div>11</div>																		<div>11</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>36</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>12</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>37</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>13</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>38</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>14</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>39</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>15</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>40</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>16</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>41</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>17</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>42</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>18</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>43</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>19</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>44</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>20</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>45</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
<div>C</div> <div>l</div> <div>a</div> <div>s</div> <div>s</div> <div>12</div>																		<div>21</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>46</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>22</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>47</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>23</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>48</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>24</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>49</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>25</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>										<div>50</div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> <div>E</div>									
																		<div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div>																			
																		<div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div>																			
																		<div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div>																			
																		<div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div>																			
																		<div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div>																			
<div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div>																																					
<div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div>																																					
<div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div>																																					
<div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div>																																					
<div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div>																																					
<div>C</div> <div>l</div> <div>a</div> <div>s</div> <div>s</div> <div>13</div>																		<div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div>																			
																		<div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div>																			
																		<div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div>																			
																		<div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div>																			
																		<div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div>																			
																		<div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div>																			
																		<div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div>																			
																		<div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div>																			
																		<div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div>																			
																		<div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div>																			
<div>C</div> <div>l</div> <div>a</div> <div>s</div> <div>s</div> <div>14</div>																		<div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div> <div>0</div>																			
																		<div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div>																			
																		<div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div> <div>2</div>																			
																		<div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div> <div>3</div>																			
																		<div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div> <div>4</div>																			
																		<div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div> <div>5</div>																			
																		<div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div> <div>6</div>																			
																		<div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div> <div>7</div>																			
																		<div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div> <div>8</div>																			
																		<div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div> <div>9</div>																			

PLEASE DO NOT WRITE IN THIS AREA



SERIAL #

Class 4 Milkster/Unit					
Score	Sample Number				
	1	2	3	4	5
0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0.5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Defects	Sample Number				
	1	2	3	4	5
Rubber:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dirty or milkstone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
checked or blistered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
leaky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poorly fitted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Metal:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dirty or milkstone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dented or damaged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pitted or corroded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
open seam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No Defect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1	2	3	4	5

[illegible]

Part II					
1	(A	B	C	D	E)
2	(A	B	C	D	E)
3	(A	B	C	D	E)
4	(A	B	C	D	E)
5	(A	B	C	D	E)
6	(A	B	C	D	E)
7	(A	B	C	D	E)
8	(A	B	C	D	E)
9	(A	B	C	D	E)
10	(A	B	C	D	E)
11	(A	B	C	D	E)
12	(A	B	C	D	E)
13	(A	B	C	D	E)
14	(A	B	C	D	E)
15	(A	B	C	D	E)
16	(A	B	C	D	E)
17	(A	B	C	D	E)
18	(A	B	C	D	E)
19	(A	B	C	D	E)
20	(A	B	C	D	E)
21	(A	B	C	D	E)
22	(A	B	C	D	E)
23	(A	B	C	D	E)
24	(A	B	C	D	E)
25	(A	B	C	D	E)

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Written Test											
1	A	B	C	D	E	26	A	B	C	D	E
2	A	B	C	D	E	27	A	B	C	D	E
3	A	B	C	D	E	28	A	B	C	D	E
4	A	B	C	D	E	29	A	B	C	D	E
5	A	B	C	D	E	30	A	B	C	D	E
6	A	B	C	D	E	31	A	B	C	D	E
7	A	B	C	D	E	32	A	B	C	D	E
8	A	B	C	D	E	33	A	B	C	D	E
9	A	B	C	D	E	34	A	B	C	D	E
10	A	B	C	D	E	35	A	B	C	D	E
11	A	B	C	D	E	36	A	B	C	D	E
12	A	B	C	D	E	37	A	B	C	D	E
13	A	B	C	D	E	38	A	B	C	D	E
14	A	B	C	D	E	39	A	B	C	D	E
15	A	B	C	D	E	40	A	B	C	D	E
16	A	B	C	D	E	41	A	B	C	D	E
17	A	B	C	D	E	42	A	B	C	D	E
18	A	B	C	D	E	43	A	B	C	D	E
19	A	B	C	D	E	44	A	B	C	D	E
20	A	B	C	D	E	45	A	B	C	D	E
21	A	B	C	D	E	46	A	B	C	D	E
22	A	B	C	D	E	47	A	B	C	D	E
23	A	B	C	D	E	48	A	B	C	D	E
24	A	B	C	D	E	49	A	B	C	D	E
25	A	B	C	D	E	50	A	B	C	D	E

100

[illegible]

Placing Classes									
	Placing	Class						Placing	
		1	2	3	4	5	6		
1	1 2 3 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1 2 3 4	1
2	1 2 4 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1 2 4 3	2
3	1 3 2 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1 3 2 4	3
4	1 3 4 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1 3 4 2	4
5	1 4 2 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1 4 2 3	5
6	1 4 3 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1 4 3 2	6
7	2 1 3 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2 1 3 4	7
8	2 1 4 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2 1 4 3	8
9	2 3 1 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2 3 1 4	9
10	2 3 4 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2 3 4 1	10
11	2 4 1 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2 4 1 3	11
12	2 4 3 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2 4 3 1	12
13	3 1 2 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3 1 2 4	13
14	3 1 4 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3 1 4 2	14
15	3 2 1 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3 2 1 4	15
16	3 2 4 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3 2 4 1	16
17	3 4 1 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3 4 1 2	17
18	3 4 2 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3 4 2 1	18
19	4 1 2 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4 1 2 3	19
20	4 1 3 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4 1 3 2	20
21	4 2 1 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4 2 1 3	21
22	4 2 3 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4 2 3 1	22
23	4 3 1 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4 3 1 2	23
24	4 3 2 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4 3 2 1	24
		1	2	3	4	5	6		

Written Test											
1	A	B	C	D	E	14	A	B	C	D	E
2	A	B	C	D	E	15	A	B	C	D	E
3	A	B	C	D	E	16	A	B	C	D	E
4	A	B	C	D	E	17	A	B	C	D	E
5	A	B	C	D	E	18	A	B	C	D	E
6	A	B	C	D	E	19	A	B	C	D	E
7	A	B	C	D	E	20	A	B	C	D	E
8	A	B	C	D	E	21	A	B	C	D	E
9	A	B	C	D	E	22	A	B	C	D	E
10	A	B	C	D	E	23	A	B	C	D	E
11	A	B	C	D	E	24	A	B	C	D	E
12	A	B	C	D	E	25	A	B	C	D	E
13	A	B	C	D	E						

Questions on Placing Classes																													
1	(1)	(2)	(3)	(4)	6	(1)	(2)	(3)	(4)	11	(1)	(2)	(3)	(4)	16	(1)	(2)	(3)	(4)	21	(1)	(2)	(3)	(4)	26	(1)	(2)	(3)	(4)
2	(1)	(2)	(3)	(4)	7	(1)	(2)	(3)	(4)	12	(1)	(2)	(3)	(4)	17	(1)	(2)	(3)	(4)	22	(1)	(2)	(3)	(4)	27	(1)	(2)	(3)	(4)
3	(1)	(2)	(3)	(4)	8	(1)	(2)	(3)	(4)	13	(1)	(2)	(3)	(4)	18	(1)	(2)	(3)	(4)	23	(1)	(2)	(3)	(4)	28	(1)	(2)	(3)	(4)
4	(1)	(2)	(3)	(4)	9	(1)	(2)	(3)	(4)	14	(1)	(2)	(3)	(4)	19	(1)	(2)	(3)	(4)	24	(1)	(2)	(3)	(4)	29	(1)	(2)	(3)	(4)
5	(1)	(2)	(3)	(4)	10	(1)	(2)	(3)	(4)	15	(1)	(2)	(3)	(4)	20	(1)	(2)	(3)	(4)	25	(1)	(2)	(3)	(4)	30	(1)	(2)	(3)	(4)

[illegible]

Meat Formulation Problem Solving										
Solution					Questions					
1	2	3	4	5	1	A	B	C	D	E
					2	A	B	C	D	E
6	7	8	9	10	3	A	B	C	D	E
					4	A	B	C	D	E
					5	A	B	C	D	E
					6	A	B	C	D	E
					7	A	B	C	D	E
					8	A	B	C	D	E

PLEASE DO NOT WRITE IN THIS AREA

[illegible]

SERIAL #

Meat Identification - Retail Cuts

SERIAL #

Identification of Carcass Parts

Part	Class 11 Part Number									
	1	2	3	4	5	6	7	8	9	10
1. Half	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Front half	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Rear half	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Whole breast with ribs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Boneless, skinless whole breast with rib meat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Whole breast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Boneless, skinless whole breast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Split breast with ribs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Boneless, skinless split breast with rib meat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Split breast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Boneless, skinless split breast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Breast quarter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Breast quarter without wing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Tenderloin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Wishbone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Leg quarter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Leg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Thigh with back portion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Thigh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Boneless, skinless thigh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Drumstick	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Boneless, skinless drum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Wing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Drumette	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Wing Portion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Liver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Gizzard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Heart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Neck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Paws	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8	9	10

Further-Processed Poultry Meat Products Evaluation

Defect	Class 10 Product Number									
	1	2	3	4	5	6	7	8	9	10
1. Coating Void	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Inconsistent Coating Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Inconsistent Shape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Broken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Inconsistent Size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Cluster / Marriages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Miscut Wings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Broken Wings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Feathers / Foreign Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. No Defect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Written Examination Class 12

1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

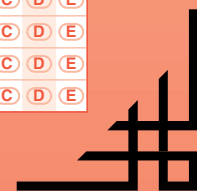
Team Activity Class 13

1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE DO NOT WRITE IN THIS AREA



SERIAL #



CDE# 239564-2

Correct Mark



Code			
Sheet	Test	Team	Student
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Exam						Mgmt/TSI											
1	A	B	C	D	E	26	A	B	C	D	E	1	A	B	C	D	E
2	A	B	C	D	E	27	A	B	C	D	E	2	A	B	C	D	E
3	A	B	C	D	E	28	A	B	C	D	E	3	A	B	C	D	E
4	A	B	C	D	E	29	A	B	C	D	E	4	A	B	C	D	E
5	A	B	C	D	E	30	A	B	C	D	E	5	A	B	C	D	E
6	A	B	C	D	E	31	A	B	C	D	E	6	A	B	C	D	E
7	A	B	C	D	E	32	A	B	C	D	E	7	A	B	C	D	E
8	A	B	C	D	E	33	A	B	C	D	E	8	A	B	C	D	E
9	A	B	C	D	E	34	A	B	C	D	E	9	A	B	C	D	E
10	A	B	C	D	E	35	A	B	C	D	E	10	A	B	C	D	E
11	A	B	C	D	E	36	A	B	C	D	E	11	A	B	C	D	E
12	A	B	C	D	E	37	A	B	C	D	E	12	A	B	C	D	E
13	A	B	C	D	E	38	A	B	C	D	E	13	A	B	C	D	E
14	A	B	C	D	E	39	A	B	C	D	E	14	A	B	C	D	E
15	A	B	C	D	E	40	A	B	C	D	E	15	A	B	C	D	E
16	A	B	C	D	E	41	A	B	C	D	E	16	A	B	C	D	E
17	A	B	C	D	E	42	A	B	C	D	E	17	A	B	C	D	E
18	A	B	C	D	E	43	A	B	C	D	E	18	A	B	C	D	E
19	A	B	C	D	E	44	A	B	C	D	E	19	A	B	C	D	E
20	A	B	C	D	E	45	A	B	C	D	E	20	A	B	C	D	E
21	A	B	C	D	E	46	A	B	C	D	E	21	A	B	C	D	E
22	A	B	C	D	E	47	A	B	C	D	E	22	A	B	C	D	E
23	A	B	C	D	E	48	A	B	C	D	E	23	A	B	C	D	E
24	A	B	C	D	E	49	A	B	C	D	E	24	A	B	C	D	E
25	A	B	C	D	E	50	A	B	C	D	E	25	A	B	C	D	E

Map					
1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E

	Mgmt				
1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E

[illegible]

SERIAL #



The FFA Mission

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.

The Agricultural Education Mission

Agricultural Education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources systems.

The National FFA Organization is a resource and support organization that does not select, control or supervise state association, local chapter or individual member activities except as expressly provided for in the National FFA Organization Constitution and Bylaws. The National FFA Organization affirms its belief in the value of all human beings and seeks diversity in its membership, leadership and staff as an equal opportunity employer.