~~Approved by the Texas FFA BOD 9/15/14~~

~~2012-2015~~ *2017-2021*

CAREER DEVELOPMENT EVENT HANDBOOK

TEXAS FFA ASSOCIATION
614 EAST 12TH STREET
AUSTIN, TX 78701

Section 25.5 General CDE Rules

1. Each participant must be a bona fide dues-paying FFA member in good standing with the local chapter, state association and the national organization, be listed on the state roster, AND be under the age of 21 at the time of the national FFA event. All entries shall be verified upon entry to state event. Substitutes must be submitted to event providers to be verified by the Texas FFA Association.

2. Each participant must be enrolled in an agriculture, food and natural resources course at the time of the event or have completed an agriculture, food and natural resources course during the current academic year. Enrollment will be verified in case of a protest regarding eligibility. All national qualifying teams will verify enrollment prior to certification for national competition.

3. A member who has participated previously in a career development event at the national level shall NOT be eligible for the same event (excluding tractor technician and range). A student who has previously participated on a state-winning team shall not be eligible for future competition in that CDE in a state contest or in a contest that leads to qualification for the state competition in that event. **See specific rules for each contest.**

4. If a student who is ineligible for any reason, including, but not limited to academic failure, FFA membership, courses enrollment or participation on a national or state winning team, the student's score shall be nullified and the team's score shall be recalculated. If the event is a team activity or includes a team activity, the team with the ineligible team member shall be disqualified. If it is determined that a teacher or other school representative has knowingly entered an ineligible student, the provisions of general rule 21 shall be applied.

5. Area coordinators will certify all teams eligible to participate in the state events.

6. A chapter may enter one team in each event at the appropriate level: area for elimination events and state for events for which there is not a qualifying event**. In case of exceptions, contest rules will take precedence over the general rules**.

7. Team members must be from the same chapter. If a four-member team is entered, in events where allowed, the three highest individual scores are used to calculate the team score, with the exception of Food Science in which scores from all four members will be used. However, all four members are eligible for individual awards. The fourth member of a team placing first shall not be eligible for the same event in future years. Two-member teams are not eligible for team recognition or qualification for state competition. Teams that have more active participants than are allowed in a given event shall be disqualified once it is verified by event officials that the additional members are from the chapter in question. Event providers may opt to create a separate group rotation for alternates and tabulate at-large alternate scores.

8. Each event will be limited to a minimum of five teams or a maximum of 15 percent or major fraction thereof of the number of fully eligible teams (see TX FFA policy handbook 25.5(f)) participating with exception of the following:
   (1) Agricultural Technology and Mechanical Systems - limited to three teams from each area;
   (2) Tractor Technician - limited to two teams from each area.

With the exception of Agricultural Technology and Mechanical Systems, teams with the same team score for the last qualifying state berth shall be certified for state competition by the area coordinators. In CDE's in which an area has not reached its maximum number for qualification, teams from other areas may be certified for state competitions. At large qualifiers will be based upon total number of non-qualifying teams in an area compared to the places that are available to reach the number that an event provider has determined to be a maximum capacity for the facility.

9. There is no limit on the number of teams from each area that may participate in the following events: agricultural communications, agricultural sales, agronomy, cotton, environmental and natural resources, food science, forage evaluation, home site evaluation, marketing plan and range plant identification.

10. Students may use their notes made during the event for all events in which questions will be asked concerning the classes. No notes may be used in the written exams.

11. Scoring and tabulating are completed as quickly as possible in order that results can be announced and awards presented to winning teams. Announced results will not be official until 5:00 p.m. the second working day following the event. Incorrect results will be corrected and the verified state winner will represent Texas in national competition. Individual scores by team members will be made available on the day of the event and/or posted on judgincard.com. Awards will be presented as results are announced. Plaques and banners will be ordered based on the previous year's participation numbers. Ten teams will receive plaques or banners in events in which participation exceeds ten entries. In other events, the number of awards shall be the number of teams entered, with additional awards ordered as needed and mailed if necessary. Official FFA jackets are required for pictures to be published in the Texas FFA News Online.

12. The State CDE chairman shall appoint scoring monitors for each event and provide a list of monitors to the event site general superintendent. Scoring monitors shall examine scores and determine if any wide-spread aberration exists. Scores shall not be announced until verified by a scoring monitor.

13. Dress code for CDE participation is official FFA dress (for events requiring official dress) or closed-toed shoes, full length pants or slacks, collared shirts *or blouses* with sleeves. The only logos permissible on shirts are clothing brand, school or organizational logos. (Clothing brands logos may not promote alcohol, tobacco or any other brand not consistent with the ideals and principles of the Texas FFA). Shirt collars must be full, folded collars. Capri-type pants shall be deemed to be shorts, not pants or slacks. Contestants not in dress code compliance shall be given an opportunity to remedy the non-compliant apparel. Contestants found in the contest in violation of the dress code shall be disqualified. A teacher committee appointed by the state CDE committee chair shall enforce dress code standards.

14. Individual contestants are responsible for providing accurate scoring information on each scan sheet including team number. Contest officials will not correct, enter or change scan sheet marks or errors. Individual scores will not be tabulated without the correct team number.

15. Neither team advisors nor team members of a state qualifying team are to visit the State CDE site for an event for which they have qualified. This prohibition begins on the day following area events hosted on that site. Violation will result in disqualification. Competing onsite as a bona fide 4-H member does not constitute violation of this rule.

16. Any communication, verbal or nonverbal, between participants during an event will be sufficient cause to eliminate the team. ~~Possession of cell phones, pagers, programmable calculators or any other electronic devices which provide unfair advantage in the event shall not be permitted~~. *All communication devices (cell phone, tablets, etc.) shall be turned off or placed on airplane mode and shall not be visible or used in any capacity during the duration of the contest. Programmable calculators will not be allowed.* Violators shall be disqualified.

17. Students may not bring pictures, printed material, or any items that have not been issued or authorized. Where non-programmable calculators are permitted (see individual events), the memory must be clear before entering the event location. **Team members must provide their own compliant* clipboard and/or *clean* folder with the following items: scan sheet, *and/or copy of the scan sheet,* optional Texas FFA CDE drop sheet, and/or 2 sheets of lined or unlined blank paper.** A teacher committee will be responsible for ensuring compliance of this rule. *Violation of these rules will result in team disqualification.* ***Compliant clipboards should be: free of all current or recycled lapel contest stickers; must be sticker free (excluding school logos, which were applied when the clipboard was manufactured), ruler free, free of all marks. (Please refer to individual event rules for clarification on "clear" or "transparent" specifications.)**

18. The section leaders will call for scan sheets. Once scan sheets are submitted to a section leader, they will not be returned to the student.

19. During any event, students are not permitted to leave the event area unless accompanied by an event official. Event materials are not to be taken from the site.

20. Teachers should notify contest officials concerning students with physical disabilities at the time of entry. Requests for special consideration will be determined on a case by case basis. Assistance will be provided by a contest official and shall not constitute an advantage for that student or a disadvantage for other contestants. Additional time cannot be provided for completion of events.

21. If any cause for disqualification is considered a willful act of defiance and the act has the approval of the teacher, the school the student represents will be barred from participation in state events until reinstated by the state executive board. Any advisor found guilty of willfully entering ineligible members in any FFA event will have the school where he/she serves barred from participation until reinstated by the state executive board.

22. Teachers are expected to maintain the highest standards of professionalism, and students should adhere to the highest standards of sportsmanship and integrity. Faculty member/ contest superintendents may ask teachers to leave a contest area if the code of professionalism is broken. Students who violate the tenets of sportsmanship during an event may be removed by a facility event superintendent or the general contest superintendent.

23. General and contest superintendents, assistants, and section leaders will exercise every effort to enforce all contest rules. Event superintendents shall notify the general superintendent for that event site of all disqualifications and the circumstances surrounding incidents meriting disqualification. The state FFA office shall be notified of all such disqualifications.

24. Appeals concerning interpretation and enforcement of rules shall be handled directly by the event site general superintendent. Appeals regarding area or district standing in an event shall be addressed by the corresponding executive committee. Appeals regarding qualification for state competitions shall be submitted in writing to the area executive committee no later than

5:00 p.m. on the first working day following the event. Teachers may appeal area rulings to the state executive board. All such appeals must be submitted to the state executive director by 5:00 p.m. on the first working day following the area decision. Should an area executive committee fail to act on an appeal in a timely manner, such appeal may be made to the state executive director. Persons whose judgment may be influenced by vested interest or a

pre-existing relationship that may impair their ability to be fair and impartial must excuse themselves from all deliberations concerning appeals.

25. ENTRY FEE: The entry fee is $50 per team; except Agricultural Mechanics which is $80 per team. All registration is electronic via http://www.judgingcard.com. Entry fees must be paid in accordance to state FFA policies regarding payment of entries and payment policies of the events entry management provider. No refund can be made for teams which do not participate. Entries not made on judgingcard.com on or before the deadline established by the event providers risk disqualification or may be charged a late fee. If the event qualification dates do not allow for compliance to established timelines, providers shall accept these entries and waive late fees. Teachers must notify providers of such circumstances.

26. Institutional providers will be responsible for selecting qualified personnel for conducting each event.

~~Approved by the Texas FFA BOD 9/15/14~~

CDE TEAM CHART

Event	Team Members	Area Qualifying Event	National Qualifying Event?
Agronomy	3-4	No	Yes
Ag Communications	3	No	
Agricultural Mechanics	3-4	Yes – Max 3 teams per area	Yes
Agricultural Sales	3-4	No	Yes
Cotton	3-4	No	No
Dairy Cattle Evaluation	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Entomology	3-4	Yes – min of 5 per area or max 15% of eligible	No
Environmental & Natural	3-4	No	Yes
Farm Business	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Floriculture	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Food Science & Technology	4	No	Yes
Forage Evaluation	3-4	No	No
Forestry*	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Home Site Evaluation	3-4	No	Yes
Horse Evaluation	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Land Evaluation	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Livestock Evaluation	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Marketing Plan	3	No	Yes
Meats Evaluation	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Milk Quality and Products	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Nursery/Landscape	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Poultry Evaluation	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Range & Pasture Plant ID	3-4	No	No
Range	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Tractor Technician	3	Yes – Max 2 teams per area	No
Vet Tech.	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Wool	3-4	Yes – min of 5 per area or max 15% of eligible	Yes
Wildlife & Recreation	3-4	Yes – min of 5 per area or max 15% of eligible	No

*Forestry can qualify through area qualifier OR through the Soil and Water Conservation District

27. Texas FFA Association Inclement Weather Policy:

Inclement Weather
For state events, the state executive director shall work proactively with providers to assess potential weather and road hazards which could create travel risks for students and teachers. Should inclement weather pose a potential travel risk for groups from any part of the state, the executive director shall consult the state executive board and appropriate experts (such as but not limited to National Weather Service forecasters) to assess potential hazards and consider options for amending event start times or participation schedules to facilitate safer travels, event postponement or cancellation. The Texas FFA Association shall make student safety the top priority in all such decisions.

If possible, the executive director or his or her designee shall notify teachers via e-mail and/or the emergency text messaging system of any impending event decisions regarding inclement weather.

District and area associations are to work with their respective executive committees in assessing weather- related travel risks. The state executive director shall work with area event coordinators in adjusting state entry and material submission deadlines for area events postponed due to inclement weather.

Lightning Safety
Lightning may be the most frequently encountered severe storm hazard endangering physically active people each year. Millions of lightning flashes strike the ground annually in the United States, causing nearly 100 deaths and 400 injuries. Three quarters of all lightning casualties occur between May and September, and nearly four fifths occur between 10:00 am and 7:00 pm, which coincides with the hours for most career development events held in field conditions.

Provides should postpone or suspend activity if a thunderstorm appears imminent before or during an activity or contest (irrespective of whether lightning is seen or thunder heard) until the hazard has passed. Signs of imminent thunderstorm activity are darkening clouds, high winds, and thunder or lightning activity. Student safety must be the first priority. If the provider deems it necessary to collect and hold scan sheets, students must be moved to a safe location before such collections are conducted.

Recommendations for Lightning Safety

1. Establish a chain of command that identifies who is to make the call to remove individuals from the field.

2. Name a designated weather watcher (A person who actively looks for the signs of threatening weather and notifies the chain of command if severe weather becomes dangerous). Lightening meters are recommended but not required. Most athletic departments own these meters.

3. Have a means of monitoring local weather forecasts and warnings.

4. Designate a safe shelter for each venue that can accommodate the anticipated number of contestants. See examples below.

5. Use the Flash-to-Bang count to determine when to go to safety. By the time the flash-to-bang count approaches thirty seconds all individuals should be already inside a safe structure. See method of determining Flash-to-Bang count below.

6. Once activities have been suspended, wait at least thirty minutes following the last sound of thunder or lightning flash prior to resuming an activity or returning outdoors.

7. Avoid being the highest point in an open field, in contact with, or proximity to the highest point, as well as being on the open water. Do not take shelter under or near trees, flagpoles, or light poles.

8. Assume that lightning safe position (crouched on the ground weight on the balls of the feet, feet together, head lowered, and ears covered) for individuals who feel their hair stand on end, skin tingle, or hear "crackling" noises. Do not lie flat on the ground.

9. Observe the following basic first aid procedures in managing victims of a lightning strike:

    Activate local
    EMS
    - Lightning victims do not "carry a charge" and are safe to touch.
    - If necessary, move the victim with care to a safer location.
    - Evaluate airway, breathing, and circulation, and begin CPR if necessary.
    - Evaluate and treat for hypothermia, shock, fractures, and/or burns.

10. All individuals have the right to leave a career development event site in order to seek a safe structure if the person feels in danger of impending lightning activity, without fear of repercussions or penalty from anyone.

Definitions

Safe Shelter:

1. A safe location is any substantial, frequently inhabited building. The building should have four solid walls (not a dug out), electrical and telephone wiring, as well as plumbing, all of which aid in grounding a structure.

2. The secondary choice for a safer location from the lightning hazard is a fully enclosed vehicle, including a school bus, with a metal roof and the windows completely closed. It is important to not touch any part of the metal framework of the vehicle while inside it during ongoing thunderstorms.

3. It is not safe to shower, bathe, or talk on landline phones while inside of a safe shelter during thunderstorms (cell phones are considered safe).

Flash-to-Bang:

To use the flash-to-bang method, begin counting when sighting a lightning flash. Counting is stopped when the associated bang (thunder) is heard. Divide this count by five to determine the distance to the lightning flash (in miles). For example, a flash-to-bang count of thirty seconds equates to a distance of six miles. Lightning has struck from as far away as 10 miles from the storm center.

AGRICULTURE COMMUNICATIONS
Official Dress Mandatory – ~~3~~ *4* Member Team

I. Purpose

The following information includes changes to the Texas FFA Agricultural Communications Career Development Event. These changes align closely with the changes proposed by the National FFA CDE Committee, as well as the requests of agriscience teachers in Texas.

II. Event Rules

A. Teams will consist of ~~three~~ four members.

B. Participants must wear FFA Official Dress for this event.

C. During the practicum portion of the event, ~~one team member will be responsible for completing a written communication activity, one team member will be responsible for completing an electronic media activity and one team member will be responsible for completing a visual design activity.~~ ***one team member will be responsible for completing a journal writing communication activity, one team member will be responsible for completing a opinion writing communication activity, one team member will be responsible for completing an electronic media activity and one team member will be responsible for completing a visual design activity.***

D. Students are allowed to only bring a pen or pencil into the contest. Notebooks, clipboards, loose-leaf paper, and bags will not be taken into the contest and will be deposited with a designated event volunteer.

E. Only students are allowed in the testing, press conference, and practicum rooms.

III. Event Format

By January 15th of each year, the state agricultural communications CDE provider will release event specifications for the upcoming event. The specifications will outline the specific practicum activities, rules, detailed rubric, and software to be used.

The event begins promptly at 8:00 a.m. The schedule of events is as follows:

7:30 - 8 a.m. - Event registration (teams must pre-register to participate)
8:00 - Orientation
8:10 - Editing exercise
8:20 - Communications quiz
8:40 - Break
9:00 - Press conference
9:20 - Q & A (only writers ask questions)
9:30 - Dismiss to practicums

IV. Equipment

~~No equipment, other than a pen or pencil, is needed to participate in this contest.~~

~~However, in order to prepare students, it is recommended that teachers acquire the software to be used in the contest.~~

No equipment, other than a pen or pencil, is needed to participate in this contest, unless provider states other equipment is needed. However, in order to prepare students, it is recommended that teachers acquire the software to be used in the contest.

V. Activities

A. Tests

1. Editing exercise – (25 points - individual; ~~75~~ **100** points – team)

Because editing is a critical skill for all communicators, each team member will complete an editing exercise. Each contestant will be provided printed document that contains 25 style, grammar, punctuation or spelling mistakes. In correcting the mistakes, team members will be required to use correct proofreader's marks (see Associated Press Stylebook). Team members will NOT have access to the style manual or a dictionary during this exercise.

2. ~~Communications quiz~~ ~~- (25 points - individual; 75 points - team)~~

~~Each team member will complete a quiz that covers the content of the current Associated Press Stylebook. Questions may come from any section excluding sports guidelines. Team members will NOT have access to the style manual or a dictionary during this exercise~~

2. Communications quiz - (25 points - individual; 100 points - team)

Each team member will complete a quiz that covers the content of the current Telg, R. and T. Irani. Agricultural Communication in Action: A Hands-On Approach, 1st edi- tion. Cengage/Delmar Publishing, ISBN 1111317143 (Online versions available). Questions may come from any section. Team members will NOT have access to the style manual or a dictionary during this exercise

B. Practicums (100 points - individual; ~~300~~ ***400*** points - team)

The practicums will consist of ~~three~~ ***four*** individual events. Each team must assign a member to one of the following areas PRIOR to arriving at the state event:

~~1. Design~~

~~2. Electronic Media~~

~~3. Writing~~

1. ***Design - Video Production***
2. ***Electronic Media - Web Design***
3. ***Journal Writing***
4. ***Opinion Writing***

All teams will meet in a designated location for an orientation and press conference. Teams will be seated by event practicum group. 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 current agricultural topic for 20 minutes. Students will be provided with paper to take notes if they wish. The contestants designated as writers will then be involved in a 10-minute question and answer period with the expert (speaker). The other team members may listen to the Q and A, but cannot ask questions.

Each writer will stand to be recognized before asking a question. Writers may ask more than one question; however, the expert will attempt to address questions from as many different participants as possible. No recording devices of any kind will be allowed. Upon completion of the 10-minute question and answer session, participants will be dismissed to complete their assigned tasks.

i. **Design**
Each designer will use the press packet and information that was gathered in the press conference to develop a ~~graphic design layout~~. ***video***. The specific details, rules, and scoring rubric will be announced by January 15th each year. The objective is effective communication or information sharing through visual tools. Each participant will have 60 minutes to complete the practicum.

ii. **Electronic Media**
Each electronic media specialist will use the press packet and information that was gathered in the press conference to develop an electronic media message. The specific details, rules, and scoring rubric will be announced by January 15th each year. Participants will have 60 minutes to complete the practicum.

iii. ~~**Writing**~~ ***Journal Writing***
Writers are to write a journalistic piece based on the press packet and information that was gathered in the press conference. The specific details, rules, and scoring rubric will be announced by January 15th each year. It should be written for an appropriate audience, have a strong focus and lead, and include a headline. The story will then be word processed by the student on a computer and turned in to be scored. Participants will have 60 minutes to complete the practicum.

iv. ***Opinion Writing***
Writers are to write a opinion piece based on the press packet and information that was gathered in the press conference. The specific details, rules, and scoring rubric will be announced by January 15th each year. It should be written for an appropriate audience, have a strong focus and lead, and include a headline. The story will then be word processed by the student on a computer and turned in to be scored. Participants will have 60 minutes to complete the practicum

All Ag Communication activity themes will be posted on the website at:
www.texasffa.org → Events→CDE→ Ag Communications

VI. Scoring

Participants will be ranked in numerical order on the basis of the final score to be determined by each judge. The criteria and points can be found on the scorecards in the National FFA Agricultural Communications CDE proposed changes. Note that the national scorecards are suggested by National FFA and will be used only as a basis for the scoring rubric that the Texas FFA contest will use. Due to the unique nature of the rotating practicum activities, the scorecards will be adjusted to fit the students' assigned tasks. Rubrics will be released to teachers by January 15th each year.

Event	Points
*Tests - ~~150~~ **200** points possible*	
Communications Quiz ……	~~75~~ **100** (25 pts/member)
Editing Exercise ……	~~75~~ **100** (25 pts/member)
*Practicums - ~~300~~ **400** points possible*	
~~Writer Practicum~~	~~100~~
~~Electronic Media Practicum~~	~~100~~
~~Design Practicum~~	~~100~~
Journal Writer Practicum	**100**
Opinion Writer Practicum	**100**
Electronic Media Practicum	**100**
Design Practicum	**100**
Total individual score possible	**150**
Total team score possible……	**~~450~~ 600**

VII. Tiebreakers

A. Team tiebreakers will be settled in the following order:

1. Combined individual practicum rank score
2. Proposal rank
3. Presentation rank

B. Individuals tiebreakers will be settled in the following order:

1. Practicum score
2. Communications quiz score
3. Editing exercise score

IX. 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 FFA Core Catalog—Past CDE Material (http://shop.ffa.org/cde-qas-c1413.aspx)

Associated Press Stylebook and Libel Manual

Microsoft ® Office computer program

Adobe ® Creative Suite (most current edition)

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. Ruth-erford, Ph.D. Agricultural Communications and Journalism, Kansas State University on behalf of the National FFA Organization Copyright 2002, National FFA Organization. This guide can be found on the CDE webpage at https://www.ffa.org/documents/cde_agcomm_resources.pdf.

Telg, R. and T. Irani. Agricultural Communication in Action: A Hands-On Approach, 1st edi- tion. Cengage/Delmar Publishing, ISBN 1111317143 (Online versions available)

AGRICULTURAL SALES
3 or 4 Member Team

OFFICIAL DRESSS MANDATORY

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. EVENT FORMAT

A. Team Make-up

1. The event will be a team event consisting of three or four students. The top three individual scores will count toward the team total. A team may compete with less than four members.
2. It is required that participants be in official FFA dress for the event.

B. Individual Activities

1. **Objective Test (100 points/individual)**
   The objective test is designed to evaluate an individual participant's knowledge of the basic sales skills. A 50 question, multiple-choice test, developed exclusively from the references, will be administered with the two points awarded for each correct answer for a possible 100 points. Each participant will have 45 minutes to complete the test.
2. **Individual Sales Activity (100 points/individual)**
   Information and product(s) from the team activity will be used in the individual sales activity. Participants will directly sell the product(s) to one judge who will act as the customer. The judge will fit one of the customer profiles identified in the team pre-call planning. All judges will act as that one judge for each of the participants. The judge will act as a real customer which may include not buying the product but all participants will have the same experience. Participants will have to establish rapport with the customer and ask probing questions to ensure they meet the customer's needs. Participants will have 15 minutes to interact with the judge.

C. Team Sales Situation (150 points total)

1. Each participant will be allowed to bring a one-inch binder to the team activity containing the provided product information and any other information gathered by the participant.
2. Team members will work together to demonstrate teamwork, group dynamics, problem solving, data analysis, decision-making and oral communications.
3. The following information will be provided to the team at the event as if they were a group of salespeople working together to develop the pre-call planning prior to conducting a sales call:
   a. Product information (will be posted on Texas FFA website by January 15th each year)
   b. Profiles of different customers

4. The team will be provided with paper and writing utensils. No presentation equipment such as laptops, flipcharts or dry erase boards will be allowed.
5. The team will then develop the strategy (for the product(s) provided prior to the event) necessary to sell the product(s) in a face-to-face sales call. This strategy should include but not be limited to:
   a. Determining potential customer needs and wants.
   b. Identify features and benefits of the product(s) that address the customer's needs and wants.
   c. Identify potential customer objections and prepare to address them.
   d. Identify possible related/complimentary products and their suggestive selling strategies.
   e. Develop information gathering questions to be utilized in clarifying the customer's needs and wants.
6. Teamwork and involvement of team members will be judged during this event. Students are expected to justify their decisions based on selling principles.
7. The team will be given 20 minutes to analyze the information given and develop a presentation to provide the information listed above. During this twenty (20) minute period, the team will be judged using the team activity scorecard found in this chapter.
8. At the conclusion of the 20 minutes, the team will present to the judges who are acting as the team's immediate supervisors. The presentation will be no longer 10 minutes. At the conclusion of the presentation, the judges will have 10 minutes to ask questions of all team members. The questions will be taken from all aspects of the team event.

III. SCORING

Objective Test (100 pts./member) 300
Individual Sales Activity (100 pts./member).....300
Team Sales Situation..... 150
Total Possible Score **750**

IV. TIEBREAKER

Should a tie occur in the individual scores, the highest sales call score will break the tie. If the tie cannot be broken using the sales call score, the highest written test score will be used. If a tie still exists, then the highest alternate score will be used.

Should a tie occur on team scores, the highest team sales situation will break the tie. If the tie cannot be broken using the sales call score, the highest written test score will be used. If a tie still exists, then the highest alternate score will be used.

V. EXAM REFERENCES

CRISP Publications
1200 Hamilton Court

Melo Park, CA 94025-1427
(800) 442-7477

- *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~~

Ditzenberger and Kidney, *Selling-Helping Customers Buy*. South-Western Publishing Company, Cincinnati, Ohio, 1992, 1800-543-7972. ISBN 05386053716

AGRONOMY
3 or 4 Member Team

The Agronomy contest is designed to create interest and promote understanding in agronomic sciences by providing opportunities for student recognition through the demonstration of knowledge and skills.

I. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All four members will be scored and the top three scores will count towards the team total.

B. Component Descriptions

1. General Knowledge Exam – 150 points, 50 minutes

~~50 objective multiple choice questions will be given to each participant covering all agronomic practices associated with crop production.~~

~~1. Each response is worth three points each.~~

~~2. Answers will be recorded in the General Exam section of the scan sheet.~~

Fifty objective multiple choice questions will be given to each participant. Questions may include the following areas: cost sheets, seed tag information, tillage practices, pesticide labels, extension bulletins, fertility reports, tissue analysis, contract information, water management, seeding rates, variety information, trial data and application/calibration information for nozzle selection, chemication, fertigation and aerial application.

2. Identification – 150 points, 50 minutes

Students will identify 50 weed plant and/or seed, crop plant and/or seed specimens. Ideally this would be an equal assessment of both plants and seeds. Ideally, the plants should be live specimens and can represent any stage of development. However, they could be press mounts or photographs. The seed specimens must be a real seed, no photographs of seeds.

a. Identification specimens can only come from the reference list provide in the contest rules.
b. Each specimen will have a designated number on the reference list that will be used for scoring purposes.
c. Each response is worth three points each.
d. Answers will be recorded in the Identification section on the back of the scan sheet.

3. Soils and Soil Nutrient Management – 100 points, 50 minutes

This component will be no more than 50 question related to soils and soil nutrient management. The following is a list of possible content areas. The contest provider may create any question that relates to these content areas:

a. Soil textures and soil structures.
b. Analyze soil monoliths and answer questions relative to age (e.g., young, mature, old)
    i. drainage (e.g., poor, moderate, well)
    ii. soil color
    iii. horizons
    iv. structures
    v. etc.
c. Soil Color

d. Organic content
e. Capability
f. Land capability classes and problem solving questions related to various classes
g. Soil maps
h. Soil nutrients
i. Fertilizers
j. Soil nutrient management
k. Soil management

Each response is worth two points each**.** Answers will be recorded in the Soils Section of the scan sheet.

4. **Assessments and Solutions – 220 points, 50 minutes**

This section of the contest will be an activity based and questions component. The purpose of this component is to create some problems that participants will have to solve as well as possibly answer questions related to the problems. Additionally, there will be two crop judging classes that participants will evaluate.

a. **Solutions – 100 points**
   i. The solutions will be worth 10 points each and will be recorded in the solutions section of the scan sheet.
   ii. There will a possibility of up to 10 solutions.
   iii. The solutions can come from any of the following areas; seeding and fertilizer application rates, fertilizer calculations, acreage calculations, tillage rates, grain grading calculations (determine a grain grade from provide flow charts), crop diagnosis from crop reports, and soil diagnosis from soil survey reports.

b. **Assessments – 20 points**
   i. The assessments will be worth two points each and will be recorded in the assessment section of the scan sheet.
   ii. There will be a possibility of up to 10 assessments.
   iii. The assessments will be general knowledge type questions related to the solutions that the participant will be solving.

c. **Judging classes – 100 points**
   i. There will be two classes of four crop samples from the crops identification list. Students will rank the four samples in proper order for quality of samples.
   ii. The placings will be recorded in the judging class section of the scan sheet.

5. **Pest Identification – 200 points, 50 minutes**

This component will consist of identifying insects and plant disorders. Additionally students will have to identify characteristics related to the individual insect and plant disorder.

a. **Insect Identification- 100 points**
   i. Students will identify 10 insects worth four points each from the insect identification list.
   ii. Students will also have to identify the following characteristics related to each insect identified:
      a. Economic Impact – two points each
      b. Life Cycle – two points each
      c. Mouth Part – two points each
   iii. Response will be recorded on the back of the scan sheet in the insect section.

b. **Plant Identification – 100 points**

i. ~~Ten samples worth 10 points each will be identified according to category (worth 4 points), causal agent (worth 3 points) and damage location(worth 3 points). Refer to the Agronomic Disorders Page for the category, agent and damage location lists.~~
Ten samples worth 10 points each will be identified according to causal category (worth 4 points), causal agent (worth 3 points) and damage location (worth 3 points). Refer to the Agronomic Disorders Page for the category, agent and damage location lists.

II. SCORING

General Knowledge Exam……..150 pts 50 minutes Identification: Plant and/ or Seed…..……150 pts 50 minutes Soils and Soil Nutrient Management …….....100 pts 50 minutes Assessments and Solutions ……..……....220 pts 50 minutes Pest Identification ……....200 pts 50 minutes **Individual score…….820 points**
Team Score ……..…2460 points

III. TIE BREAKER

Individual ties will be broken using the following tiebreakers.

1. Highest score on the General Knowledge Exam
2. Highest score on the Identification
3. Highest score on the Soils
4. Highest score on the Assessment and Solutions
5. Highest score on the Pest Identification

Team ties will be broken using the following tiebreakers.

1. High individual

IV. References

- *This list of references is not intended to be all inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. Make sure to use discretion when selecting website references by only using reputable, proven sites. The following list contains references that may prove helpful during event preparation. The most current edition of resources will be used.*
- *Past CDE materials and other resources are available by logging in to https://www.ffa.org/participate/cdes/agronomy*
  - *Plant Identification*
    - *Flash cards for both seeds and plants are available through Wards Natural Science Establishment at wardsci.com.*
    - *Weeds of the Northeast, Comstock Books, by Richard H. Uva (Author), Joseph C. Neal (Author), Joseph M. Ditomaso (Author).*
    - *Weeds of the Great Plains, Nebraska Department of Agriculture by James L Stubbendieck (Author)*
    - *Weeds of the West, University of Wyoming Extension, by Tom D. Whitson (Editor)*
    - *Common Weed Seedlings of the North Central States, Michigan State University Extension*
    - *Sunset Western Garden Book*
  - *An Illustrated Guide to Arizona Weeds, University of Arizona, uapress.arizona.edu*

- *Weeds of California and Other Western States University of California*
- *Interactive Encyclopedia of Weeds of North America, North Central Weed Science Society*
- *http://www.weeds.iastate.edu/reference/default.htm*
- *http://plants.usda.gov/*
- *http://weeds.cropsci.illinois.edu/weedid.html*
- *http://www.ppws.vt.edu/weedindex.html*
- *http://www.ipm.ucdavis.edu/PMG/weeds_multi.html*
- *http://wssa.net/weed/weed-identification/*

o *Seed Identification*
- *Illustrated Taxonomy Manual of Weed Seeds, North Central Weed Science Society*
- *Weed Seeds of the Great Plains, University Press of Kansas*
- *http://www.kscrop.org/resources/2009%20Weed%20Seed%20Photos.pdf*
- *http://www.oardc.ohio-state.edu/seedid/*
- *http://plants.usda.gov/*

o *Hay Evaluation*
- *http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2556/PSS-2588web.pdf*

o *Vegetable / Seed Evaluation and Placing*
- *http://www.gov.ns.ca/agri/4h/manuals/garden/unit6.pdf*

o *Disease / Disorder*
- *http://plant-disease.ippc.orst.edu/image_index.cfm*
- *http://plantpathology.tamu.edu/Texlab/index.html*

o *Insects:*
- *http://pest.ca.uky.edu/EXT/master_gardener/entbasics/mouthparts/mouthparts.shtml*
- *http://en.wikipedia.org/wiki/Insect_mouthparts*
- *http://cals.arizona.edu/crops/images/insectidaz/index.html*

o *Soils:*
- *http://www.nrcs.usda.gov/wps/portal/nrcs/soilsurvey/soils/survey/state/*
- *http://websoilsurvey.nrcs.usda.gov/app/HomePage.html*
- *http://www.nrcs.usda.gov/wps/portal/nrcs/soilsurvey/soils/survey/state/*
- *http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/?cid=nrcs142p2_054279*

o *Written Exam:*
- *The best resource for the written exam is old exams available from the National FFA Organization. There is no one resource for the exam.*
- *http://ohioline.osu.edu/b472/*
- *http://www.extension.iastate.edu/Publications/SR48.html*
- *http://extension.agron.iastate.edu/soybean/topicpage1.html*
- *http://ams.usda.gov/gapghp*
- *http:gaps.cornell.edu*

AGRONOMY CONTEST IDENTIFICATIONLISTS

	Weed/Plant List
100	Barnyardgrass
101	Black nightshade
102	Buckhorn plantain
103	Bull thistle
104	Cheat *or Downy Brome*
105	Common cocklebur
106	Common Lambsquarters
107	Common mallow
108	Common milkweed
109	Common ragweed, Giant Ragweed
110	Common sunflower
111	Crabgrass
112	Curly dock
113	Dandelion
114	Field bindweed
115	Foxtail *(yellow, green or gaint)*
116	Groundcherry
117	Horsenettle
118	Jimsonweed
119	Johnsongrass
120	Morning glory
121	Nutsedge
122	Puncturevine
123	Purslane
124	Redroot pigweed
125	Russian thistle
126	Shepherdspurse
127	Smartweed
128	Wild mustard
129	Wild oats
130	*Sliverleaf Nighshade*
131	*Buckhorn Plantain*

	~~Plant Disorders List~~
~~200~~	~~Blight~~
~~201~~	~~Cankers~~
~~202~~	~~Ergot~~
~~203~~	~~Galls~~
~~204~~	~~Iron [Fe] Chlorosis~~
~~205~~	~~Mold~~
~~206~~	~~Mosaics~~
~~207~~	~~N.P.K. Deficiencies~~
~~208~~	~~Powdery Mildew~~
~~209~~	~~Root Rot~~
~~210~~	~~Rusts~~
~~211~~	~~Scab~~
~~212~~	~~Scale~~
~~213~~	~~Smut~~
~~214~~	~~Stalk Rots~~
~~215~~	~~Wilts~~

	~~Crop Plant/Seed List~~
~~300~~	~~Alfalfa~~
~~301~~	~~Barley~~
~~302~~	~~Bean, Pinto~~
~~303~~	~~Canola~~
~~304~~	~~Corn, Dent~~
~~305~~	~~Cotton~~
~~306~~	~~Kentucky Bluegrass~~
~~307~~	~~Oats~~
~~308~~	~~Orchardgrass~~
~~309~~	~~Peanut~~
~~310~~	~~Potato~~
~~311~~	~~Red Clover~~
~~312~~	~~Rice~~
~~313~~	~~Safflower~~
~~314~~	~~Sorghum~~
~~315~~	~~Soybean~~
~~316~~	~~Sudangrass~~
~~317~~	~~Sugarbeet~~
~~318~~	~~Sugarcane~~
~~319~~	~~Sunflower~~
~~320~~	~~Sweetclover~~
~~321~~	~~Tall Fescue~~
~~322~~	~~Timothy~~
~~323~~	~~Tobacco~~
~~324~~	~~Wheat, Red~~
~~325~~	~~White Clover~~

Insect List	
400	Alfalfa Weevil
401	Aphids
402	Assassin Bug
403	Blister Beetle
404	Boll Weevil
~~405~~	~~Bollworm~~ *Field Cricket*
406	~~Cabbage Looper~~ *Cucumber Beetle*
407	Chinch Bug
408	Corn Earworm
409	Cutworms
410	European Corn Borer
411	Flea Beetle
412	Grasshopper
413	Green Lacewing
414	Honeybee
415	Ladybird Beetle *Larvae*
416	Leaf Skeletonizer
417	Leafhopper
418	Lygus
419	Colorado Potato Beetle
420	Spider Mite
421	Stink Bug
422	Tobacco/Tomato Hornworm
423	Whitefly
424	Wireworm
425	Western Flower Thrip
426	White Grub

Possible Answers

Economic Impact

None or predatory
Fruit/Flower destruction
Vegetative Part destruction
Removal of plant fluids

Mouth Parts

Chewing
Chewing-lapping
Rasping-sucking
Piercing-sucking
Siphoning

Life Cycle

Complete
Incomplete
None

Agronomic Disorders

Causal Category

Cultural
Biological
Environmental

Agents

Fungus
Chemical
Mechanical
Nematodes
Virus
Bacteria
Insect
Nutritional
Frost damage
Wind or Hail damage
Drought or Heat Damage
Moisture

Parts of Plant Damaged

No Damage
Fruit or Flower
Vegetative Parts
Vascular Bundles
More than one area

Crop Plant/Seed List

ID #	Crop Name	Form		ID#	Crop Name	Form
300	Alfalfa	Plant or Seed		320	Red Clover	Plant or Seed
301	Barley	Plant or Seed		321	Rice	Plant or Seed
302	Bermuda Grass	Plant or Seed		322	Safflower	Plant or Seed
303	Broccoli	Plant Only		323	Sorghum	Plant or Seed
304	Cabbage	Plant Only		324	Soybean	Plant or Seed
305	Canola	Plant or Seed		325	Squash	Plant or Seed
306	Cantaloupe	Plant or Seed		326	Strawberry	Plant Only
307	Carrot	Root Provided		327	Sudangrass	Plant or Seed
308	Cauliflower	Plant Only		328	Sugarbeet	Plant or Seed
309	Corn, Dent	Plant or Seed		329	Sugarcane	Plant Only
310	Cotton	Plant or Seed		330	Sunflower	Plant or Seed
311	Cucumber	Plant or Seed		331	Sweet Potato	Plant Only
312	Kentucky Bluegrass	Plant or Seed		332	Sweetclover	Plant or Seed
313	Lettuce	Plant or Seed		333	Tall Fescue	Plant or Seed
314	Oats	Plant or Seed		334	Timothy	Plant or Seed
315	Onion	Plant or Seed		335	Tobacco	Plant or Seed
316	Orchardgrass	Plant or Seed		336	Tomato	Plant or Seed
317	Peanut	Plant or Seed		337	Watermelon	Plant or Seed
318	Pinto Bean	Plant or Seed		338	Wheat, Red	Plant or Seed
319	Potato	Plant Only		339	White Clover	Plant or Seed

COTTON CLASSING
3 or 4 Member Team

I. Purpose

Cotton continues to have a significant impact on the Texas agricultural economy and is therefore relevant to a comprehensive study of agriculture. Cotton is sold on the basis of grade, staple length and fiber strength. The cotton CDE tests students' ability to identify USDA cotton grades based on industry standards. While much of the industry employs technology to grade cotton, by using their senses to apply cotton-grading standards, students gain a fundamental grasp of how these grades are derived. Students must make observations and judgments and render a final decision, life skills that will serve them well, regardless of career choice.

II. EVENT FORMAT

A. Team Make-up

Teams shall consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team.

B. Event Schedule

Teams will assemble at 4316 Ironton (west of Sam's Wholesale, Brownfield Highway— outside Loop 289). The contest will begin promptly at 9:00 a.m. Teams absent at that time will not be permitted to participate in the contest.

C. Event Activity

1. Contestants will class 50 samples (biscuits) as to color grade and leaf grade.
2. Contestants will be given 1½ hours to complete the event.
3. Contestants will only be responsible for classing cotton into 14 color grades.
4. While seven leaf grades are possible for each color grade, contestants will only be responsible for a single leaf grade within each color grade (see resources).

II. SCORING

A. Each correct answer is worth 20 points.

B. If a participant's response is off by:

- 1 grade, 10 points are awarded for the sample
- 2 or more grades, zero points are awarded for the sample

<u>Total Points</u> Individual 1,000 Team 3,000

III. TIEBREAKERS

1. Team and individual ties will be broken using the highest score in Class I.
2. If still tied, the high score in Class 2 will be the winner.
3. If still tied, the team with the highest alternate score will be the winner.
3. If still tied, the winner will be determined by a toss of a coin.

IV. RESOURCES

Teams desiring practice samples may obtain them from one of the offices listed below by following these guidelines:

- ~~Advisors must place an order for a set of practice samples by Feb. 1 of each year with the Classing Office of your choice.~~
- ~~Teams will be limited to only one set of samples per year.~~
- ~~Samples may be picked up starting March 1.~~
- ~~Advisors can only pick up practice samples for other advisors if they have a letter from that advisor on school stationary authorizing such a pick up~~.
- Teams may practice at the cotton Classing Offices no earlier than two weeks before the State Event.
- ~~Teams must return their practice samples to the Lubbock Classing Office at the time of the State Event to be eligible to compete.~~

~~Samples may be obtained by contacting:~~
~~Dr. Norman Hopper Dr~~. Rudy Ritz
College of Agricultural Science and Natural Resources
Texas Tech University
Lubbock, TX 79409
~~(806) 742-2808~~ ***806-834-4807***
~~N.hopper@ttu.edu~~
Rudy.ritz@ttu.edu

COLOR GRADES

Responsible Grades	Description
21-2	SM
31-3	Mid
41-4	SLM
51-5	LM
61-6	SGO
71-7	GO
23-2	SM Spot
33-3	Mid Spot
43-4	SLM Spot
53-5	LM Spot
63-6	SGO Spot
34-3	Mid Tngd
44-4	SLM Tngd
54-5	LM Tngd

DAIRY CATTLE EVALUATION
3 or 4 Member Team

I. PURPOSE

This event provides an interest and information in dairy cattle that would serve well in an industry position or in management of a modern dairy herd. Students will receive experience in the evaluation of dairy cattle type, production records and dairy herd management. All of which are very important in the industry.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Dairy Management Exercise (Written Exam- 75 points)

1. 25 multiple choice questions with each question worth 3 points each will be selected from a bank of questions from Texas FFA website at www.texasffa.org on the on the Dairy Cattle CDE page linked from the CDE page.
2. Exam will be taken during two group rotation periods.

C. Pedigree Class (50 points)

1. One class ranked as to indication of the animal's ability to transmit superior production and type traits to offspring.
2. Other factors considered are completeness, accuracy, and level of performance and profitability.
3. Official judge shall provide scenario.

D. ~~Linear Evaluation~~ *Herd Records* (60 points)

1. ~~Holstein cows evaluated on 15 traits on "Holstein Association Linear Descriptive Traits Worksheet"~~ *There will be two classes with 10 questions over each set of records*
2. ~~Correct evaluation per cow is worth 30 points.~~
3. ~~Two points will be awarded for each trait scored within four points of the official judges' score.~~
4. ~~One point will be awarded for each trait scored within five to six points of the officialjudges' score.~~
5. ~~Linear worksheet~~ *Herd Records* will be provided.

E. Evaluation and Selection (300 points)

1. Contestants evaluate six classes of four animals each.
2. Each class is worth 50 points.
3. Students are not permitted to handle animals.
4. Student will be able to view the animals from front, side, rear. (Close-up viewing may not always be possible.)
5. Three of these classes will be cows; the other classes may be heifers.
6. Breeds judged are typically Holstein or Jersey; occasionally Brown Swiss, *and or quality crossbred cattle will make up placing classes for contest.*

F. Questions (50 points)

1. There will five written questions pertaining to a class of breeding heifers, worth five point each

2. There will be five written questions pertaining to a class of cows, worth five points each
3. Questions selected will apply to the criteria included in the Unified Dairy Cattle scorecard.

III. SCORING

Dairy Management Exam 75
Pedigree Class 50
~~Linear Evaluation~~ *Herd Records* 60
Evaluation and Selection 300
Questions 50
Total Points Individual ……535 points
Total Points Team ……1605points

IV. TIEBREAKER

A. Ties for team awards:
1. The team making the best record on the seven placing classes, or if still tied:
2. The team making the best record on the exam, or if still tied:
3. The team with the highest alternate score, or if still tied:
4. The advisors shall match for the high award.

B. Ties for individual awards shall be broken by substituting the word "individual" wherever the word "team" appears above.

V. REFERENCES

Materials Available from IMS: Printed Materials 4002 Dairy Cattle Evaluation Handbook, IMS 8396 Breeds of Dairy Cattle, IMS 8402 Selecting Dairy Cattle, IMS

Color Slides

5119 Linear Classification of Dairy Cattle, HOLASN 5173 Dairy Cattle Event, HLSR, IMS 5186 Dairy Cattle Event, HLSR, IMS 5195 Dairy Cattle Event, HLSR, IMS

VHS Videos

9552 Judging Dairy Cows, CEV 9553 Judging Dairy Heifers, CEV 9586 Practice Dairy Judging: Cows, CEV 9587 Practice Dairy Judging: Heifers, CEV 9954 Practice Dairy Judging III, CEV 9955 Practice Dairy Cattle Judging IV, CEV 9972 Linear Classification of Dairy Cattle: Scoring Linear Traits, CEV 9973 Linear Classification of Dairy Cattle: Final Score Assessment, CEV 9976 Practice Dairy Cattle Judging V, CEV

Reference available from Delmar Publishing Company:

Dairy Farm Management (Text) by Thomas Duinn, Delmar Publishing Co. ISBN 0-8273-1678-7

ENVIRONMENTAL AND NATURAL RESOURCE
3 or 4 members

I. PURPOSE

Environmental and natural resource education has a responsibility to ensure an educated public and provide students prepared to enter careers in 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 agriculture food and natural resource 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

A. Under no circumstance will any participant be allowed to handle any of the items in the identification portion of the practicums. Any infraction of this rule will be sufficient to eliminate a team from the event.

B. Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of the weather conditions. Participants should have rainwear, warm clothes, and appropriate footwear.

C. Approved calculators may be used. Possession of electronic devices is prohibited pursuant to CDE General Rules.

D. All written material will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the site. However, official results will be available online after contest awards assembly.

III. EVENT FORMAT

A. Equipment

1. Materials student must provide – Each participant may bring an electronic calculator. Calculators used in this event should be battery operated, non-programmable, and 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. EACH PARTICIPANT will be responsible for bringing his/her own dedicated handheld GPS unit. Minimum requirements for GPS will be Garmin eTrex receiver or compatible. Position accuracy WAAS enabled 3 meters, 20 routes, 500 waypoints (total). No pc application devices such phones, I-pods, I- pads, etc. will be allowed. EACH PARTICIPANT will also be responsible for bringing:
    a. Safety glasses
    b. clean transparent clipboard and (3)
    c. No.2 pencils.

2. Equipment provided – Participants must use the other tools and equipment furnished for the event. All activities will be on a scan sheet grading system. Scan sheets will be provided by Tarleton State University for each contest aspect. Hach brand water analysis kits will be provided for water analysis practicum.
3. *Time Frames: The time allotted for each practicum will vary based on the the individual practicum. The time allotted for each individual practicum will be set by the provider.*

B. INDIVIDUAL ACTIVITIES

1. Written exam – Objective Test (100 points)
   Fifty questions submitted by the committee from listed references.
2. Annual Practicum's
   Students will participate in the following: a. ~~***National/Global Issues Scenario, 10 Question Format (60 points) (20 Minutes)***~~
   ~~Students will be given a Global Issue scenario dealing with environmental and natural resource issues. Each participant will have 10 minutes to review the materials and 10 minutes to answer 10 written questions.~~
   a. Data Interpretation- (100 points)
      i. Student will be provided a survey analysis (waste, soil, air or water and they will be expected to answer questions related to this report.
   b. Identification – (100 points total-50 points for each section) (2-25 I.D. Site Rotations at 20 minutes each) (40 Minute Total)
   Every effort is made for actual specimens preserved or live for identification purposes. Students will identify 50 items from the following combined areas:
      i. equipment
      ii. plants
      iii. wildlife
      iv. fish
      v. reptiles/amphibian
      vi. predators
      vii. birds
      viii. non – native Species

~~3. Rotational Practicum's~~
~~Students will participate in the following practicums and should be prepared to evaluate any of the parameters below.~~

a. Water Analysis – (60 points)(20 Minutes) (100 points)
CONTESTENTS REQUIRED TO FURNISH OWN SAFETY GLASSES
   i. Using measuring devices, each participant will measure a sample of water for quality analysis and contaminants such as pH, temperature, dissolved oxygen, nitrates, and phosphorus.
   ii. Analyze the results of measurements.

iii. Name possible causes of the particulate or other contaminant:
- Are they natural?
- Are they pollutants (what level is acceptable)?

iv. Describe the effects on the environment of the pollutants.
v. List the sources of the pollutants.
vi. Discuss ways the water quality can be improved.

b. ***GPS Locations – ~~(60 points) (20 Minutes)~~ (100 points)***
Participants should be prepared to use the GPS unit to complete any of the following:
i. Identify the longitude and latitude of a given set of points using a GPS unit and/or a map.
ii. Identify boundaries of a given area including calculation of land area and linear feet of boundary.
iii. Determine slope of land area.
iv. Use GPS unit and topographic map to layout location of fence line, pond, drainage structure or other related facilities.
v. Use a GPS unit to mark location of a path or road through a given area.

c. Soil Profile – ~~(60 points) (20 Minutes)~~ (100 Points)
i. See Texas Land Judging Rules – Due to time constraints it is possible that only Part I will be used.

d. ***Waste Management- (100 Points)***
i. Participants will be presented with a scenario (agricultural producer, neighbor, office building, manufacturing plant, etc.,) that generates waste material creating environmental threats.
ii. . 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.
iii. . Participants should be able to identify at least one benefit and one deterrent for each possible option that is offered.

IV. TIEBREAKER

A. Individual –

1. Individual with the highest exam score.
2. Individual with the highest combined identification score.
3. Individual with the highest ~~rotational~~ practicum score.

REFERENCES

This list 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.

Environmental Science, Fundamentals and Application. L. DeVere Burton. 2009 Delmar, Cengage Learning. 5 Maxwell Drive, Clifton Park, NY 12065-2919.

Managing Our Natural Resources 5th Edition. William G. Camp and Betty Heath-Camp.2009 Delmar Cengage Learning. 5 Maxwell Drive, Clifton Park, NY 12065-2919.

Wildlife Management, Stutzenbaker, Scheil, Swan, Lee and Mattics, Interstate Publishers, Inc. 1999.
Hach Water Analysis Handbook, 5th Edition – Interactive CD. Hach Company 1-800-227-4224
Soil Profile – See Texas Land Judging Rules @ http://www.texasffa.org/Competitions/CDE/Land.aspx

www.garmin.com phone: 1-800-800-1020 for GPS unit related questions. See operating manual.

http://www.trimble.com/gps/whygps-anim00.shtml
http://www.water.ncsu.edu/watershedss/

Tool and equipment I.D. - reference links

http://www.forestry-suppliers.com/

http://www.benmeadows.com

Non – Native (Invader) Resource List

U.S Fish and Wildlife Service
U.S. Park Service
U.S. Dept. of Interior
U.S. Forest Service
USDA NRCS
Texas Parks and Wildlife Invasive

- *For past materials and preparation documents log onto https://www.ffa.org/participate/cdes/environmental-and-natural-resources*
- *Managing Our Natural Resources. Camp and Daughtery. Delmar Publishers, Inc. 2009. Albany NY.*
- *Land Judging in Oklahoma. J.H. Stiegler, 4-H Member's Guide, Oklahoma Cooperative Exten- sion Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State Univer- sity. 4H.HPS.101*
- *Environmental Science: Fundamentals and Applications. Cengage learning. 2007*
- *Applied Environmental Science: https://www.ffa.org/thecouncil/resources*

Environmental and Natural Resources Event

Identification List

Equipment

Water Quality

101. refractometer
102. secchi disk
~~103. thermometer~~
~~104. water bottle samplers~~
103. water meter for physical/chemical parameters (pH, conductivity, and/or DO)

Aquatic

~~107. aquatic net~~
104 bottom dredges
105. fish measuring board
106. plankton net
107. seines
108. sieves
~~113.stream bottom sampler~~

Wildlife

~~114.binoculars~~
109. animal tags / bands
110. mammal traps
111. snake/reptile stick
112. radio telemetry unit

Weather

113. wind speed meter
114. barometer
~~121.sling psychrometer~~
~~122.rain gauge~~

~~***Forestry***~~

~~124. biltmore stick~~
~~125. diameter tape~~
~~126.prism~~
~~127.tree increment borer~~

Soils

~~128.Clinometer~~

115. abney level

116. push probe
117. soil auger
118. soil color book
~~130. Drip Torch~~
~~131.Hand Lens~~
~~132.Compass~~
~~133. Sherman Trap~~
~~134. Sharp Shooter~~

Native Species

Wildlife

201. armadillo
202. badger
203. *Bighorn Sheep*
204. beaver
205. bison
206. black bear
207. *Blacktail Deer*
208. bobcat
209. chipmunk
210. cottontail
211. coyote
212. elk
213. fox squirrel
214. gray squirrel
215. gray wolf
216. grizzly bear
217. jack rabbit
218. mole
219. moose
220. mountain goat
221. mountain lion
222. *mule deer*
223. muskrat
224. opossum
225. pocket gopher
226. ~~polar bear~~
227. porcupine
228. prairie dog
229. pronghorn
230. raccoon
231. red fox
232. skunk
233. weasel
234. whitetail deer
235. woodchuck

Birds

301. bald eagle
302. blue jay
303. bluebird
304. brown thrasher
305. Canada goose
306. canvasback duck
307. cardinal
308. Cooper's hawk
309. Crissal's thrasher
310. mourning dove
311. great blue heron
312. great horned owl
313. golden eagle
314. hummingbird
315. kestrel
316. least tern
317. mallard duck
318. osprey
319. pelican
320. purple martin
321. quail
322. red-tailed hawk
323. sandhill crane
324. blue-winged teal
325. turkey
326. whooping crane
327. wood duck

Reptiles/Amphibians

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

Fish and Other Aquatic Animals

501. blue catfish
502. bream/bluegill
503. brown trout
504. carp
505. channel catfish
506. clam
507. crab
508. crappie
509. crayfish
510. flathead catfish
511. largemouth bass
512. lobster
513. salmon
514. shrimp
515. smallmouth bass
516. sturgeon
517. trout
518. walleye
519. yellow bullhead catfish

Invasive/Non-Native Species

Plants

601. broom snake weed
602. cheatgrass
603. Chinese tallow
604. congograss
605. English ivy
606. Himalaya blackberry
607. hydrilla
608. juniper
609. kudzu
610. leafy spurge
611. melaleuca
612. mimosa tree
613. purple loosestrife
614. *Russian olive*
615. saltcedar

Texas Plants

616. American beautyberry - *Callicarpa americana*
617. blackjack oak
618. bullnettle
619. bumelia (chittimwood)
620. cattail
621. cottonwood (ALL)
622. elm (ALL)
623. greenbriar
624. hackberry (ALL)
625. honey mesquite
626. johnsongrass

627. little bluestem
628. live oak
629. mistletoe
630. pecan
631. post oak
632. prickly pear
633. redbud
634. sedges
635. sideoats grama
636. switchgrass
637. wildrye

Animals

701. Asiatic clam
702. Asian long-horned beetle
705. Chinese mitten crab
706. chukar
707. English sparrow
708. European starling
709. feral hog
710. Feral horse
711. fire ant
712. gopher
713. Norway rat
714. nutria
715. ring neck pheasant
716. sea lamprey
717. tilapia
718. zebra mussel

ENTOMOLOGY
3 or 4 Member Team

I. PURPOSE

The insect contest introduces high school students to the fundamentals of entomology and develops skills in identification of common insects and their relatives using taxonomy and nomenclature used by practitioners in the industry and in the scientific community. Understanding insects and key species is of utmost importance to agricultural crops and animal production, conservation, human and companion animal health and well being. The basic entomological principles to be covered include: 1) insect structure and function, 2) metamorphosis, 3) insect identification, and 4) importance to people. The event is supported by curriculum of the following agriculture food and natural resource coursework: Principles of Agriculture, Food, and Natural Resources, Livestock Production, Small Animal Mgt., Equine Science, Advanced Animal Science, Landscape Design, Turf Grass Mgt., Horticultural Sciences, Advanced Plant and Soil Science, Practicums in Agriculture, Food, and Natural Resources, Applied Entomology, and Veterinary Medical Applications.

A. Insect Structure and Function

To identify insects and understand their role in the environment, one must be acquainted with basic anatomy. Important features include types of mouthparts (chewing, piercing-sucking, siphoning, cutting lapping, sponging, etc.), types of legs (jumping, grasping, digging, swimming, running, etc.) and various modifications of wings, antennae, and other body parts. Anatomical features are useful in identifying habitat and food source. For example, we know that the praying mantis is an excellent predator because its front legs are modified to grasp prey and because it has chewing mouthparts.

B. Metamorphosis

All insects undergo metamorphosis, a change in body form, as they develop from egg to adult. Some insects undergo more complex changes than others, and consequently, identification of certain insects can be confused by the dissimilarity between immature and adult stages. The caterpillar and butterfly are common examples. In general, insect metamorphosis can be categorized into one of three types. Students should know to what metamorphic type each insect order belongs.

1. Ametabolous - no metamorphosis (immature stages and adults are similar: wingless as adults)
2. Hemimetabolous – incomplete or gradual metamorphosis (immature stages resemble adults but without wings and wing buds.)
3. Holometabolous – complete metamorphosis (immature stages do not resemble adults)

C. Insect Identification

The fundamental step in insect identification is recognition of order. All insects are classified into approximately 31 groups called orders. Each insect order shares a set of characteristic biological and anatomical features. Proper interpretation of mouthparts, wings, etc. aid in order recognition. Entomology students should be able to identify and differentiate between insects and a

variety of other arthropods.

D. Significance to People

The significance of any insect to people in agriculture, medicine, etc. is of great practical importance. Most insects are not harmful; in fact, many are considered beneficial. For this reason, people should know the difference between pest insects and beneficial insects. Also, some insects cannot be classified as either pest or beneficial. These insects are neutral or variable as far as people are concerned. Failure to discriminate among these insects can lead to serious economic losses and other problems.

II. TEAM MAKE UP

Three or four individuals per school form a team. All members will be scored and the top three scores will count toward the team total.

III. Event Format

A. The event will consist of 25 unlabeled, preserved specimens selected from a list of 150.

B. The student contestants will identify for each specimen**,** the order, common name, metamorphic type, mouthpart type, and significance to people.

C. Each student will be given 90 seconds per specimen. At the end, when contestants have examined all specimens, additional time may be given to complete the scan sheets following identification of the insects.

D. *The contest provider will randomly select 25 of questions from the Entomology exam test bank.*

IV. SCORING

Order ……2 points/specimen
Common name ……..3 points/specimen
Metamorphosis…….. 1 point/specimen
Type of mouthparts ……1 point/specimen
Significance to people ..1 point/specimen
Exam ……..2 points each

Total Points Individual ……..200points
Exam……50 points
Total Team ……..600 points

V. TIEBREAKERS

Team and individual ties will be broken using the following tiebreakers:

A. High score on orders
B. If still tied, high score on common names.
C. If still tied, high score on metamorphosis
D. If still tied, high score on mouthparts
E. If still tied, the highest alternate score
F. If still tied, winner will be determined by coin toss.

VI. RESOURCES

Each team should acquire a study list of 150 arthropods and their characteristics upon which the event will be based. Extensive entomological literature is available in school and public libraries. Field guides to the insects are particularly useful. Many insect

images are also available on a variety of websites. Each local agricultural science and technology department should consider building their own insect reference collection. Collecting insects for study is an enjoyable activity and collections may be preserved for future instructional and chapter activities. Instructions for collecting and preserving insects are available in most entomological textbooks. The collegiate entomology faculty recommends the following text as the standard for insect biology and identification: Triplehorn, C.A. and N.E. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition; Thomson Learning, Inc., Belmont, CA

FARM BUSINESS MANAGEMENT
Official Dress Mandatory - 3 or 4 Member Team

I. PURPOSE

This event is to foster information assimilation, critical thinking and problem solving skills necessary to successfully manage an agricultural production unit, agri-business or in any business that uses generally accepted accounting principles and business management knowledge and skills. Information, concepts and skills applied in this event may also be foundational knowledge to be used in the study of agricultural economics, business or accounting at a college or university.

II. EVENT FORMAT

A. Team Make-Up

1. Three or four individuals per school form a team. All team members will be scored and the top three scores will count towards the team total.
2. It is required that participants be in official FFA dress in each event. Students not in official dress shall not be allowed to participate, but will be given opportunity to correct the attire deficiency as long as the start time of the event is not affected

B. Equipment

1. Non-programmable calculators may be used in both exams and must be furnished by the team member. ***If the calculator has either a PROG or a PGM button or if the calculator has a large screen and can graph functions, it is programmable and will not be accepted. Letters above the number keys also signify a programmable calculator.***

2. Sharing of calculators between team members will not be permitted.
3. Electrical outlets will not be available for charging batteries, etc.
4. No allowance will be made for malfunctioning or inoperable calculators.
5. Copies of the two exams used in the event (including a key of correct answers) will be made available after the event.

C. Event Schedule

1. Each contestant shall be allotted 2 1/2 hours to complete both the written and problem solving exams. ~~Once a student is finished with the 1st section of the test the 2nd will be handed out.~~

D. Written Exam (100 points)

1. The exam shall be composed of 50 multiple choice or true/false questions.
2. Some questions may be problem type.
3. Team member will work as individuals to complete the written exam.
4. No answer choice may contain the (NONE OF THE ABOVE) answer choice.

E. Problem Solving (150 points)

1. No partial credit will be given on any problems.
2. Team members work as individuals.
3. No answer choice may contain the NONE OF THE ABOVE answer choice

III. SCORING

Written Exam 100
Problem Solving ……150
Total Points
Individual **250**
Team… **750**

IV. TIEBREAKERS

Ties for team awards:

1. The team with the highest score on the problem-solving exam wins.
2. If still tied, the team with the highest alternate wins.
3. If still tied, the advisors shall match for the high award.

Ties for individual awards shall be broken by substituting the word "individual" wherever the word "team" appears above.

V. REFERENCES

Materials Available from IMS:
Printed Materials
4773 Farm and Ranch Business Management, Deere & Co.
~~4780 Answer Key to the 1998 Texas FFA Farm Business Management CDE~~
~~4781 Answer Key to the 1999 Texas FFA Farm Business Management CDE~~
~~4782 Answer Key to the 2000 Texas FFA Farm Business Management CDE~~
~~8720 Complete Set AgSc 373 -Agribusiness Management and Marketing, IMS~~
~~8735 Complete Set AgSc 374 -Advanced Agribusiness Management and Marketing, IMS~~
~~8762 Complete Set of AgSc 375 -Entrepreneurship in Agriculture, IMS~~
~~VHS Videos~~
~~9579 Careers -Marketing Specialists, CEV~~
~~9583 Careers -Financial Specialists & Managers, CEV~~
Other References:
Printed Materials
~~Farm Management by Kay & Edwards, published by McGraw Hill~~

Farm Management by Kay, Edwards & Duffy, published by McGraw Hill

FLORICULTURE

3 or 4 Member Team

I. Purpose

The purpose of the *Floriculture Career Development Event (CDE)* is to stimulate the study of, and interest in, the production and retailing of cut flowers, plants and foliage through the agricultural education curriculum. The event requires students to identify plant materials, tools, and pests common to the industry, demonstrate knowledge and understanding of scientific principles and management practices applied in the industry via a written exam, make observations, draw conclusions, and utilize higher order thinking skills in problem solving situations. This event has ties to the following agricultural science curriculum: *TEKS 130.20*, Floral Design, *TEKS 130.23* Horticulture Science and *TEKS 130.25* Practicum in Agriculture, Food and Natural Sciences.

I. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored, and the top three scores will count towards the team total.

B. Equipment

1. Team members must provide their own scan sheet, *official drop sheet* and their own sharpened pencils for the event. They may bring a clean manila folder to protect their scan sheet. A pencil sharpener may not be available in each event room.
2. Team members may use their own battery-operated non-programmable calculators.
3. Team members are **not** permitted to share calculators between teammates or among any other contestants.
4. No allowance will be made for malfunctioning or inoperable calculators. Electrical outlets will not be available for charging batteries, etc.
5. The "Universal Form C" scan sheet will be used for this CDE.
6. ~~Blank paper will be made available by the contest provider.~~

C. Event Schedule

1. Each contestant shall complete the event in the time allotted:
   a. The identification of plant materials/pests/diseases/tools must be completed in 60 minutes. The identification section will be divided into two (30 minute) rotations.
   b. The problem solving section must be completed in 30 minutes.
   c. The placing classes must be completed in ~~30~~ *15* minutes. *The contestants will be able to work within the placing classes at their own pace during the 15 minutes.*
   d. *The keep/cull section must be completed in 15 minutes. The contestants will be able to work within the keep/cull sections at their own pace during the 15 minutes.*
   e. The written examination must be completed in 30 minutes.
2. Observers are not permitted in the event area while the event is in progress, but observers may be allowed in the area following the event.

3. ~~Contest materials will be left in place~~ *Providers are encouraged to leave contest materials* in place for one hour following the conclusion of the event to allow teachers and students adequate time for review.

D. Identification of Plants/Tools/Pests/Diseases (600 points)

1. 60 specimens will be selected from the ~~160~~ *170* plants/tools/pests/diseases listed on the Texas FFA Floriculture list.
2. Specimens will be identified in two rotations, 25 plants and five pests/diseases/tools in each rotation, with 30 minutes to complete each rotation. All contestants will be allowed to work within the rotation, at their own pace. Contestants **cannot** return to a rotation, once it is timed out.
3. A plant specimen may consist of any part of the plant *commonly utilized in the floriculture industry for plant identification.* The plant must be ~~the exact~~ *match* the plant listed on the Texas FFA Floriculture CDE list.
4. Plants to be identified will be presented as intact, live specimens. Tools may be either an intact item or high quality photograph. Pests and diseases may be presented as intact specimen, photograph or preserved specimen (herbarium sheet, insect mount). Photographs will be 8.5" x 11" in size.
5. When a pest or disease must be presented with an affected plant, a "Pest/Disease" label will be with the item to designate identification of the problem rather than the plant.
6. Each contestant will be supplied with a list of the plants, pests, diseases and tools. *Contest providers will distribute this list to the contestants at the start of the contest, to insure equal access to the information throughout the event.*
7. Each specimen will be designated with a number. Students bubble in the appropriate number in the space next to the specimen's name on the scan sheet.
8. 10 points are given for each correctly identified specimen.
9. Under no circumstances is any contestant allowed to touch or handle the photos or specimen used as part of the event. Any infraction of this policy is sufficient cause to eliminate the individual from the **entire contest**.

E. Placing Classes (~~300~~ *150* points)

1. Contestants place ~~six~~ *three* classes that are selected from the placing classes list.
2. All plants in a class will be from the same species or cultivar.
3. ~~Some classes may contain cut flowers, greenery or container grown plants.~~
4. There will be classes from each of the following types:
    a. ~~1 class of line flowers~~
    b. ~~1 class of form flowers~~
    c. ~~1 class of mass flowers~~
    d. 1 class of blooming container plants.
    e. 1 class of foliage container plants.
    f. 1 class of floral designs.
5. Classes will consist of four items per placing class.
6. ~~Cut flowers classes will consist of a minimum of three to a maximum of seven stems for container~~.

7. Classes will be designated by number and class name.
8. Contestants are given five minutes to evaluate each class.
9. 50 points are given for each correctly placed class.
10. Floral designs will be labeled by type (symmetrical, asymmetrical, round or ~~crescent~~ *horizontal /vertical line*).

F. Cut Flower Keep/Cull Classes (150 points)

1. *One class each of line, form and mass flowers (eight specimens per class/ three classes total)*
2. *The guidelines will following A Manual for Flower Judging (See reference section) in determining the keep/cull classes.*
3. *Contestants should designate the four best plant specimens from the eight specimens presented, using visual appraisal. Students are not permitted to handle any plant specimen.*
4. *Event officials will assign a point value to each one of the individual plant specimens, within the class, with the greatest number of points assigned to the most desirable specimen and the least points assigned to the least desirable specimen. If the student selects the best four plant specimens, within the provided class full credit will be given (50 points). The selection of less desirable plant specimens will reduce the points awarded within each keep/cull class.*

One class of cut line flowers which may include:

- *Antirrhinum majus cv. - Snapdragon*
- *Delphinium elatum - Delphinium*
- *Gladiolus x hortulanus cv. - Gladiolus*
- *Consolida ambigua cv. Larkspur*
- *Liatris spicata - Liatris*
- *Matthiola incana - Stock*
- *Moluccella laevis cv. - Bells of Ireland*

One class of cut form flowers which may include:

- *Anthurium andreaeanum - Anthurium*
- *Bulbuous Flowers - Iris, Daffodil, Tulip*
- *Zantedeschia aethiopica - Calla*
- *Gerbera jamesonii cv. - Gerbera*
- *Lilium cv.*
- *Helianthus annuus cv. - Sunflower*
- *Protea cv. - Protea*

One class of cut mass flowers which may include:

- *Chrysanthemum morifolium cv. - Standard Type*
- *Dendranthema grandiflorum cv. - Spray Type*
- *Dianthus caryophyllus cv. - Standard carnation*
- *Rose cv. - Rose*
- *Eustoma grandiflorum - Lisianthus*
- *Alstroemeria aurantiaca - Alstroemeria*

G. General Knowledge Examination (100 points)

1. Contestants will complete a 50 question multiple choice exam.
2. Questions will be taken from a data bank of questions located on the Texas FFA website.
3. Contestants are given 30 minutes to complete the examination
4. Two points are awarded for each question answered correctly.

H. Problem Solving (100 points)

1. This practicum is designed to evaluate participant's knowledge and ability related to floricultural practices in the industry and selection, care and handling of interior plants in various settings. The practicums will alternate as noted:

   ~~a. 2012 Pricing and calculating a bill of materials *and* Facility safety~~
   ~~b. 2013 Pricing and calculating a bill of materials *and* Evaluating the color wheel/color schemes~~
   ~~c. 2014 Pricing and calculating a bill of materials *and* Selection of cut flowers/care and handling~~
   ~~d. 2015 Pricing and calculating a bill of materials *and* Wiring techniques~~
   ~~e. 2016 Pricing and calculating a bill of materials *and* Assessing Interiorscaping~~

   2017
   - *Pricing and Calculating a Bill of Materials and*
   - *Care and Handling of Cut Flowers ie. processing, conditioning, and storage*

   2018
   - *Pricing and Calculating a Bill of Materials including Marketing, Pricing and Sales and*
   - *Plant and Facility Safety*

   2019
   - *Pricing and Calculating a Bill of Materials for Weddings and*
   - *Creating Wedding Designs*

   2020
   - *Pricing and Calculating a Bill of Materials for Sympathy Flowers and*
   - *Creating Sympathy Designs*

   2021
   - *Pricing and Calculating Specialty Designs (homecoming, holidays, corsages/boutonnieres) and*
   - *Assessing Interiorscaping Plants*

2. Contestants will be provided a written scenario that they must assess to determine the correct answers.
3. Contestants will complete 10 multiple-choice questions.
4. Contestants are given 30 minutes to complete the problem solving.
5. 10 points are awarded for each question answered correctly.

I. SCORING

Identification of Plant Materials……..600 points
Placing Classes…….. ~~300~~ *150* pts.
Cut Flower Keep/Cull Classes…….. 150 pts.
General Knowledge Examination…..100 points
Problem Solving……..100 points
Total Points Individual……1,100 points
Team…….. 3,300 points

IV. TIEBREAKERS

A. Ties for team awards will be broken using the following criteria:
   1. The team with the higher score in the identification section wins. If still tied:
   2. The team with the higher score in the placing class of floral designs wins. If still tied:
   3. The team with the higher score in the problem solving wins. If still tied:
   4. The team with the highest alternate score wins. If still tied:
   5. Advisors will match for the high award.

B. Ties for individual awards shall be broken by substituting the word "individual" wherever the word "team" appears above.

V. REFERENCES

~~Some Materials~~ Available from IMS, *CEV and other resources*:

Printed materials

8942 Complete Set AgSc 362 – Horticultural Plant Production, IMS
8959 Complete Set AgSc 363 – ~~Floral Design and Interior Landscape Management~~ *Principles and Elements of Floral Design*, IMS
8188 Complete Set AgSc 365 – Advanced Floral Design, IMS

Videos References

9531D Techniques in Flower Judging 9736 Competitive Flower Arranging
9841 Horticulture Plant Identification – Floral, CEV 9842 Horticulture Plant Identification – Foliage, CEV 9844 Practice Horticultural Plant Identification, CEV

Computer Software

~~9421NC Horticopia A to Z (CD-ROM)~~ 9430NC Floriculture CDE Placing Classes

Keep/Cull Cut Flower References: (Not Available through IMS):

A Manual for Flower Judging. (11th Edition) Prepared by Pi Alpha Xi is available

from: ASHS, 1018 Duke Street, Alexandria, VA 22314; phone: 703.836.4606; fax: 703.836.2024; e-mail: pax@ashs.org; Cost is $12 each plus shipping.

Problem solving resources:

Hunter, Norah T. *The Art of Floral Design.* Second edition (2000). Albany, New York: Delmar Publishers, Inc. www.agriscience.delmar.com

Scace, Pat Diehl., and James M. DelPrince. Principles of Floral Design: An Illustrated Guide. N.p.: n.p., n.d. Print.

http://aggie-horticulture.tamu.edu/archives/parsons/publications/houseplant/houseplant.html

Georgia Agriculture Curriculum Resource website:
http://www.gaaged.org*/page.aspx?ID=76*
~~Click on CDE's, CDE Exams On-line, Floriculture~~

Other Websites:
Interiorscape Plants Database http://aggie-horticulture.tamu.edu/databases/interiorscape National FFA website www.ffa.org
Texas FFA website (test bank questions) www.texasffa.org

Additional Information FLORICULTURE PLACING CLASSES

1) *One class of blooming container plants, which may include:*
   - *Kalanchoe blossfeldiana cv. – Kalanchoe*
   - *Rhododendron cv. – Azalea*
   - *Saintpaulia ionantha cv. – African violet*
   - *Chrysanthemum x monifolium cv – Florist's chrysanthemum*
   - *Rosa cv.- Roses*
   - *Begonia tuberhybrida cv. - Tuberous begonias*
   - *Pelargonium x hortorum - Geraniums*

2) *One class of foliage container plants, which may include:*
   - *Epipremnum aureum cv. – Golden pothos, devil's ivy*
   - *Ficus benjamina 'Exotica' – Benjamin fig, weeping fig*
   - *Ficus elastica – Rubber tree*
   - *Nephrolepis exaltata cv. – Boston fern*
   - *Spathiphyllum spp. – Spathiphyllum, Peace lily*
   - *Codiaeum variegatum cv - Croton*
   - *Hedera helix cv - English ivy*

3) *One class of floral designs, which may include the following design styles:*
   - *Symmetrical triangle*
   - *Asymmetrical triangle*
   - *Round*
   - *Horizontal or Vertical Line*

FLORICULTURE PLANT/PEST/DISEASE/TOOL LIST

001. Adiantum spp. – Maidenhair Fern
002. Aechmea cv. – Bromeliad
003. Agapahthus africanus – African Lily
004. Aglaonema commutatum cv. – Aglaonema, Chinese Evergreen
005. Alpinia purpurata – Red Ginger
006. Alstroemeria aurantiaca – Alstroemeria, Peruvian Lily
007. Amaranthus sp. - Amaranthus, Amaranthus cv.
008. Ammi majus - Queen's Anne's Lace, Laceflower
009. Anthurium andraeanum - Anthurium
010. Antirrhinum majus cv. – Snapdragon
011. Araucaria heterophylla – Norfolk Island Pine
012. Asparagus densiflorus 'Myriocladus' – Ming Fern
013. Asparagus densiflorus 'Sprengeri' – Sprengeri Fern
014. Asparagus setaceus – Plumosa Fern
015. Asparagus setaceus 'Pyramidalis' – Tree Fern
016. Asplenium nidus – Bird's Nest Fern
017. Beaucarnea recurvata – Ponytail Palm
018. Begonia x tuberhybrida cv. – Tuberous Begonia
019. Brassaia actinophylla – Schefflera, Octopus Tree
020. Calathea roseopicta - Calathea
021. Callistephus chinensis hybrids – Chinese Aster
022. Celosia argentea cv. – Celosia, Cockscomb
023. Chamaedorea elegans – Parlor Palm, Commodore Palm
024. Chamelaucium uncinatum – Waxflower
025. Chlorophytum comosum var. – Spider Plant
026. Chrysanthemum x monifolium cv. – Florist's Chrysanthemum
027. Chrysanthemum x monifolium cv. – Spider Chrysanthemum
028. Codiaeum variegatum cv. – Croton
029. Consolida ambigua cv. – Larkspur
030. Cordyline terminalis – Ti Plant
031. Crassula argentea – Jade Plant
~~Cynara spp. - Artichoke~~
032. Cyclamen persicum cv. – Florist's Cyclamen
033. Cymbidium cv. - Cymbidium orchid330
034. Dahlia cv. - Dahlia
035. Delphinium elatum – Delphinium
036. Dendrobium spp. – Dendrobium Orchid
037. Dianthus caryophyllus cv. – Florists Carnation
038. Dieffenbachia spp. – Dumbcane
039. Dizygotheca elegantissima – False Aralia
040. Dracaena cv.
041. Dracaena marginata var. – Red-margined Dracaena
042. Echeveria elegans - Hens & Chickens
043. Epipremnum aureum cv. – Golden pothos, Devil's Ivy
044. Erica carnea – Spring Heather

045. Eryngium planum – Blue Thistle
046. Eucalyptus cv. – Eucalyptus
047. Euphorbia milii var. – Crown of Thorns
048. Euphorbia pulchemima cv. – Poinsettia
049. Eustoma grandiflorum – Lisianthus
050. Ficus benjamina 'Exotica' – Benjamin Fig, Weeping Fig
051. Ficus elastica 'Decora'– Rubber Tree
052. Ficus lyrata – Fiddleleaf Fig
053. Forsythia x intermedia – Forsythia
054. Freesia x hybrida – Freesia
055. Galax urceolata – Galax
056. Gaultheria shallon – Salal, Lemonleaf
057. Gerbera jamesonii cv. – Gerbera, Transvaal Daisy
058. Gladiolus x hortulanus cv. – Gladiolus
059. Gypsophila elegans v. – Baby's Breath
060. Hedera helix cv. – English Ivy
061. Helianthus annuus cv. – Sunflower
062. Hippeastrum x hybridum v. – Amaryllis
063. Hoya carnosa cv. – Wax Plant
064. Hyacinthus orientalis cv. – Hyacinth
065. Hydrangea macrophylla – Hydrangea
066. Hypericum spp. – Hypericum Berries
067. Iris spp. – Iris
068. Kalanchoe blossfeldiana cv. – Kalanchoe
069. Liatris spicata – Liatris
070. Lilium cv. 'Oriental' – Asiatic Lily
071. Lilium cv. 'Stargazer' – Stargazer Lily
072. Lilium longiflorum cv. – Trumpet Easter Lily
073. Limonium ferulaceum – Caspia, Misty Blue
074. Limonium perezii – Sea Lavender Statice
075. Limonium sinuatum cv. - Statice
076. Maranta leuconeura cv. – Prayer Plant
077. Matthiola incana – Stock
078. Moluccella laevis – Bells of Ireland
079. Monstera deliciosa – Split-leaf Philodendron
080. Myrtus communis – Myrtle
081. Narcissus hybrid – Daffodil
082. Nephrolepis exaltata cv. – Boston Fern
083. Nephrolepis cordifolia cv. – Flat Fern
084. Pachystachys lutea – Shrimp Plant
085. Paeonia lactiflora cv. – Peony
086. Pedilanthus tithymaloides – Zigzag Plant
087. Pelargonium x hortorum - Zonal Geranium
088. Peperomia cv. – Peperomia
089. Phalaenopsis cv. – Phalaenopsis, Butterfly Orchid
090. Philodendron scandens oxycardium – Heartleaf Philodendron

091. Pittosporum tobira cv. – Pittosporum, Mock Orange
092. Plectranthus australis - Swedish Ivy
093. Polianthes turberosa - Turberose
094. Protea cv. – Protea
095. Ranunculus asiaticus - Ranunculus
096. Rhododendron cv. – Azalea
097. Rosa cv. – Hybrid Tea Rose
098. Rumohra adiantiformis – Leatherleaf Fern
099. Ruscus danae racemosa – Italian Ruscus
100. Ruscus *hypophyllum* – Israeli Ruscus, Butcher's Broom Ruscus
101. Saintpaulia ionantha cv. – African Violet
102. Salix discolor cv. – Pussy Willow
103. Salix matsudana cv. – Curly Willow
104.Sansevieria trifasciata cv. – Sansevieria, Snake Plant
105.Schlumbergera truncata cv. – Thanksgiving cactus
106.Solidago canadensis – Solidago, Goldenrod
107.Spathiphyllum spp. – Spathiphyllum, Peace Lily
108.Stephanotis floribunda – Stephanotis, Bridal Wreath
109.Strelitzia reginae - Bird of Paradise
110.Syngonium podophyllum – Nepthytis
111.Tulipa cv. – Tulip
112. Xerophyllum tenax – Bear Grass
113. Zantedeschia aethiopica – Calla
114. Zamioculcas zamifolia- ZZ plant
115.Zebrina pendula cv. – Wandering Jew

Pests
116. Aphid - adult stage
117. Fungus Gnat - adult stage
118. Leaf Miner - adult stage *damage*)
119. Mealybug - adult stage
120. Scale - adult stage
121. Snail/Slug - adult stage
122. Spider Mite - adult stage
123. Thrip - adult stage
124. Whitefly - adult stage

Diseases
125. Anthracnose - damage
126. Black Spot – damage
127. Botrytis – damage
128. Damping Off - damage
129. Mosaic Virus – damage
130. Powdery Mildew – damage

Tools

131. #18 Florists Wire
132. #24 Florists Wire
133. #28 Florists Wire
134. #3 Ribbon
135. #9 Ribbon
136. #40 Ribbon
137. Anchor Tape
138. Boutonniere Pin
139. *Bullion Wire*
140. Candle Pick/Holder
141. Cardette/Card Holder
142. Casket Saddle
143. Cellophane
144. Chenille Stems
145. Corsage Pin
146. Dixon Pin
147. Dry Foam
148. Enclosure Card
149. *Flat Aluminum Decorative Wire*
150. Floral Knife
151. Floral Tape
152. Foam Bouquet Holder
153. Glue Gun
154. Greening Pins
155. *Hyacinth Stake*
156. Pick Machine & Metal Picks
157. Pin Holder (Frog)
158. Polyfoil
159. *Sheet Moss*
160. Spanish Moss
161. Stem Cutter
162. Styrofoam
163. Tulle
164. Water Picks
165. Water Tubes
166. Wet Floral Foam (Oasis)
167. Wire Cutter
168. Wire Easel
169. Wooden Pick
170. Wrist Corsage Holder

FOOD SCIENCE AND TECHNOLOGY

4 MEMBER TEAM

I. PURPOSE

The food science and technology career development event is designed to promote learning activities in food science and technology related to the food industry and to assist students in developing practical knowledge of 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.
2. To provide FFA members with 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.

III. TEAM MAKEUP

1. The team will consist of four members with all four members' scores being totaled for the team score.
2. A school may enter more than one team in the Food Science CDE providing space is available. However, only one team from each school will be ***allowed to participate in the team presentation and*** scored and be eligible for team awards. The advisor of multiple teams must identify at registration at the contest site prior to the start of the contest which team will be scored and, therefore, be eligible for awards. ***The second team will be eligible for individual awards only.***
3. All participants must wear FFA Official Dress for this event.
4. Non-programmable and non-graphing calculators. No other calculators are allowed to be used during the event including cell phones.
5. **ALLERGY INFORMATION**: Food products used in this event may contain or come in contact with potential allergens (dairy, peanut, wheat, etc…). Advisors must notify the provider of a team member has a food allergy.

IV. EQUIPMENT

Each participant must provide:

1. A transparent clipboard that is clean and free of notes.
2. Two sharpened No. 2 pencils
3. Non-programmable and non-graphing calculators. No other calculators are allowed to be used during the event.

A. TEAM PRODUCT DEVELOPMENT PROJECT

1. Each team will receive a product development scenario describing the need for a new or redesigned product that appeals to a potential market segment. The team's task will be to design a new food product or reformulate an existing product based on information contained within the product development scenario. The category, platform and market for the product development will be posted on the Texas FFA website by **January 15th** each year.

2. The team will be responsible for understanding and using the following concepts:
    a. Formulation of product to meet specified requirements.
    b. Package design and labeling requirements to reflect the developedproduct.
    c. Nutritional fact development.
    d. Production and packaging equipment.
    e. Quality control and safety programs, i.e., good manufacturing practices (GMP) and hazard analysis critical control points (HACCP).
    f. Formulation and costing (ingredient, packaging, etc.).
    g. Current food trends.
    h. Market segments.
3. Each team will be provided with packaging materials, ingredients and necessary ingredient information in order to develop, label and package a product.
4. The team will have 60 minutes to respond to the product development scenario and reformulate or develop a product, calculate a nutritional label, develop the ingredient statement and information panel and develop the front or principle display panel to reflect the new product.
5. After this time period, each team member will contribute to a 10 minute oral presentation delivered to a panel of judges. No electronic media will be used in the presentation.
6. Following the presentation there will be a 10 minute question and answer period with the judges in which each team member is expected to contribute. All materials will be collected after the presentation.
7. Total time involved for each team will be 80 minutes. Total number of points possible for this activity will be 400 points.
8. Product development scenarios will describe a category, platform and market. These may include but are not limited to the following categories, platforms and markets listed below.
    a. Categories
        - Cereal
        - Snacks
        - Meals
        - Side dishes
        - Beverages
        - Supplements
        - Condiments
        - Desserts

    b. Platform
        - Frozen
        - Refrigerated
        - Shelf-stable
        - Convenience
        - Ready to eat
        - Heat and serve

    c. Market (domestic and international)
        - Retail
        - Wholesale
        - Food service

- Convenience store

9. Example of scenario product from past events:
    a. Ready to eat breakfast cereal for retail
    b. Refrigerated frozen cookie dough for wholesale
    c. Yogurt parfait for convenience store
    d. Shelf stable, dried fruit snack mix for retail
10. Evaluation criteria and points for team activity can be found on the team product development project scorecard.

B. INDIVIDUAL ACTIVITIES

1. Objective Test
    a. 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. The reference for the test will be from:
    Food Science and Safety by George Seperich, 2004 edition
    Chapters 12-20; or 1998 edition chapters 11-19
    ~~i. 2012 Chapters 1-11 (omitting chatpter 3)~~
    ~~ii. 2013 Chapters 12-20~~
    ~~iii. 2014 Chapters 1-11 (omitting chatper 3)~~
    ~~iv. 2015 Chapters 12-20~~
    Principles of Food Science - 4th Edition Janet Ward and Larry Ward, The Goodheart Wilcox Company
        i. 2017 – Chapters 1-13
        ii. 2018 - Chapters 14-25
        iii. 2019 - Chapters 1-13
        iv. 2020 - Chapters 14-25
        v. 2021 - Chapters 1-13
    b. Team members will work individually to answer each of the 50 questions. Each person will have 60 minutes to complete the examination. Each question will be worth ~~two~~ *three* points, for a total of ~~100~~ *150* points.

2. Practicums - Each team member will complete all parts of both practicums
    ~~d.~~ a. ~~Food Safety and Quality Praticum – 75 points.~~ *Problem Solving/Math Practicum-25 points possible per individual.*
        i. Participants will answer a series of five mathematical calculations based on common food science themes. Questions may include nutrition calculations, ingredient quantity, cost benefit analysis, estimation of cost/margin of goods sold, conversions, processing conditions, etc.

            Example Question. The perfect glass of sweet tea is 20% sugar. Jim is making a one-gallon container of sweet tea. How many cups of sugar should he add?
                i. 2.4 cups
                ii. 3.2 cups
                iii. 3.4 cups
                iv. 4 cups

    b. Food Safety an*d Quality Practicum- 75 points*

i. Customer Inquiry- Each participant will be given five scenarios representing general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue and determine if it is a biological, chemical or physical concern or hazard. (25 points)

~~ii. Food Safety/Sanitation-Each participant will be given 10 scenarios. A numbered list of problems will be provided at the beginning of this practicum segment. The list will contain concepts such as good manufacturing practices (GMP), sanitation, food handling/storage and other pre-requisite programs. Participants will identify if there is a violation presented in the siguation. If participants decide that there is a violation, they will indicate the number of the violation from the list of problems provided. (50 points)~~

c. Sensory Evaluation Practicum- 65 points

i. Triangle Tests- ~~Three~~ Four different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/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 five points. (15 points)

ii. Aromas- Each participant will be asked to identify 10 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 sample is worth five points. (50 points)

~~Aromas~~	~~Grape Garlic~~	~~Cinnamon~~	~~Peppermint~~
~~Chocolate~~	~~Clove~~	~~Maple~~	~~Nutmeg~~
~~Oregano~~	~~Basil~~	~~Ginger~~	~~Lemon Lime~~
~~Molasses~~	~~Orange~~	~~Wintergreen~~	~~Vanilla~~
~~Smoke (Liquid)~~	~~Coconut~~	~~Cherry~~	~~Pine~~
~~Lilac~~	~~Onion~~	~~Butter~~	~~Raspberry~~
~~Menthol~~	~~Strawberry~~	~~Licorice (anise)~~	~~Banana~~

Replace with new list:

100. Apple
101. Banana
102. Basil
103. Butter
104. Cherry
105. Chocolate
106. Cinnamon
107. Clove
108. Coconut
109. Coffee
110. Garlic
111. Ginger
112. Grape
113. Lemon
114. Licorice (anise)
115. Lime
116. Maple
117. Molasses
118. Nutmeg
119. Onion
120. Orange
121.Oregan
122. Peach
123. Peppermint
124. Raspberry
125. Sage
126. Smoke (liquid)
127. Strawberry
128. Vanilla
129. Watermelon
130. Wintergreen

V. SCORING

~~Individual Activities~~
~~Objective Test (60 minutes)……..100 *150*~~
~~Food Safety and Quality Practicum……75 *50*~~
- ~~Customer Inquiry……25~~
- ~~Food Safety/Sanitation……50~~
- ~~*Problem Solving/Math……25*~~

INDIVIDUAL ACTIVITIES
Objective Test (60 minutes)……150
Food Safety and Quality Praticum……..50
- Problem Solving/Math (25 pts)
- Customer Inquiry (25 pts)

Sensory Evaluation……70
- Triangle Tests (20 pts)
- Aromas (50 pts)

Total Individual points……270

TEAM ACTIVITIES
Team Product Development Project (80 minutes)

Package Design	*100*
Product Development	*250*
Response to Judges' Questions	*50*
Total Team Points	***400***

TOTAL INDIVIDUAL POINTS *(270 pts x 4 members)****..... 1080***
TOTAL TEAM POINTS 1600

VI. TIEBREAKERS

Team: 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 total points earned by the team in the food safety and quality practicum will be used.

Individual: To identify the high individual for this event in case of a tie, the highest objective test score will be used as the first tiebreaker, followed by the highest food safety and quality practicum score as the second tiebreaker.

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.

Principles of Food Science - 4th Edition Janet Ward and Larry Ward, The Goodheart Wilcox Company Odd years Chapters 1-13 Even years Chapters 14-25

FORAGE EVALUATION
3 or 4 Member Teams

I. PURPOSE

Students apply their knowledge of various forage species to evaluate hay based on physical properties, identify species common to pastures and complete a quiz that tests team members' knowledge of different aspects of forage production and evaluation. The forage event embodies the very basis of real world application. The students take the information learned and apply it directly to forage production, which is foundational to the state's highly significant livestock industry.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Event Schedule

1. This contest will consist of four components: ~~six~~ *four* hay placement classes, *two hay scoring classes,* plant identification, an exam over designated chapters from Southern Forages ~~4th edition~~ ***5th edition***, and a problem solving exercise. Designated chapters will be posted to the Texas FFA website by October 1st of each year.
2. Twenty-*Five* minutes will be allowed to complete each component.

C. General Event Information

1. The Universal Form C (705 C-1) will be used by participants in this event. The assessment and solution section of the scan sheet will be used for the problem solving section (10 questions only); the placing classes section will be used for the hay placing (six classes only); the exam section will be used for the exam component (30 questions only); and the Identification section will be used for the Plant identification component (30 plants only). The team activity and practicum (Judges) section of the scan sheet will not be used in the contest and must remain blank.
2. Since the Horticulture scan sheet does not have the plant list on it, the plant list, with corresponding numbers, will be provided to each contestant by the contest host.
3. Contestants will not be allowed to bring or use their own calculators. If allowed, calculators will be provided by the contest host.

D. Hay ~~Placement~~ Classes (300 points)

2. Contestants place ~~six~~ *four* classes based on physical ranking (maturity, texture, leafiness, freedom from foreign material, and color) *(200 points).*
3. Each class will contain only one type of forage. For example, all samples in one class will be improved Bermuda grass or all will be common Bermuda grass, not mixed, if at all possible.
4. Students may touch the hay samples with the back of their hand, but may not pick up and otherwise handle the samples.
5. Possible classes shall include improved or hybrid bermudagrasses, common bermudagrass, bahiagrass, sorghum/sudangrass, alfalfa and cool season annual grasses, such as ryegrass, wheat, oat, etc. All samples in a class should be of the same species.
6. *Two hay scoring classes, 5 samples in each class, (100 points). Ref: Texas hay judging guidelines, extension publication D-1079*

E. Plant I.D (300 points)

1. The participant will identify 30 pasture grasses, legumes, and weeds from the

Forage Evaluation CDE Plant List.

2. Specimens used in this event will be mounted or live or a combination of both mounted and live specimens.
3. Samples will have an inflorescence, flower or fruiting structures present, if possible.

F. Exam (300 points)

1. Subject areas for the exam will come from Southern Forages ~~4th edition~~ ***5th edition***.
2. Two units from this text shall be selected and posted each year.
3. A unit may be used no more than once every three years.
4. Fifteen multiple choice questions will be taken from each unit. (Units will be selected and posted on the Texas FFA website on the page related to this event.)

G. Problem Solving (100 points)

1. 10 questions will be answered using provided resources. Each question will be worth 10 points.
2. Contestant will answer questions, determine fertilizers to be applied, calculate application rates and cost projections, or make determinations of feed requirements based on forage analysis results.
3. Contestants will be provided a production scenario and soil or forage sample data from laboratory analysis.
4. Information will include, but is not limited to, forage crop managed, acreage managed, input costs, soil analyses, forage analyses, livestock species, etc.

III. SCORING

Hay ~~Placement~~ Classes……300 Plant I.D……300
Exam……300 Problem Solving……100 **Total Points**
Individual……**1,000**
Team……**3,000**

IV. TIEBREAKERS

If ties occur for team awards, ties are broken as follows:

1. The team with the high point individual wins.
2. If still tied, the team with the highest score on the Quiz wins.
3. If still tied, a coin toss will decide the winner.

If ties occur for individual awards, ties will be broken as follows:

1. High point individual on Quiz wins.
2. If still tied, the high point individual on plant identification wins.
3. If still tied, the high point individual on hay placement wins.
4. If still tied, a coin toss will decide the winner.

V. REFERENCES

Hay judging guidelines – Texas Agricultural Extension Service
Southern Forages ~~4th edition~~ ***5th edition***
International Plant Nutrition Institute 655
Engineering Drive, Suite 110
Norcross, GA 30092-2837
770-825-8082 – phone
770-488-0439 – fax

FORESTRY
3 or 4 Member Team

I. PURPOSE

This event familiarizes students with the efforts of soil and water conservation districts in stressing proper use of woodlands. It is also intended to create an awareness and understanding of the value of properly managed woodlands and to promote a greater appreciation of woodlands as renewable natural resources. This contest is designed around the curriculum for the Forestry and Wood Technology. Forestry can be an introduction to a degree in forestry. Students will learn various methods of forestland management.

II. EVENT FORMAT

A. Team Make-up

1. Teams shall consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team.
2. A student who has participated in a National FFA or 4-H Forestry event shall not be disqualified from participation in the Texas Woodland Clinic.
3. Teams are qualified by advancing from each of the NRCS Districts. The top five teams from the Area FFA Contest that have NRCS Forestry Districts within their area may also qualify for state competition.

B. Event Components

Question 1: Hardwood Identification (10 points)

a. 10 species of trees will be tagged A-J
b. Participants will identify each tree by matching it with the correct corresponding number from the question sheet.
c. One point per tree

Question 2: Pine Identification (10 points)

a. Five trees and/or branches and cones will be tagged A-E
b. Participants will identify the trees by matching them with the correct corresponding number from the question sheet.
c. Two points per item.

Question 3: Wood Identification (5 points)

a. Five blocks of wood will be tagged A-E
b. Participants will determine the species of tree from which they were cut.
c. The blocks will be selected from the species listed on the question sheet, and
d. Participants will place the appropriate code from the question sheet for each sample on the answer sheet.
e. One point per block

Question 4: Wood Products (10 points)

a. Five trees will be tagged A-E
b. Participants will determine the market best suited for each tree from the following possibilities:
    i. Poles and Piling
    ii. Veneer Logs and Sawlogs
    iii. Pulpwood and Fence Posts
c. Two points per tree

Question 5: Timber-Forage-Wildlife Relationships (10 points)

a. Five browse plants will be tagged A-E
b. Participants will identify the plants by matching them with the correct

corresponding number from the question sheet.

c. Students will also assign the proper utilization or preference rating for each plant
    i. 1 = First Choice
    ii. 2 = Second Choice
    iii. 3 = Low Value
d. One point for correct identification and one point for a proper determination of the plant's preference.
e. If the plant is not correctly identified, no credit will be given for the utilization rating.

Question 6: Tree Measurements and Volume (10 points)

a. Students will determine the diameters of five tagged pines at DBH in full logs or half logs to a six inch top.
b. A timber volume table/tally sheet will be provided.
c. Participants will determine the volume for each tree and place the total volume for all five trees on the answer sheet.
d. 10 points for determinations within five percent of the correct total; five points for determinations over five percent but within 10 percent; and zero points for determination over 10 percent from the correct volume total.

Question 7: Site Index and Productivity (7 points)

a. Participants will be given a site index table and either an increment core or cross-section for determining age.
b. Participants will round the age to the nearest five years and measure the total height of a marked tree.
c. Using the table, participants will then determine the site index and record it on the answer sheet.
    i. *Site Index:*
    ii. *Correct site index = ~~Five~~ Seven points*
    iii. *Five indices either way = ~~Three~~ Five points*
    iv. *More than Five indices = ~~Zero~~ Two points*
d. Participants will check the appropriate adjective rating, based on the determined site index on the answer sheet.
e. *Adjective Rating:*
f. *Correct rating = Two points*
g. *Incorrect rating = Zero points*

Question 8: Rate of Growth (3 points)

a. Three blocks of lumber, increment cores or cross sections will be tagged A-C
b. Each sample will have a one inch line marked.
c. Participants will determine if each piece is growing too fast, too slow, or about right. (A code for each growth rate is given on the question sheet).
d. 1 point per item.

Question 9: Selective Thinning by D+6 (10 points)

a. 10 trees will be tagged A-J
b. Participants will determine which trees should be cut by forming D+6 triangles ~~and~~, considering quality, *crown friction or other spacing options.*
c. Participants will place an X in the box corresponding to the letters on the answer sheet of the trees that should be CUT.
d. One point per tree

Question 10: Cull Tree Removal/TSI (5 points)

a. Five trees will be tagged and labeled A-E.
b. Participants will determine which method, if any, should be used to control the
c. tagged trees.

d. Participants will choose form one of the following possibilities:
    i. Leave
    ii. Cut
    iii. Deaden with Chemicals
    iv. Deaden with chemicals and/or fire (prescribed burning).
    v. no pines, only hardwoods are to be considered for this question.
e. 1 point per tree

Question 11: Pine Regeneration (5 points)

a. Student will examine site and will determine the best method for site preparation and securing pine establishment based upon landowner's objectives and site concerns. *Harvest all trees/Plant pines or selectively harvest pines for reseeding/Natural reseeding for a hardwood/pine mixed site where there are no landowner concerns and list only one correct answer of Harvest all trees/Plant pines. (Wording Needs to be updated)*
b. Area will be flagged and contestants will choose the best regeneration management system.
c. There will be four possible answers for site preparation and one correct answer for establishment method.
d. Three points will be awarded for the correct site preparation selection. If multiple site preparation techniques are required all the correct methods must be checked in order to receive points. Two points will be awarded for the correct pine establishment method selected.

Question 12: Site Management Concerns (5 points)

a. A hole will be dug at the site and information on drainage, site location, etc. will be provided.
b. Participants will investigate four site factors:
    i. Soil Texture
    ii. Restricted Rooting Depth
    iii. Wetness
    iv. Excessively Steep Slopes
c. Participants will determine which management concerns (Erosion Hazard, Seedling Mortality, Equipment Limitations or none) will be affected by the site factor(s).
d. Participants will then circle all the factors that apply.
e. Five points will be awarded for a correct answer

Question 13: Compass and Placing (10 points)

a. Participants will travel a compass course that has ~~one~~ *turn and will not exceed six chains. two stakes are set up at unknown distance(within range of 50 - 200 feet) and unknown azimuth. Multiple courses can be set up with different colored stakes but must be the exact distance and azimuth.*
b. Participants will be given bearings and corresponding azimuths (participants can use either) and distances to each point in both chains and feet.
c. Scoring will be based on how close to the correct end point the participants finish.
    ~~i. Within 15 feet of the correct end point = 10 points~~
    ~~ii. Between 15 and 30 feet of the correct end point = five points iii. Beyond 30 feet of the correct end point = zero points~~
    The scoring will be:
        a. Distance
            I. full credit for the correct distance within 5% either way - 6 points (example: if 140 feet is the
            II. half credit for distance more than 5% and within 10% - 3 points (example:

is 140 feet is the correct

b. Azimuth

I. full credit for the correct azimuth within 3° - 4 points (example: if 237° is correct answer, 4 points

II. half credit for the azimuth 4°-5° away - 2 points (example: if 237 is the correct answer, 2 points correct distance, 6 points will be awarded to the contestant for answers from 133 - 147 feet). distance, 3 points will be awarded for answers from

(126 - 132 feet and 148 - 154 feet).will be awarded for

answers from 234° - 240°) will be awarded for answers from 232° - 233° and 241° - 242°).

III. SCORING

Tota Points

Individual 100

Team.....300

IV. TIEBREAKERS

A. Team Tiebreakers

Team ties will be broken by using the team's scores on the tree volume question.

1. If the team is still tied the tie will be broken by the high team's score on volume calculation. The volume closest to the correct volume will determine the team winner.
2. If there is still a team tie, the tie will be broken by the team score on the hardwood identification question.
3. If there is still a team tie, the tie will be broken by the teams score on the selective thinning question.
4. If there is still a team tie, the team with the highest alternate score will win.

Individual Tiebreakers

1. An individual tie will be first broken by the closest to the correct tree volume.
2. If still tied, the Hardwood identification question will be used,
3. Then if still tied, the selective thinning question will be used.

V. REFERENCES

The Texas State Woodland Clinic Manual shall be the official guide for rules of conducting the State Woodland Contest.

~~HOME SITE~~ *HOMESITE* EVALUATION
3 or 4 Member Team

I. Purpose

It has long been said that soil is our most basic natural resource. Not only agriculture, but also life on earth is dependent upon the wise use of soil. The Home Site Evaluation Career Development Event introduces students to non-agronomic use of land including, but not limited to, the suitability of various types of land for building sites, home sanitation systems, impoundment structures, lawns and other construction considerations.

II. Event Format

A. Team Make-up

1. An entry may consist of either 3 or 4 participants. The high three team member scores will be combined for the Team Score. The low score will be considered an alternate, only eligible for individual awards.
2. Members of a team having competed at the National Home Site Evaluation Event are ineligible for future competitions at the State CDE.

B. Equipment

1. Transparent plastic clipboards and clean manila folders will be allowed. A clear plastic bag may be used to keep materials clean and dry when inclement weather threatens.
2. No books, paper, rulers, or other materials are needed or permitted
3. #2 pencils and the most current Home Site Scan Sheet must be furnished by the contestant.
4. Knives to assist in locating soil horizons are permitted.
5. A hand towel or rag may be used for cleaning contestant's hands.
6. No cell phones, pagers, or any other electronic devices are allowed. Failure to comply will result in disqualification of the Individual.
7. A non-scanable copy of the scan sheet will be furnished for recording individual answers.
8. Answers will be provided when the event has concluded and advisors may review the sites with their teams.

C. Event Schedule and Location

1. Eligible teams should register for the event on judgingcard.com as soon as possible after spring qualifying events are held.
2. Check in will begin at 7:30 a.m. in the ~~Teaching Pavilion~~ *designated area* at Tarleton State University.
3. The range event will be conducted concurrently with the land and range events. Therefore, it may be necessary to coordinate with other advisors in order to get the students to event sites on time.
4. Judging should begin at 9:00 a.m. (Depending upon travel time to event location)

5. Twenty minutes will be allowed to evaluate each site.
6. This is an outdoor event. Students should be appropriately dressed in compliance to state CDE standards and in attire suitable for this activity.

III. Event Format

1. Four different home sites will be evaluated.
2. Advisors are NOT allowed to accompany participants to the sites.
3. A pit will be excavated at each site.
4. Contestants will evaluate each site in two parts.
5. *Any rule change at the National level will immediately be implemented*

Part I - Evaluation of Land class factors (9 considerations /3 points each /27 points/site)

1. Texture-surface
2. Permeability subsoil
3. Depth of Soil
4. Slope
5. Erosion
6. Surface Runoff
7. Shrink-Swell
8. Water Table (permanent or temporary)

Part II - Suitability of the site for the installation enhancements based upon the Land class evaluation criteria (35 considerations /2 points each /70 points/site)

IV. Scoring

	Part	Part
Site One	27	70
Site Two	27	70
Site	27	70
Site Four	27	70
Totals	**1164 Points/Team**	
	388 Points/Individual	

V. Tiebreakers

A. If ties occur for Team awards, they shall be broken as follows:
   a. The team with the highest score on site one, part I wins or if still tied,
   b. The team with the highest score on site one, part II wins or if still tied,
   c. The team with the highest score on site two, part I and etc. wins.
   d. In the event that the ties are unbreakable in the manner above, the team with the highest alternate score will be the winner.

B. If ties occur for Individual awards, the ties will be broken by substituting "individual where "team" occurs above.

VI. References

Landjudging.com, "Oklahoma Land Judging Made Easy".

HORSE EVALUATION
3 or 4 Member Team

I. PURPOSE

The Horse CDE is to stimulate the study of and interest in equine science selection, management and production through the agricultural education curriculum. Students must learn the anatomical parts of the horse, as well as the internal and skeletal structure. In addition, students make observations, apply analytical and decision- making skills.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Event Schedule

To expedite conduct of the event, performance classes will be run before halter classes unless extenuating circumstance prevent the provider from doing so. 12 minutes will be allowed for students to place each halter class. Performance classes will take the time necessary for each class to be judged.

C. Event Format

1. There will be a total of eight classes to be judged in the contest.
2. Each placing class will be worth 50 points for a total of 400 points.
3. There will be at least three halter classes. If the provider feels that a better contest can be provided having five performance classes, they will have the flexibility to do so. The structure of the contest will be four halter and four performance classes or three halter and five performance classes.
4. Classes to be judged will consist of four horses.
5. Halter classes will be chosen from:
    i. Appaloosa
    ii. American Quarter Horse
    iii. American Paint Horse
    iv. Conformation Hunter
6. Performance classes will be judged according to the standards set forth by the American Quarter Horse Association and will be chosen from:
    i. Hunter Hack
    ii. Hunt Seat Equitation
    iii. Hunter Under Saddle
    iv. Reining
    v. Trail
    vi. Western Horsemanship
    vii. Western Pleasure
    viii. Western Riding
    ix. *Stock Horse Pleasure*
    x. *Ranch Riding*
7. All halter classes will be judged sound of limb, eye, wind and mouth.

8. Performance horses will be judged as seen (unsoundness to be judged accordingly). All tack and attire is considered legal.
9. A set of five questions, will be asked on each of one halter classes and one performance classes for a total of 10 questions. Contestants will use 1-5, 6-10 on scan sheet.
10. Questions will be taken from the state adopted list approved questions for each class. These questions will be posted online and reviewed periodically by a subcommittee of the state CDE advisory committee. Should an obvious 'event' occur during a performance class, event officials may ask a question regarding that specific 'event' that is not listed on the state question list.
11. Questions will be worth five points each or a total of 25 points per class for a total of 50 points.
12. Notes taken during the event may be used to answer questions.
13. Minimum of two qualified judges familiar with horse judging events will be selected to put official placing and cuts on the classes. Official placing and reasons will be given following the completion of the event.
14. The provider is encouraged to have as many different types of performance classes as possible. It is also requested that the provider have as many different horses for the performance classes as possible. No individual horse can be used in more than two performance classes.
15. Horses will not be handled by students, but time will be provided for close inspection and to observe the horse at walk by students.
16. Patterns will be furnished. Patterns are to be distributed only when the students have been broken into groups.
17. In performance classes, horses which break pattern and are disqualified according to AQHA standards, are scored as a "zero," and placed last. In classes in which more than one horse is disqualified, the cut between the disqualified horses is zero, in accordance to the standards of the National Horse Judging Coaches Association. Failure to abide by this rule will result in disqualification of the student.

III. SCORING

Questions.....50
Placing Classes 400
Total Points
Individual 450
Team ……..……1,350

IV. TIEBREAKER

A. The team with the highest score in the placing classes wins.
1. If still tied, the team with the highest alternate score.
2. If still tied, the team with the high point individual;
3. If still tied, the advisors shall match for the high award.

B. Ties for individual awards shall be broken as follows:
1. Highest score in placing classes; or if still tied,
2. Highest alternate score; or if still tied,

3. Individuals shall match or the high award.

V. REFERENCES

Materials Available from IMS:

Printed Materials

4036 Horse Evaluation Handbook, IMS 8905 Complete Set AgSc 334 - Equine Science, IMS

Color Slides

Past 5 years' sets of HLSR Horse CDE slides, IMS

VHS Videos

9657 Oral Reasons for Horse Judging, CEV 9658 Judging Halter Horses, CEV 9659 Horse Judging: Western Pleasure, CEV 9660 Horse Judging: Hunter Under Saddle, CEV 9661 Horse Judging: Western Riding, CEV 9662 Horse Judging: Reining, CEV 9663 Practice Horse Judging: Halter I, CEV 9664 Practice Horse Judging: Western Pleasure I, CEV 9665 Practice Horse Judging: Hunter Under Saddle I, CEV 9666 Practice Horse Judging: Western Riding I, CEV 9667 Practice Horse Judging: Reining I, CEV 9797 Practice Horse Judging: Halter - II, CEV 9798 Practice Horse Judging: Halter - III, CEV 9799 Practice Horse Judging: Western Pleasure - II, CEV 9800 Practice Horse Judging: Western Pleasure - III, CEV 9801 Practice Horse Judging: Hunter Under Saddle - II, CEV 9802 Practice Horse Judging: Hunter Under Saddle - III, CEV 9803 Practice Horse Judging: Western Riding - II, CEV 9804 Practice Horse Judging: Western Riding - III, CEV 9805 Practice Horse Judging: Reining - II, CEV 9806 Practice Horse Judging: Reining - III, CEV

AQHA Handbooks

LAND EVALUATION
3 or 4 Team Members

I. PURPOSE

It has been said that the soil is our most basic natural resource. Not only agriculture, but all life on earth is dependent upon the wise use of soil. The Land Career Development Event introduces students to factors involved in the stewardship of soil, which include soil texture, permeability, total depth, percent slope, prior erosion loss, and how quickly surface water moves across the landscape. Students use these factors to determine Land Class, and to recommend certain land management and conservation practices to ensure the sustained productivity of agricultural sites.

II. EVENT FORMAT

A. Team Make-up

1. An entry may consist of three or four participants. The three high scores will be tabulated as the team score with the low scorer being considered an alternate.
2. Members of teams competing in the National Event are ineligible for further participation.

B. Equipment

1. Transparent plastic **compliant*** clipboards and/or clean manila folders will be allowed. A clear plastic bag may be used to keep materials clean and dry when inclement weather threatens.
2. No books, paper, rulers or other materials are needed orpermitted.
3. Pencils and the most current scan sheet must be brought by the contestants.
4. Knives to assist in locating soil horizons are permitted.
5. No cell phones or pagers are allowed.
6. A hand towel or rag may be used for cleaning contestants' hands
7. An additional information sheet will be provided for each field.
8. Individuals wishing to record their answers may do so on the back of the additional information sheet provided at the site.
9. Answer sheets will be provided when the event is over so that the advisors may review the fields with their team.

Please refer to General CDE Rules for compliance standards.

C. Schedule

1. Eligible teams should register for the event on judgingcard.com as soon as possible after spring qualifying events are held.
2. The land event will be conducted concurrently with the range and pasture event. Therefore, it may be necessary to coordinate with other advisors in order to get the students to event sites on time.
3. Check in will begin at 7:30A.M. in the ~~Teaching Pavilion~~ *designated area* at Tarleton State University
4. Judging should begin at 9:00A.M. (Depending upon travel time to event location)
5. Twenty minutes will be allowed to evaluate each site. *The last rotation will be 25 minutes.*

D. General Rules

1. Four different fields will be used and field boundaries will be clearly indicated.
2. The fields to be judged will be selected and scored by experts in Soil Science.
3. Advisors are not permitted to go with participants.
4. A pit will be excavated inside a staked area. The boundaries of the area to be judged will be indicated by four corner stakes flagged in white. Two additional stakes flagged in red and located 100 feet apart will be located inside the area to be judged. Slope judgments should be made on the area between the red flagged stakes. Topsoil and subsoil samples will be labeled for texture and permeability judgments.
5. Land judging consists of two parts: (1) judgment of various land class factors and (2) selection of land treatments.
6. The land class will be determined by characteristics of the soil exposed in the pit and observations of landscape conditions -- slope, gullies, etc. -- inside the staked area.
7. The land treatments will involve three considerations:
    a. soil characteristics,
    b. information presented on an "additional information sheet", and
    c. vegetative conditions inside the staked area.
8. There are a total of 75 points per field in land judging – 45 in Part I and 30 in Part II.
9. *Any rule change at the National level will immediately be implemented*

E. Part I-Land Classes (180 points)

1. All of the factors are worth 4 points each, except for depth of soil which is worth 5 points and the last two, which are worth 8 points each. Credit for major factors will be given only when judgments are 100% correct. For example, no credit will be given for major factors if the student checks 2 correct factors and there are 3 correct factors.
2. The value for each correct judgment will be totaled to give the score for Part 1
3. The judgments in Part 1 are made by inspecting the soil profile, the topsoil and subsoil provided in boxes, and the land area inside the stakes.

F. Part 2- Land Treatments (120 points)

1. When possible, equal value will be assigned to all treatments (*e.g.*, 5 points each for 6 treatments). When that is not possible, some treatments will be assigned a 1 point higher value than others. The higher values will arbitrarily be assigned in order beginning with the first treatment selected by the judges (*e.g.*, 5 points for the first 2 treatments and 4 points for the last 5 treatments when there is a total of 7 treatments).
2. The treatments indicated by the student will be considered until the student has selected a number of treatments equal to the number selected by the judges. Example: The judges selected 7 treatments, and treatment 20 represents the participant's 7th selection. No consideration will be given to marked selections below treatment 20. In cases where the student selects fewer treatments than the judges, all marked treatments will be scored.
3. The point value for each correct treatment eligible for consideration will be totaled to give the score for Part II.

4. The treatments recommended in Part II are selected by considering soil characteristics, vegetative conditions inside the staked area (presence or absence of brush), and information presented on an "additional information sheet". The format for the additional information sheet is as follows:

    a. Treatments should be selected by:
        - Soil deficiencies.
        - Do not consider present mechanical practices on the field.
        - Thickness of original topsoil.
        - Size of field.
        - Consider most intensive use of land for treatment purposes.
        - Other conditions.

III. SCORING

Total Points

Individual…..300

Team ……900

IV. TIEBREAKER

A. Ties for Team awards shall be broken as follows:
    1. The team with the highest score on Field I, Part I will be the winner. If still tied;
    2. The team with the highest score on Field I, Part II will be the winner. If still tied;
    3. The team with the highest score on Field II, Part I will be the winner and etc.
    4. In the event that's the ties are unbreakable in this manner, the team with the highest alternate score will be the winner.

B. Ties for individual awards will be broken by using the rules above but substituting "individual" wherever "team" occurs

V. RESOURCES

"Oklahoma Land Judging Made Easy"

Texas Land Judging Manual by Jesse Tackett and Clyde Stahnke, updated in 2011 by Ernie Eckert, available through IMS.

Note: If either resources conflict with each other, the Oklahoma Land Judging Made Easy will override the Texas Land Judging Manua

LIVESTOCK EVALUATION

3 OR 4 MEMBER TEAM

I. PURPOSE

This event is designed to teach students the desirable trait of livestock today. Students must observe details, see individual animals in the context of a class and make generalizations of individual traits to the industry, be knowledgeable of external anatomy, market and performance standards, performance data, breed character, make logical decisions and use generally accepted industry terminology. Students will be able to select livestock that will satisfy the demands of the consumer.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Event Schedule

Contestants will be given 12 minutes at each station to complete the evaluation or answer the questions provided.

C. Placing Classes (350 points)

1. Contestants will evaluate classes of livestock
2. There will be seven (7) classes of livestock:

a. 1 Breeding Beef
b. 1 Market Swine
c. 1 Breeding Swine
d. 1 Market Swine
e. 1 Breeding Sheep
f. 1 Market Lamb
g. 1 (Market or Breeding) Goat

3. Each class shall have a possible value of 50 points.

D. Questions (75 points)

1. Five questions per class will be developed within the parameters of the state-adopted “Class Characteristics for Livestock Questions.”
2. Five points are awarded for each correctly answered question
3. Questions are derived from three of the market or breeding placing classes (one beef, one swine, one sheep/goat).
4. At least one class of questions must be concerning a breeding class and one must pertain to a market class.
5. Questions regarding a specific placing class will be answered immediately following that class.
6. Students may use their own notes taken during judging

E. Female Selection Classes (150 points)

1. One class each of beef, swine, sheep (eight animals per class).
2. Contestants should designate the four best animals, using visual appraisal and performance data.

3. Performance data provided.
4. Each class shall have a possible value of 50 points.
5. A scenario (description of production objectives) should be provided for the beef, swine, and sheep female selection classes. Performance data that may be provided orally or in writing may include: Beef: Expected Progeny Differences (EPDs) may be given for birth weight, weaning weight, yearling weight, milk and carcass merit. Date of birth, birth weight, weaning weight (actual or adjusted), and weight (actual or adjusted) may also be provided. Swine: Date of birth, days to 250 pounds, estimated backfat (inches), loineye area (square inches,) number of pigs born in litter, number of pigs weaned in litter, and dam's Sow Productivity Index (SPI Value) may be included for the gilts in this female selection class. Sheep: Date of birth, weaning weight (60 or 120 days), maternal pounds weaned, type of birth and rearing (single, twin, or triplet), fleece weight (finewools), and spinning count (finewools) may be provided for ewes in this female selection class. 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.
6. 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 student selects the best four animals, full credit will be given (50 points).

Animal Numbers - Sample for Scoring

8 7 6 5 4 3 2 1
Sample Class
(18) (13) (11) (8) (7) (4) (3) (0)
Point Value

Animal Numbers Selected - Example Scoring

Score
Student A 6 8 4 2
(11) (18) (7) (3) 39
Student B 8 7 6 5
(18) (13) (11) (8) 50
Student C 7 6 5 1
(13) (11) (8) (0) 32
Student D 1 2 3 4
(0) (3) (4) (7) 14

Point values are shown in parentheses above. Point values are established by official judges and may differ on each class.

F. Grading Classes (~~50~~ *100* points)

1. Official judges may use all mechanical and electronic devices available to assist in placing and grading.
2. More than one breed may be used in the grading class.
3. ~~The~~ *Each* Grading Class is worth 50 points.
4. Beef Cattle Grading - Slaughter Cattle
    a. Contestants will grade one class of Slaughter Cattle (five head)
    b. Grading based on the latest USDA market grades and cutability
    c. All grades not necessarily represented

d. 50 points for slaughter cattle grading class

e. Slaughter grades used in the event are prime, choice, select, and standard. No slaughter cattle over 42 months of age will be used; therefore, the "commercial" grade is not shown.

f. For slaughter cattle, the student is to mark (bubble in) the quality grade subdivision and also the correct cutability (yield grade) rating number for each animal.

g. Credit of four points is allowed for correct quality grade. Three points will be allowed for each 1/2 grade above or below the official grade. Two points are allowed for one full grade above or below the official grade, and the score is zero for more than one full grade above or below the official grade.

h. Credit of six points will be allowed for correct cutability rating. Four points will be allowed if an animal is graded 1/2 grade above or 1/2 grade below the correct yield grade. Two points will be allowed for each full grade above or below the correct yield grade, and the score will be zero for more than one full grade above or below the designated yield grade.

5. *Beef Cattle Grading – Feeder Cattle*
   Scoring and rules would be consistent with those of this portion of the contest prior to it being removed.

G. Written Exam (50 points)

1. Contestants will complete a 25-question general knowledge exam. The exam will cover livestock breeds, nutrition, health, marketing, evaluation and management.
2. Questions will be taken from a bank of questions posted on the Texas FFA Association website. These questions will be reviewed periodically by an event subcommittee appointed by the state CDE advisory committee.
3. Two points are awarded for each question answered correctly.

III. SCORING

Placing Classes.....350
Questions.....75
Female Selection Classes … .....…150
Grading Class.. ……. ..... ….~~50~~ *100*
Written Exam.....50
Total Points Individual……~~675~~ *725*
Team ……~~2,025~~ *2175*

IV. TIEBREAKER

Ties for team awards shall be broken as follows:

1. The team with the highest score in the six placing classes wins.
2. If still tied, the team with the highest alternate score will be the winner.
3. If still tied, the advisors shall match for the high award. Ties for individual awards will be broken by substituting the word "individual" wherever the word "team" appears.

V. REFERENCES Test References:

Livestock and Poultry Production, Gillespie, 4th Edition
Instructional Materials Service: Complete Materials for AgSc 332, Animal Science and AgSc 336, Advanced Animal Science
Oklahoma State University Breeds of Livestock web pages: http://www.ansi.okstate.edu/breeds/

Materials Available from IMS: Printed Materials

0401 Standards for Grades of Slaughter Swine, USDA
0403 Standards for Grades of Slaughter Cattle, USDA
0404 Quality Grades of Slaughter Steers, USDA
0405 Yield Grades of Slaughter Steers, USDA
4032 Livestock Evaluation Handbook, IMS
8399 Selecting Beef Cattle, IMS
8400 Selecting Swine, IMS
8401 Selecting Sheep, IMS
8651 Complete Set AgSc 231 - Animal and Plant Production, IMS
8831 Complete Set AgSc 332 - Animal Science, IMS
8846 Complete Set AgSc 332H - Advanced Animal Science, IMS

Color Slides

5168 1992 4-H/FFA Livestock Judging, HLSR, IMS
5169 1992 Area Cattle & Sheep, TAMU, IMS
5170 1992 Area Swine Classes, TAMU, IMS
5171 1992 Livestock State Classes, TAMU, IMS
5175 1993 4-H/FFA Livestock Judging, HLSR, IMS
5180 1993 Area Event - Cattle Classes, TAMU, IMS
5181 1993 Area Event - Swine Classes, TAMU, IMS
5182 1993 Area Sheep Classes, TAMU, IMS
5183 1993 State Event - Cattle Classes, TAMU, IMS
5184 1993 State Event - Swine Classes, TAMU, IMS
5188 1994 4-H/FFA Livestock Judging, HLSR, IMS
5189 1994 Area Cattle Classes, TAMU, IMS
5190 1994 Area Swine Classes, TAMU, IMS
5191 1994 Area Sheep Classes, TAMU, IMS
5192 1994 State Cattle Classes, TAMU, IMS
5193 1994 State Swine Classes, TAMU, IMS
5194 1994 State Sheep Classes, TAMU, IMS
5197 1995 HLSR Livestock Contest, IMS
5026 1995 Area Cattle Classes, TAMU, IMS
5027 1995 Area Swine Classes, TAMU, IMS
5028 1995 Area Sheep Classes, TAMU, IMS
5029 1995 State Cattle Classes, TAMU, IMS
5030 1995 State Swine Classes, TAMU, IMS
5031 1995 State Sheep Classes, TAMU, IMS
5034 1996 HLSR Livestock CDE, IMS
5038 1996 Area CDE Cattle Classes, TAMU, IMS
5039 1996 Area CDE Swine Classes, TAMU, IMS
5040 1996 Area CDE Sheep Classes, TAMU, IMS
5041 1996 State CDE Cattle Classes, TAMU, IMS

5042 1996 State CDE Swine Classes, TAMU, IMS
5043 1996 State CDE Sheep Classes, TAMU, IMS
5046 1997 HLSR Livestock CDE, IMS
5047 1997 Area CDE Cattle Classes, TAMU, IMS
5048 1997 Area CDE Swine Classes, TAMU, IMS
5049 1997 Area CDE Sheep Classes, TAMU, IMS
5050 1997 State CDE Cattle Classes, TAMU, IMS
5051 1997 State CDE Swine Classes, TAMU, IMS
5052 1997 State CDE Sheep Classes, TAMU, IMS

VHS Videos

9558 Practice Livestock Judging III, CEV
9559 Practice Livestock Judging IV, CEV
9589 Practice Cattle Judging, CEV
9705 Area and State Slaughter Cattle Grading, IMS
9706 Area and State Beef Heifer Selection, IMS
9807 Practice Livestock Judging V, CEV
9808 Slaughter Lamb Evaluation, CEV
9812 Practice Slaughter Hog Evaluation, CEV
9834 Breeding Cattle Evaluation, CEV
9835 Market Cattle Evaluation, CEV
9836 Market Swine Evaluation, CEV
9837 Breeding Swine Evaluation, CEV
9838 Market & Breeding Sheep Evaluation, CEV
9996 Practice Livestock Judging XIV, CEV
9997 Practice Slaughter Cattle Evaluation, CEV

MARKETING PLAN
Official Dress Mandatory - 3 Member Team

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 an actual local agri-business, either an existing or start-up enterprise, to support FFA's outreach mission.

Local chapters may involve the entire chapter, a specific agriculture class, or a three-person team in the development of the plan. Understanding of the marketing process is manifested in the marketing plan, which is presented in a written plan and in a live presentation to qualified judges. A three-person team delivers the live presentation, which should include the results of their research and a reasonable and logical solution to a marketing problem. Though only three individuals are on a team, any number of students may assist with research and development of the plan.

II. OBJECTIVES

A. To encourage students to demonstrate an understanding of the marketing plan process.

B. To encourage students to explore and prepare for possible careers in agri-marketing.

C. To help develop partnerships and improve relations between industry, local FFA chapters and the general public.

III. EVENT FORMAT

A. Team / Judges

1. A team consists of three members from the same chapter. Only the three-team members can take an active role in the presentation of materials and use of technology during the presentation.
2. It is required that participants be in official FFA dress in this event. Students not in official dress shall not be allowed to participate, but will be given opportunity to correct the deficiency as long as the start time of the event is not affected.
3. A chapter may field one team in the state event.
4. At least three qualified judges will be used. Judges should be selected to represent a mix of industry, education, and communication fields and if possible, should have a sufficient understanding of the marketing planning process.
5. The judges will give a written evaluation after the finals and scoring is completed. The written evaluation should address both the oral presentation and the written marketing plan.
6. A timekeeper will be designated, possibly one of the judges.

B. Equipment

Equipment provided at the event site consists of:

- One screen

- One table
- Three chairs

It is the responsibility of the team to provide any additional equipment.

C. Written Plan – 100 Points

1. Instructions
   a. Teams should select an actual local agri-business, either an existing or start-up enterprise, that serves the community and decide on the product or service for the marketing plan. Teams should work with an off-campus organization; they should not use their chapter as a client.
   b. A marketing plan is concerned with the future. Historical information is very valuable, but the actual plan must be a projection.
   c. The project outline should include the following aspects of the marketing process:
      i. Brief description of product or service (product/service attributes: size, quality, etc.) – 5 points
      ii. Market analysis – 30 points
         - Client's status in current market
         - Industry trends
         - Buyer profile and behavior
         - Competition's strengths and weaknesses
         - Product's/client's strengths and weaknesses
         - Research results (from local and published resources)
      iii. Business proposition – 10 points
         - Key planning assumptions
         - Short and long-term goals - must be measurable, specific, attainable and have completion dates
         - Target market – identify specific market segments which achieve the goals
      iv. Strategies and action plan – 25 points
         - Product
         - Price
         - Place
         - Promotion
         - Position
      v. Projected budget – 15 points
         - What will the strategies cost?
         - Pro forma income statement which details the realistic costs and returns of the marketing strategies
         - Calculate the financial return of the marketing plan
      vi. Evaluation – 5 points
         - Establish benchmarks to track progress toward goals
         - Identify specific tools to measure established benchmarks
         - Recommendations for alternative strategies, if benchmarks are not reached
      vii. Technical and business writing skills – 10 points
2. Procedures
   a. Each team must upload their written marketing plan onto the registration website www.judgingcard.com no later than two (2) weeks prior to date of the competition. The manuscript should be submitted in PDF format.
   b. The document should not exceed eight (8) single-sided, 8.5"x11" pages

and must be ten point or larger type size. Different formats and page layouts can be used as long as the document does not exceed the equivalent of eight (8) single-sided, 8.5" x 11" pages.

i. Title page - 1 page
   - Project title, Chapter name, Chapter number, Year

ii. Text and appendices - 7 pages
   - Marketing plan, Surveys, Graphs, Maps, Promotional pieces

iii. Written expression is important. Attention should be given to language, general appearance, structure and format.

iv. Written plans not submitted two weeks prior to the contest will be assessed a penalty of thirty (30) points. A penalty of ten (10) to thirty (30) points will be deducted for marketing plans that exceed the allotted eight (8) pages or are not typed in ten point or larger type size.

D. Live Presentation – 200 Points

1. The team assumes the role of a marketing consultant. The judges assume the role of the selected client.
2. Each team will be allowed five minutes to set up before their 15 minute time allowance begins. After the presentation, teams are required to reset the equipment as they found it.
3. In the case of equipment failure, every effort will be made to rectify the problem as quickly as possible; however, at the judges' discretion, a team may be asked to move forward with the presentation. A back-up plan in case of equipment failure is recommended.
4. The live presentation should not exceed fifteen minutes. Five points will be deducted from the final score for each minute or major fraction thereof, over fifteen minutes for the presentation. The timekeeper shall be responsible for keeping an accurate record of time.
5. The marketing presentation will be followed by five minutes maximum of clarifying questions. Each member of the team should participate in the question and answer session.
6. 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.
7. Before the presentation, teams are allowed to hand judges one single-sided, 8.5"x11" page with changes/corrections to the written plan. No other handouts or samples are allowed to be given to the judges.

IV. SCORING

Written Plan

Description of Product / Service	5
Market Analysis	30
Business Proposal	10
Strategies and Action Plan	25
Budget	15
Evaluation	5
Technical and Business Writing Skills …	10
Points Possible	**100**

Live Presentation

Demonstrated Understanding and Clear Presentation of Marketing Process ……...75
Evidence of Research.....25
(Primary research in local area and secondary research from published sources)
Effectiveness of the Presentation 50
Questions and Answers..... 50
Points Possible..... ……200

TOTAL POINTS POSSIBLE 300

Teams will be ranked in numerical order on the basis of the final score 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).

~~If the field of competing teams is greater than ten, the teams will be divided into flights, if the field of greater than 21 teams, the teams will be divided into three flights; seeded by the written marketing plan scores so that the high scoring teams will be in different flights.~~ *"If the field of competing teams is great than ten, the teams will be divided into two flights, if the field is great than 15 teams, the teams will be divided into three flights and if the field of teams is greater than 20 teams, the teams will be divided into four flights; seeded by the written marketing plan scores so that the high scoring teams will be in different flights."*

After the first round of live presentations, the top two teams from each flight will advance to a final round, if there are three flights, only the top team from each flight will advance. Points earned on the written plan will follow each team advancing to the finals; **only** the live presentation will be rescored.

Judges should score the final performance without being influenced by a team's performance in the preliminary round. Placing for teams not advancing to the finals will be determined by preliminary round scores.

V. TIEBREAKER

1. Team with the lowest combined Judges' rankings wins.
2. If still tied, the team with the lowest combined Judges' ranking for response to questions wins.
3. If still tied, the team with greatest raw point total wins.
4. If still tied, the advisors shall match for high awards.

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.

- National FFA Core Catalog: National Career Development Event Questions and Answers - http://shop.ffa.org/cde-qas-c1413.aspx
- Power of Demonstration DVD - http://shop.ffa.org/power-of-demonstration-p38845.aspx
- Agricultural Marketing Resource Center - http://www.agmrc.org/

WRITTEN MARKETING PLAN SCORE SHEET

Chapter_____Team Number _____

	Points Possible	Points Earned	Comments
DESCRIPTION OF PRODUCT/SERVICE AND CLIENT STATUS	**5**		
MARKET ANALYSIS	**30**		
Client's status in current market	5		
Industry trends	5		
Buyer profile and behavior	5		
Competition's strengths and weaknesses	5		
Product's/client's strengths and weaknesses	5		
Evidence of Research by team members	5		
BUSINESS PROPOSAL	**10**		
Key planning assumptions	2		
Short and long-term goals	4		
Target market	4		
STRATEGIES AND ACTION PLAN	**25**		
Product	1		
Price	7		
Place	5		
Promotion	7		
Position	5		
BUDGET (income statement, costs, returns, accuracy)	**15**		
EVALUATION (means to measure progress, contingency plans)	**5**		
TECHNICAL & BUSINESS WRITING SKILLS	**10**		
Deduction – Written plan received after submission deadline. Deduction of 30 points from written plan score.			
Deduction – Incorrect format (exceeds eight pages, document text is less than 10 point font) 10 to 30 points			
WRITTEN PLAN TOTAL POINTS	**100**		

MARKETING PLAN LIVE PRESENTATION SCORE SHEET

Chapter_____ Team Number _____

	Possible Points	Earned Points	Comments
MARKETING PROCESS (understanding and clear presentation of the parts of a marketing plan)	**75**		
Analysis of current market situation	10		
Business proposal	15		
Strategies / action plan	25		
Budget	20		
Evaluation	5		
EVIDENCE OF RESEARCH	**25**		
PRESENTATION SKILLS • **Examples explained, detailed** • **Speaking without notes, conversational tone All members participated** • **Mannerisms, gestures, eye contact Poised** • **Overall effect**	**50**		
RESPONSES TO QUESTIONS	**50**		
Deduction – Five (5) points for each minute, or major fraction thereof, presentation went over fifteen (15) minutes			
PRESENTATION TOTAL POINTS	**200**		

Judge's Signature_____ Date _____

Chapter_____ **Team Number** _____

OVERALL PLACING			
PRESENTATION TOTAL POINTS	200		
WRITTEN PLAN SCORE	100		
NET TOTAL POINTS	**300**		
TEAM RANKING			

MEATS EVALUATION AND TECHNOLOGY
3 or 4 Member Team

I. PURPOSE

This event develops employment skills for students who are interested in experiencing and pursuing a career opportunity in the meat industry. Those who participate will become more knowledgeable consumers of meat and meat animal products and/or involved in the industry of marketing and managing. There are many job opportunities today that deal directly with the information provided in this contest. Students may continue studies in meat and food science related disciplines or go on to work in the meat industry at the processing, wholesale or retail levels.

II. EVENT FORMAT & SCORING

A. Team Make-up

1. Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total. *The student who does not judge at Nationals will be allowed to return to area and state level competition in this event. It will be the job of the school advisor to contact Texas FFA with the name of the student not competing at Nationals, therefore, regaining their eligilibity in this event.*
2. Team members must come prepared to work in a cold storage room for two hours. They should have heavy sweaters, coats, and other warm clothes. Due to HACCP regulations- bump caps, hairnets, and clean frocks are required to enter the Meats lab (clean frocks must be carried in a plastic bag and returned to the bag when exiting the lab, if re-entry is expected.) Texas Department of Health (TDH) officials may be on site during the contest.

B. General Event Information

1. Students cannot handle the meat, but may handle kidney knobs from 13th rib and above on beef carcasses.
2. Official judges may use all mechanical and electronic devices available to assist in placing.
3. When placing the class of retail cuts the following items should be considered: The four packages should be ranked on differences in such characteristics as percentage lean, amount of bone, fat trim, seam fat, amount of connective tissue, lean color, marbling, firmness of fat and lean, freshness and correct and attractive packaging that is appropriate for the cut. The following are criteria for ranking the cuts along with the approximate percent emphasis that should be placed on the various characteristics:
   a. Percentage lean Includes the amount of lean, subcutaneous fat, seam fat, connective tissue and bone. This is the most important factor and therefore carries the greatest amount of emphasis (50%).
   b. Lean color Many studies report that lean color is one of the most important factors in consumer purchasing. Both cuts that are excessively dark or light should be discriminated against (25% emphasis).
   c. Texture and firmness Coarse textured cuts or those with soft lean or fat should be discriminated against (10% emphasis).
   d. Marbling Amount and distribution of marbling, especially in the cuts from the loin, should be considered (5% emphasis).
   e. Workmanship Angular cuts, inappropriately sized plastic foam trays and irregular wrap should be discriminated against (10% emphasis).
   f. Unwholesomeness This should be a basis for automatically ranking a package last.

4. The students are not allowed to touch or handle the retail cuts in any manner during the event.
5. Any area of the cut or package in contact with the table (out of sight) should be considered as acceptable.

C. Written Exam (50 points)

1. Exam will consist of 25 questions. Questions will be worth 2 points each.
2. Questions will **ONLY** come from:
   a. "Meat Science & Food Safety" PowerPoint (CEV)
   b. The same chapters will be used at Nationals with the corresponding year:
      ~~**2012, 2014, and 2016**: Meat Storage and Handling, Meat Cookery, Processed Meats, and Food Safety.~~
      ~~**2013 and 2015**: Legislation and History, Animal Care and Handling, Meat Nutrition, and Purchasing Meat.~~
3. Exam will be taken during one group rotation period.

D. Retail Meat Cuts (280 points)

1. The retail meat cuts will be divided into 4 parts (10 cuts per part).
2. Contestants will be given 1 minute to identify each cut.
3. One point will be given for identification of the correct species.
4. Two points will be given for correct primal cut identification.
5. Three points will be given for correct retail cut identification.
6. One point will be given for correct cookery method.
7. ID sheet will be provided, including numbers of meat cuts.
8. Refer to National Rulebook for cut lists.

E. Beef Quality and Yield Grading (120 points)

1. There will be two classes for beef quality and yield grading with three carcasses per class.
2. Contestants will be given 10 minutes per class.
3. 20 points are awarded for the correct grading of each carcass. (10 points for Yield Grade and 10 points for Quality Grade)
4. Yield and Quality Grading follows current USDA Standards.
   a. Yield Grading Scoring
      I. Yield grades will be to the nearest tenth (.1) of a grade.
      II. One point will be deducted for a .2-.3 grade above or below the official grade.
      III. Two points will be deducted for a .4-.5 grade above or below the official grade.
      IV. Three points will be deducted for a .6-.7 grade above or below the official grade.
      V. Four points will be deducted for a .8 grade above or below the official grade.
      VI. Five points will be deducted for a .9 grade above or below the official grade.
      VII. Six points will be deducted for one full yield grade above or below the official grade.
      VIII. Ten points will be deducted for a yield grade missed by more than one official grade.
   b. Quality Grading Scoring
      I. One point will be deducted for a third of a grade above or below the official grade.
      II. Three points will be deducted for two-thirds of a grade above or below the official grade.
      III. Six points will be deducted for a full grade above or below the official grade.
      IV. Ten points will be deducted for being more than one full grade above or below the official grade.

F. Placing of Six Classes (300 points)

1. Six classes will be selected from the following list (may have two of the same type):

a. Beef carcasses ***/ and or value based.***
b. Pork carcasses (may or may not be ribbed)
c. Lamb carcasses (may or may not be ribbed)
d. Wholesale pork cuts (hams or loins)
e. Beef wholesale cuts
f. Retail cuts -students will place four packages from one of the following seven selections:
   I. Beef: T-bone, porterhouse or rib-eye steaks
   II. Pork: blade or loin chops.
   III. Lamb: blade or loin chops.
   IV. Optional: value based beef pricing class

2. Contestants will be given 10 minutes per class
3. Each class will be worth 50 points.

G. Questions (50 points)

1. 10 total written questions will be given over two placing classes (five per class).
2. Each question will be worth five points for a total of 50 points.
3. The questions will be given during one rotation period.
4. Contestants may use notes taken during the event.

H. 15 rotations will be provided with one rotation serving as a sit-out.

III. SCORING

Written Exam 50
Retail Meat Cuts 280
Beef Quality and Yield Grading ……120
Placing Classes 300
Questions.....50

Total	**Points**
Individual	**800**
Team	**2,400**

IV. TIEBREAKER

A. Ties for team awards shall be broken as follows:

1. The team with the highest score in the identification wins.
2. If still tied, the highest score in questions classes.
3. If still tied, the highest total score in the carcass grading.
4. If still tied, the team with the high alternate score.
5. If still tied, the advisors shall match for the high award.

B. Ties for individual awards will be broken by substituting the word "individual" wherever the word "team" appears.

V. REFERENCES

Materials Available from IMS:

Printed Materials

0224 Food Service Cuts of Pork Poster
0225 Purchasing Pork Poster - A Consumer Guide to Identifying Retail Pork Cuts
0226 NLMB Meat Evaluation Handbook
0227 The Guide to Identifying Meat Cuts (NCBA & NPPC)
0228 Yellow Pages - Answers to Predictable Questions Consumers Ask About Meat
0411 Preliminary Cutability Grade Ruler - NASCO
0412 Beef Ribeye Grid
8820-A Evaluating & Grading Carcasses and Wholesale Cuts, IMS
4034 Meat Evaluation Handbook, IMS
8556-A Identifying Government Agencies and Regulations Involved in the Meat Industry
8561-A Recognizing the Beef Harvesting Process
8561-B Evaluating Beef Carcasses
8562-A Recognizing the Pork Harvesting Process
8562-B Evaluating Pork Carcasses
8563-A Recognizing the Lamb and Goat Harvesting Process
8563-B Evaluating Lamb and Goat Carcasses

Slides

5012 Meat Evaluation Handbook Judging Slides (95 slides) National Meat Board
5014 Meat Identification (136 slides, w/s) National Meat Board
5176 Meats - Wholesale Cuts, IMS
5177 Meats - Carcass Placing I
5178 Meats - Carcass Placing II
5179 Meats - Quality and Yield Grading

Pictures

7020 Marbling Photographs (6 full color - 6" x 9") National Meat Board

DVD's

9505 Practice Meat Retail Cut Identification, CEV
9506 Retail Cut Judging, CEV
9507 Meats Judging Practice I, CEV
9508 Meats Judging Practice II, CEV
9509 Meats Judging Practice III, CEV
9510 Meats Judging Practice IV, CEV
9512 Pork and Lamb Cuts Judging, CEV
9513 Carcass Judging, CEV
9514 Beef Yield Grading, CEV
9515 Practice Beef Yield Grading, CEV
9517 Beef Quality Grading, CEV
9825 Practice Carcass Judging IV, CEV
9940 Practice Beef Quality Grading II, CEV
9941 PRACTICE RETAIL CUT IDENTIFICATION III, CEV
9942 Practice Retail Cut Identification IV, CEV
9943 Practice Meat Judging V, CEV
80290 Retail Cut ID, CEV

Species	Primal	Retail Cut	Cooking Method	Species	Primal	Retail Cut	Cooking Method
B	B	89	M	Beef	Brisket	Corned	Moist
B	B	15	M	Beef	Brisket	Flat Half, Bnls	Moist
B	B	10	M	Beef	Brisket	Whole, Bnls	Moist
B	C	26	M	Beef	Chuck	7-bone Pot-Roast	Moist
B	C	03	M	Beef	Chuck	Arm Pot-Roast	Moist
B	C	04	M	Beef	Chuck	Arm Pot-Roast, Bnls	Moist
B	C	06	M	Beef	Chuck	Blade Roast	Moist
B	C	13	D/M	Beef	Chuck	Eye Roast, Bnls	Dry/Moist
B	C	45	D	Beef	Chuck	Eye Steak, Bnls	Dry
B	C	20	M	Beef	Chuck	Mock Tender Roast	Moist
B	C	48	M	Beef	Chuck	Mock Tender Steak	Moist
B	C	21	D	Beef	Chuck	Petite Tender	Dry
B	C	29	D/M	Beef	Chuck	Shoulder Pot Roast (Bnls)	Dry/Moist
B	C	58	D	Beef	Chuck	Top Blade Steak (Flat Iron)	Dry
B	D	47	D/M	Beef	Flank	Flank Steak	Dry/Moist
B	F	49	D	Beef	Loin	Porterhouse Steak	Dry
B	F	55	D	Beef	Loin	T-bone Steak	Dry
B	F	34	D	Beef	Loin	Tenderloin Roast	Dry
B	F	56	D	Beef	Loin	Tenderloin Steak	Dry
B	F	59	D	Beef	Loin	Top Loin Steak	Dry
B	F	60	D	Beef	Loin	Top Loin Steak, Bnls	Dry
B	F	64	D	Beef	Loin	Top Sirloin Cap Steak, Bnls	Dry
B	F	63	D	Beef	Loin	Top Sirloin Steak, Bnls Cap Off	Dry
B	F	62	D	Beef	Loin	Top Sirloin Steak, Bnls	Dry
B	F	40	D	Beef	Loin	Tri Tip Roast	Dry
B	G	28	M	Beef	Plate	Short Ribs	Moist
B	G	54	D/M	Beef	Plate	Skirt Steak, Bnls	D/M
B	H	22	D	Beef	Rib	Rib Roast	Dry
B	H	13	D	Beef	Rib	Ribeye Roast, Bnls	Dry
B	H	45	D	Beef	Rib	Ribeye Steak, Bnls	Dry
B	H	50	D	Beef	Rib	Ribeye Steak, Lip-On	Dry
B	I	08	D/M	Beef	Round	Bottom Round Roast	Dry/Moist
B	I	09	D/M	Beef	Round	Bottom Round Rump Roast	Dry/Moist
B	I	43	M	Beef	Round	Bottom Round Steak	Moist
B	I	14	D/M	Beef	Round	Eye Round Roast	Dry/Moist
B	I	46	D/M	Beef	Round	Eye Round Steak	Dry/Moist
B	I	51	M	Beef	Round	Round Steak	Moist

B	I	52	M	Beef	Round	Round Steak, Bnls	Moist
B	I	36	D/M	Beef	Round	Tip Roast - Cap Off	Dry/Moist
B	I	57	D	Beef	Round	Tip Steak - Cap Off	Dry
B	I	39	D	Beef	Round	Top Round Roast	Dry
B	I	61	D	Beef	Round	Top Round Steak	Dry
B	N	82	M	Beef	Various	Beef for Stew	Moist
B	N	83	D/M	Beef	Various	Cubed Steak	Dry/Moist
B	N	84	D	Beef	Various	Ground Beef	Dry
P	E	44	D/M	Pork	Ham/Leg	Pork Fresh Ham Center Slice	Dry/Moist
P	E	25	D/M	Pork	Ham/Leg	Pork Fresh Ham Rump Portion	Dry/Moist
P	E	27	D/M	Pork	Ham/Leg	Pork Fresh Ham Shank Portion	Dry/Moist
P	E	91	D	Pork	Ham/Leg	Smoked Ham, Bnls	Dry
P	E	90	D	Pork	Ham/Leg	Smoked Ham, Center Slice	Dry
P	E	96	D	Pork	Ham/Leg	Smoked Ham, Rump Portion	Dry
P	E	97	D	Pork	Ham/Leg	Smoked Ham, Shank Portion	Dry
P	E	35	D	Pork	Ham/Leg	Tip Roast, Bnls	Dry
P	E	38	D	Pork	Ham/Leg	Top Roast, Bnls	Dry
P	F	05	D/M	Pork	Loin	Back Ribs	Dry/Moist
P	F	66	D/M	Pork	Loin	Blade Chops	Dry/Moist
P	F	67	D/M	Pork	Loin	Blade Chops, Bnls	Dry/Moist
P	F	06	D/M	Pork	Loin	Blade Roast	Dry/Moist
P	F	68	D	Pork	Loin	Butterflied Chops Bnls	Dry
P	F	11	D	Pork	Loin	Center Loin Roast	Dry
P	F	12	D	Pork	Loin	Center Rib Roast	Dry
P	F	69	D/M	Pork	Loin	Country Style Ribs	Dry/Moist
P	F	70	D	Pork	Loin	Loin Chops	Dry
P	F	71	D	Pork	Loin	Rib Chops	Dry
P	F	73	D	Pork	Loin	Sirloin Chops	Dry
P	F	53	D	Pork	Loin	Sirloin Cutlets	Dry
P	F	30	D	Pork	Loin	Sirloin Roast	Dry
P	F	93	D	Pork	Loin	Smoked Pork Loin Chop	Dry
P	F	95	D	Pork	Loin	Smoked Pork Loin Rib Chop	Dry
P	F	34	D	Pork	Loin	Tenderloin, Whole	Dry
P	F	74	D	Pork	Loin	Top Loin Chops	Dry
P	F	75	D	Pork	Loin	Top Loin Chops, Bnls	Dry
P	F	37	D	Pork	Loin	Top Loin Roast, Bnls	Dry
P	J	02	D/M	Pork	Shoulder	Arm Picnic, Whole	Dry/Moist

P	J	03	D/M	Pork	Shoulder	Arm Roast	Dry/Moist
P	J	41	D/M	Pork	Shoulder	Arm Steak	Dry/Moist
P	J	07	D/M	Pork	Shoulder	Blade Boston Roast	Dry/Moist
P	J	42	D/M	Pork	Shoulder	Blade Steak	Dry/Moist
P	J	94	D/M	Pork	Shoulder	Smoked Picnic, Whole	Dry/Moist
P	K	98	D	Pork	Side	Slab Bacon	Dry
P	K	99	D	Pork	Side	Sliced Bacon	Dry
P	K	17	M	Pork	Side/Belly	Fresh Side	Moist
P	L	32	D/M	Pork	Spareribs	Pork Spareribs	Dry/Moist
P	N	85	D	Pork	Various	Ground Pork	Dry
P	N	86	M	Pork	Various	Hock	Moist
P	N	83	D/M	Pork	Various	Pork Cubed Steak	Dry/Moist
P	N	87	D	Pork	Various	Pork Sausage Links	Dry
P	N	87	D	Pork	Various	Sausage	Dry
P	N	92	M	Pork	Various	Smoked Pork Hock	Moist
L	A	24	D/M	Lamb	Breast	Ribs (Denver Style)	Dry/Moist
L	E	01	D	Lamb	Leg	American Style Roast	Dry
L	E	44	D	Lamb	Leg	Center Slice	Dry
L	E	16	D	Lamb	Leg	Frenched Style Roast	Dry
L	E	18	D	Lamb	Leg	Leg Roast, Bnls	Dry
L	E	73	D	Lamb	Leg	Sirloin Chops	Dry
L	E	31	D	Lamb	Leg	Sirloin Half	Dry
L	F	70	D	Lamb	Loin	Loin Chops	Dry
L	F	19	D	Lamb	Loin	Loin Roast	Dry
L	H	71	D	Lamb	Rib	Rib Chops	Dry
L	H	72	D	Lamb	Rib	Rib Chops Frenched	Dry
L	H	22	D	Lamb	Rib	Rib Roast	Dry
L	H	23	D	Lamb	Rib	Rib Roast, Frenched	Dry
L	J	65	D/M	Lamb	Shoulder	Arm Chops	Dry/Moist
L	J	66	D/M	Lamb	Shoulder	Blade Chops	Dry/Moist
L	J	33	D/M	Lamb	Shoulder	Square Cut	Dry/Moist
L	N	88	M	Lamb	Various	Shank	Moist
B	M	76	D/M	Beef	Variety	Heart	Dry/Moist
L	M	76	D/M	Lamb	Variety	Heart	Dry/Moist
P	M	76	D/M	Pork	Variety	Heart	Dry/Moist
B	M	77	D/M	Beef	Variety	Kidney	Dry/Moist

L	M	77	D/M	Lamb	Variety	Kidney	Dry/Moist
P	M	77	D/M	Pork	Variety	Kidney	Dry/Moist
B	M	78	D/M	Beef	Variety	Liver	Dry/Moist
L	M	78	D/M	Lamb	Variety	Liver	Dry/Moist
P	M	78	D/M	Pork	Variety	Liver	Dry/Moist
B	M	79	M	Beef	Variety	Oxtail	Moist
B	M	80	D/M	Beef	Variety	Tongue	Dry/Moist
L	M	80	D/M	Lamb	Variety	Tongue	Dry/Moist
P	M	80	D/M	Pork	Variety	Tongue	Dry/Moist
B	M	81	M	Beef	Variety	Tripe	Moist

MILK QUALITY PRODUCTS
3 or 4 Member Team

I. PURPOSE

The focus of this career development event is enhancing instruction related to milk quality, federal milk marketing, attributes of milk products and substitutes for them. Students apply critical thinking and decision-making skills.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Event Schedule

Each contestant shall complete a specific portion of the event in the time allotted:

1. Milk flavor and evaluation must be completed in ~~36~~ *40* minutes.
2. Identification of cheeses must be completed in ~~18~~ *20* minutes.
3. Problem solving allotted must be completed in ~~18~~ *20* minutes.
4. The examination must be completed in ~~36~~ *20* minutes.
5. *Identification of natural and artificial products must be completed in 20 minutes*

C. Milk Flavor Identification and Evaluation (150 points)

1. Contestants shall score 10 samples on taste and odor.
2. Contestants shall score each sample using whole numbers from one to 10 (See scoring guide in References)
3. 10 points will be awarded for each correctly scored sample (100 points total), one point will be deducted for each space the sample is placed away from the official flavor score.
4. Milk samples will be 60 degrees F.
5. All samples of milk will be prepared from pasteurized milk intended for table use.
6. Five points awarded for each defect correctly identified. (50 points)
7. Only the one most serious defect should be marked. If no defect is noted, mark "No Defect".
8. Water, Apples or apple juice will be allowed for taste-bud refreshing

D. Identification of Cheeses (50 points)

1. Contestants shall identify 10 cheese samples from the reference list.
2. Five points awarded for each sample correctly identified
3. Uncolored cheeses may be used.
4. Cubes of the cheeses will be available for tasting.
5. Apples or apple juice will be allowed for taste-bud refreshing.

E. Identification of Natural Dairy & Imitation Dairy Food/Products (50 points)

1. Contestants shall identify 10 samples.
2. Standards for what constitutes natural & imitation dairy are similar to USDA and FDA Standards of Identity and Grading: If the first ingredient listed is not milk or a dairy cream product, it is considered an imitation dairy product.
3. Five points awarded for each sample correctly identified.
4. Dairy and/or non-dairy food products will be selected from ID List.

F. Written Exam (50 points)

1. Contestants shall complete a 25 question multiple choice exam.
2. Exam questions are available for download via the Texas FFA Association website at www.texasffa.org. Question edits will be complete by October 1, and be posted by October 5.
3. Two points awarded for each question answered correctly

G. Problem Solving (Math Calculations)- Addition & Revision

1. *Include 10 questions that are worth 5 points a piece*
2. *Examples are to be uploaded to Judging Card and given at workshops*

III. SCORING

Milk Flavor Identification and Evaluation ……150 points
Identification of Cheeses ……..50 points
~~Problem Solving~~ Identification of Natural vs. Imitation ……50 points
Problem Solving……..50 points
Written Exam ……..50 points

Total Points
Individual ……..~~300~~ *350* points
Team…….. ~~900~~ *1,050* points

IV. TIEBREAKERS

Ties for team awards:

1. The team making the highest score on the milk flavor will win.
2. If still tied, the team making the highest score on the identification of cheeses will win.
3. If still tied, the team making the highest score on the identification of Dairy & Non Dairy will win.
4. If still tied, the team with the highest alternate score will win.
5. If still tied, the advisors shall match for the high award.

Ties for individual awards shall be broken by substituting the word “individual” wherever the word “team” appears above.

V. REFERENCES

Materials Available from IMS: Printed
Material:
0409 Judging and Scoring Milk and Cheese, USDA
4035 Dairy Foods Evaluation Handbook, IMS
Downloadable Resources
Exam questions are available for download via the Texas FFA Association website at http://www.texasffa.org, posted on the page related to this event.

SCORING GUIDE
Scores may range from 1 to 10. On a quality basis:
10 Excellent *(no defect)*
8 to 9 Good
5 to 7 Fair
2 to 4 Poor
1 Unacceptable/ Un-salable

MILK FLAVOR SCORES*

DEFECTS Slight Definite Pronounced

Acid 3 2 1
Bitter 5 3 1
Feed 9 8 5
Flat/Watery 9 8 7
Garlic/Onion 5 3 1
Malty 5 3 1
Oxidized 6 4 1
Rancid 4 2 1
Salty 8 6 4

*****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.

STATE DAIRY FOODS CHEESE LIST

Bleu Brie
Cheddar (mild)
Cheddar (sharp)
Cream/Neufchatel
Edam/Gouda
Monterey Jack
Mozzarella
Processed American
Provolone
Swiss

Dairy Product & Non Dairy Product Identification

Butter Margarine
Real Shredded Mozzarella Cheeses
Real Shredded Cheddar Cheeses
Imitation Cheddar Cheeses
Imitation Mozzarella Cheeses
Cottage Cheese
Smoked Cheese
Spreadable Cheese products Non-Fat Milk
2% Milk
3.3% Whole Milk
Plain Soy Milk
Half and Half
Plain Coffee Whitener
Chocolate Milk
Chocolate Drink
Real Whipping Cream
Non-Dairy Whip Topping
Plain Yogurt
Soy Yogurt
Sour Cream
Vanilla Ice Cream
Soy Vanilla Ice Cream

NURSERY/LANDSCAPE
3 or 4 Member Team

I. PURPOSE

The purpose of ~~this contest is to~~ *the Nursery/Landscape Career Development Event (CDE)* is to encourage FFA members to explore the diversity of the "Green Industry", in terms of plant materials used, basic knowledge, skills and applications to the ~~work place~~ *workplace through the agricultural education curriculum*. ~~This is an important facet to agriculture in Texas.~~ The event requires students to identify plant materials and tools common to the industry, demonstrate knowledge and understanding of scientific principles and management practices applied in the industry via a written exam, and make observations, draw conclusions and make decisions in evaluating groups of plants and landscape designs. ~~The event has ties to the following agricultural science curriculum: TEKS 130.19, Landscape Design and Turf Grass Management; TEKS 130.20, Horticulture Science; and TEKS 130.25, Practicum in Agriculture, Food and Natural Resources.~~ *The event has ties to the following agricultural science curriculum: TEKS 130.21, Landscape design and Management; TEKS 130.23, Horticulture Science; TEKS 130.22, Turf grass Management and TEKS 130.25, Practicum in Agriculture, Food and Natural Resources.*

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Equipment

1. Team members must provide their own *scan sheet, official drop sheet and* sharpened pencils for the event. A pencil sharpener may not be available in each event room.
2. Team members must provide their own architect scale for the event.
3. Team members may use their own battery-operated non-programmable calculators.
4. Team members are **not** permitted to share calculators OR architect scale between teammates or among any other contestants.
5. No allowance will be made for malfunctioning or inoperable calculators. Electrical outlets will not be available for charging batteries, etc.
6. The "Universal Form C" scan sheet will be used for this CDE.
7. ~~Blank typing paper will be made available by the contest provider.~~

C. Event Schedule

1. Each contestant shall complete the event in the time allotted:
   a. The identification of plant materials/pests/diseases/tools must be completed in 60 minutes. The identification section will be divided into two - 30 minute rotations.
   b. The problem solving section must be completed in 30 minutes.
   c. The Keep/Cull section must be completed in 30 minutes.
   d. The written examination must be completed in 30 minutes.
2. Observers are not permitted in the event area while the event is in progress, but observers may be allowed in the area following the event.
3. ~~Contest materials will be left in place for one hour following the conclusion of the event to allow teachers and students adequate time for review.~~ *Providers are encouraged to leave contest materials in place for one hour following the conclusion of the event to allow teachers and students adequate time for review.*

D. Identification of Plant Materials/Pests/Disorders/Tools (600 points)

1. 60 specimens will be selected from the 170 plants/tools/pests/diseases listed on the Texas *FFA* Nursery/Landscape list.
2. Specimens will be identified in two rotations, 25 plants and five pests/diseases/tools in each rotation, with 30 minutes to complete each rotation. All contestants will be allowed to work within the rotation, at their own pace. Contestants cannot return to a rotation, once it is timed out.
3. ~~A plant specimen may consist of any part of the plant. The plant must be the exact plant listed on the Texas Nursery/Landscape list~~. *A plant specimen may consist of any part of the plant commonly utilized in the nursery/landscape industry for plant identification. The plant must match the plant listed on the Texas FFA Nursery/Landscape list.*
4. Plants to identify will be presented as intact, live specimens. Tools may be either ~~an~~ intact items or high quality photographs. Pest and diseases may be presented as ~~an~~ intact specimens, photographs or preserved specimens (herbarium sheet, insect mount). Photographs will be 8.5" x 11" in size.
5. When a pest or disease must be presented with an affected plant, a "Pest/Disease" label will be with the item to designate identification of the problem rather than the plant.
6. Each contestant will be supplied with a list of the plants, pests, diseases/*disorders* and tools. *Contest providers will distribute this list to contestants at the start of the contest to insure equal access to the information throughout the event.*
7. Each specimen will be designated with a number. Students bubble in the appropriate number in the space next to the specimen's name on the official ~~scorecard~~ scan sheet.
8. 10 points are given for each correctly identified specimen.
9. Under no circumstances is any student allowed to touch or handle the photos or specimen used as part of the event. Any infraction of this policy is sufficient cause to eliminate the individual from the **entire contest**.

E. Problem Solving ~~(150 points)~~ *(100 points)*

1. This practicum is designed to evaluate participants' ability to evaluate a landscape design, read a landscape drawing, measure and calculate materials needed to execute a landscape plan and evaluate factors that affect profitability of a landscape business. ~~The practicum may include a combination of the following:~~
   - ~~Evaluating a landscape design~~
   - ~~Turf management practices~~
   - ~~Interpreting plant materials from a landscape design~~
   - ~~Measuring and calculating materials~~
   - ~~*Evaluating factors that affect the profitability of a landscape business*~~

   Each year, the practicum will include the following specialized topics, at the discretion of the contest provider.
   2017: Turf management practices and safety in the workplace
   2018: Interpreting plant materials from a landscape design
   2019: Landscape plant culture, including growth rates, shade or sun tolerance, soil requirements and proper plant placemen
   2020: Principles of design, including balance, unity, focal point, and landscape plan graphics and mechanics
   2021: Installation techniques for landscape plants.
2. Blank typing paper will be provided at the contest site for calculations.

3. Students will have 30 minutes to complete this section. ~~Contestants will be allowed to work at their own pace.~~
4. This section will consist of ~~15~~*10* multiple choice questions worth 10 points each.

F. Plant Keep/Cull Classes (150 points)

1. One class each of groundcovers/vines, shrubs, and annual or herbaceous plants (eight specimens per class/ three classes total). *A fourth keep/cull class will be selected by the contest provider from the keep/cull class listing, for a total of four keep/cull classes.*
2. ~~The guidelines will follow the American Standard for Nursery Stock in determining the keep/cull classes.~~
3. Contestants should designate the four best plant specimens from the eight specimens presented, using visual appraisal. Students are not permitted to handle any plant specimen.
4. ~~50 points per class~~
5. Event officials will assign a point value to each one of the individual plant specimens, with the greatest number of points assigned to the most desirable specimen and the least points assigned to the least desirable specimen. If the student selects the best four plant specimens, *within an individual class,* full credit will be given (50 points). ~~A sample scorecard is presented below:~~ *The selection of less desirable plant specimens will reduce the points awarded within each keep/cull class. Contest providers will utilize the Nursery/Landscape keep/cull standards available on the Texas FFA website.*

Groundcovers/vines which may include:
Hedera helix cvs.- English ivy
Ipomoea batatas - Sweet potato vine *Juniperus horizontalis* – Creeping juniper *Liriope muscari* – Liriope, Lilyturf,
Lonicera japonica – Japanese honeysuckle *Trachelospermum asiaticum* – Asiatic jasmine
~~*Vinca minor* cv. - Periwinkle~~
Vinca spp. - Periwinkle

Shrubs which may include:
Abelia x grandiflora – Glossy abelia
Buxus cvs. - Boxwood
Euonymus japonica cvs. – Japanese euonymus
Gardenia ~~jasminoides~~ spp. – Gardenia
Ilex ~~cornuta~~ spp. ~~Chinese holly~~ *Holly Nandina ~~domestica~~ cvs.* – Heavenly bamboo
Pittosporum tobira – Pittosporum *Raphiolepis indica* cvs. – Indian hawthorn

Annual or herbaceous plants which may include: Begonia semperflorens-cultorum cvs. - Begonia *Caladium x hortulanum* cv. – Caladium
Coleus x hybridus – Coleus

Hemerocallis ~~spp.~~ *cvs.* – Daylily *Petunia x hybrida* – Petunia Tagetes cvs. - Marigold
Viola x wittrockianna cvs. – Pansy
Zinnia ~~elegans~~ cvs. - Zinnia

~~Sample for Scoring Keep/Cull Sample Class (Annuals)~~	~~Specimen Number~~ 8	7	6	5	4	3	2	1
~~Judges Value~~	~~(18)~~	~~(13)~~	~~(11)~~	~~(8)~~	~~(7)~~	~~(4)~~	~~(3)~~	~~0~~
~~Plant Specimens Selected - Example Scoring~~								
~~**Student A bubbled specimens 6 8 4 2**~~ ~~(11) (18) (7) (3) =39 points~~								
~~**Student B bubbled specimens 8 7 6 5**~~ ~~(18) (13) (11) (8)= 50 points~~								
~~**Student C bubbled specimens 7 6 5 1**~~ ~~(13) (11) (8) (0) =32 points~~								
~~**Student D bubbled specimens 1 2 3 4**~~ ~~(0) (3) (4) (7) = 14 points~~								

G. General Knowledge Examination (100 points)

1. Contestants will complete a 50 multiple choice question exam. Questions will be taken from ~~databank~~ *bank* of questions located on the Texas FFA website.
2. Contestants will be given 30 minutes to complete the exam.
3. Two (2) points will be awarded per question.

III. SCORING

Plant Identification/Pests/Disorder/Tool 600
Problem Solving..……...~~150~~*100*
Plant Keep/Cull Classes……..…~~150~~ *200*
Exam……..100
Total Points Possible
Individual……..1,000
Team……..3,000

IV. TIEBREAKER

A. Ties for team awards will be broken as follows:
   1. The team with the highest score in the Plant/Pest/Disorder/Tool Identification section wins.
   2. If still tied, the team with the highest score in the Problem Solving section wins.
   3. If still tied, the team with the highest score on the Keep/Cull section wins.
   4. If still tied, the team with the highest alternate score wins.
   5. If still tied, advisers will match for the high award.

B. Ties for individual awards shall be broken by substituting the word “individual” wherever the word “team” appears above.

V. REFERENCES

Materials (Some *(Available from IMS, CEV and other resources)*: *Printed Materials*

Plants of the Metroplex III (reference book)
Plants for Texas (reference book)
8926 Complete Set AgSc 361 – Landscape Design, Construction, and Maintenance, IMS
8942 Complete Set AgSc 362 – Horticultural Plant Production, IMS

Video References

9753D Landscape Design I: Introduction to Landscape Design
9754D Landscape Design II: Landscape Design Process
9839D Landscape Plant Identification – Ground Covers and Shrubs, CEV Landscape Plant Identification – Trees, CEV
9843D Practice Landscape Plant Identification, CEV
9840D Landscape Plant Identification – Trees

Computer Software

9421NC Horticopia A to Z (CD-ROM)
9432NC Nursery Plant Identification

Other References (Not Available through IMS):

Arnold, Michael A. *Landscape Plants for Texas and Environs*. (1999). Stipes Publishing L.L.C., 204 W. University Avenue, P.O. Box 526, Champaign, IL 61824-0526. (217) 356-8391. *<www.stipes.com/horticulture.html>*

Sperry, Neil. *Neil Sperry's Complete Guide to Texas Gardening*. (1991). Taylor Publishing Company, 1550 West Mockingbird Lane, Dallas, Texas. 75235. *<www.neilsperry.com>*

Books:

Arnold, Michael A. Landscape Plants for Texas and Environs. Champaign, Ill.: Stipes Pub., 3rd Edition, 2008.

Biondo, Ronald J., and Charles B. Schroeder. Landscape Design, construction, and Maintenance. Boston, MA: Pearson, 2009.

Bridwell, Ferrell M. Landscape Plants: Their Identification, Culture and Use. Albany NY: Delmar, 2001.

Garrett, Howard. Plants of the Metroplex III. Asutin: U. of Texas., 1998.

Odenwald, Neil G., and James R. Turner. Identification, Selection and Use of Southern Plants for Landscape Design. Baton Rouge: Claitor's Pub. Division, 2006.

Sperry, Neil. Neil Sperry's Lone Star Gardening: Texas' Complete Planting Guide and Gardening Calendar. McKinney, TX: Neil Sperry's Gardens, 2014.

Texas Nursery Landscape Association. Best of Texas Landscape Guide. Austin, TX: Texas Nursery Landscape Association. 2014.

Keep/Cull Class Reference:
~~*American Standard for Nursery Stock*. (1997). American Nursery & Landscape Association. 1250 I Street, N.W., Suite 500, Washington, DC 20005. <*www.anla.org*> (202) 789-2900.~~
Texas FFA Nursery/Landscape CDE revision committee guidelines posted on the Texas FFA Nursery/Landscape CDE website.

Problem Solving Reference:
Georgia Agriculture Curriculum Resource and Reference website:
~~**www.gaaged.org Click on CDE's, CDE Exams On-line, Nursery Landscape**~~
http://www.gaaged.org/page.aspx?ID=85

~~(See the scale and example problem)~~

Other Websites:
Aggie Horticulture Picture Pages *http://aggie-horticulture.tamu.edu/picturepages/tamuhort.html*
National FFA website www.ffa.org

IV. TEXAS NURSERY/LANDSCAPE PLANTS/PESTS/*DISEASES*/DISORDERS/TOOLS LIST

1. *Abelia* x *grandiflora* – Glossy Abelia
2. *Acalypha wilkesiana* – Copper Plant, Copperleaf
3. *Acer palmatum* – Japanese Maple
4. *Acer rubrum cvs.* – Red Maple
5. *Agapahthus africanus* – African Lily
6. *Ajuga reptans* – Carpet Bugleweed
7. *Antirrhinum majus* cvs. – Snapdragon
8. *Aquilegia x hybrida* cvs. – Columbine
9. *Aucuba japonica* 'Variegata' – Gold Dust Aucuba
10. *Begonia semperflorens-cultorum cvs.* – Wax Begonia
11. *Betula nigra* – River Birch
12. *Bougainvillea spectabilis* – Bougainvillea, Paper Flower
13. ~~*Buchloe dactyloides* - Buffalograss~~
14. *Buxus microphylla* – Common Boxwood
15. *Caladium* x *hortulanum* cv. – Fancy Leaved Caladium
16. *Callistemon citrinus* – Red Bottlebrush (Crimson Bottlebrush)
17. *Camellia japonica* – Japanese Camellia
18. *Campsis radicans* – Trumpet Vine
19. *Canna* x *generalis* – Canna Lily
20. *Carya illinoinensis* – Pecan
21. *Catharanthus roseus* – Madagascar Periwinkle
22. *Cercis canadensis* – Eastern Redbud
23. *Chilopsis linearis* – Desert Willow
24. *Chrysanthemum* x *morifolium* cvs. – Chrysanthemum
25. *Coleus* x *hybridus* – Coleus
26. *Colocasia esculenta* – Elephant Ear
27. *Cortaderia selloana* – Pampas Grass
28. *Cuphea hyssopifolia* – Mexican Heather
29. *Cycas revoluta* – Sago Palm
30. *Cynodon dactylon* cvs. – Bermuda grass
31. *Dianthus chinensis* cv. – Dianthus, Chinese Pinks
32. *Echinacea purpurea* - Purple Coneflower
33. *Elaeagnus pungens* – Pungent Elaeagnus, Silverthorn
34. *Eriobotrya japonica* – Loquat
35. *Euonymus japonica* cvs. – Japanese Euonymus
36. *Evolvulus nuttallianus* – Blue Daze
37. ~~*Festuca* spp. cv. – Fescue~~
38. *Forsythia* x *intermedia* – Forsythia
39. *Gardenia ~~jasminoides~~ spp.* – Gardenia
40. *Gazania rigens* – Gazania
41. *Gelsemium sempervirens* – Carolina Jessamine
42. *Ginkgo biloba* – Ginkgo, Maidenhair Tree
43. *Gladiolus* x *hortulanus* cv. – Gladiolus
44. *Hedera helix* cvs. – English Ivy
45. *Hemerocallis* cvs. – Daylily
46. *Hesperaloe parviflora* – Red Yucca
47. *Hibiscus rosa-sinensis* – Chinese Hibiscus

48. *Hibiscus syriacus* – Althaea, Rose of Sharon
49. *Hosta* cvs. – Hosta, Plantain Lily
50. *Hydrangea macrophylla* – Hydrangea
51. *Ilex cornuta* – Chinese Holly
52. *Ilex cornuta* "Burfordii Nana" – Dwarf Burford Holly
53. *Ilex vomitoria* – Yaupon Holly
54. *Impatiens wallerana* – Impatiens
55. *Ipomoea batatas* – Sweet Potato Vine
56. *Iris* x *germanica* – German Bearded Iris
57. ~~*Juniperus chinensis 'Pfitzerana'* – Pfitzer Juniper~~
58. *Juniperus horizontalis* cvs. – Creeping Juniper
59. *Lagerstroemia indica* cvs. – Crape Myrtle
60. *Lantana camara* cvs. – Lantana
61. *Leucophyllum frutescens* cvs. – Texas Sage
62. *Liatris spicata* – Liatris
63. *Ligustrum japonicum* – Waxleaf Ligustrum, Japanese Privet
64. *Liquidambar styraciflua* – Sweet Gum
65. *Liriope muscari* – Liriope, Lilyturf, Monkeygrass
66. *Lobularia maritima* – Sweet Alyssum
67. *Lonicera japonica* – Japanese Honeysuckle
68. *Lupinus texensis* – Texas Bluebonnet
69. *Loropetalum chinense* – Chinese Fringe Flower
70. *Magnolia grandiflora cvs..*– Southern Magnolia
71. *Mahonia aquifolium* cv. – Oregon Grape
72. *Mandevilla splendens* – Mandevilla
73. *Nandina domestica* – Heavenly Bamboo
74. *Nerium oleander* – Oleander
75. *Ophiopogon japonicus* – Mondo Grass
76. *Parthenocissus quinquefolia* – Virginia Creeper
77. *Pelargonium x hortorum cvs.* – Zonal Geranium
78. *Pennisetum setaceum* 'Rubrum' – Purple Fountain Grass
79. *Petunia* x *hybrida* – Petunia
80. *Photinia* x *fraseri* – Redtip Photinia
81. *Pinus thunbergiana* – Japanese Black Pine
82. *Pistacia chinensis* – Chinese Pistache
83. *Pittosporum tobira* cvs. – Pittosporum, Mock Orange
84. *Platanus occidentalis* – Sycamore
85. *Plumbago auriculata* – Plumbago
86. ~~*Poa pratensis cv.* – Kentucky Bluegrass~~
87. *Portulaca grandiflora* – Portulaca, Moss Rose
88. *Prunus cerasifera 'Atropurpurea'* – Purpleleaf Plum
89. *Pyracantha coccinea* cvs. – Firethorn
90. *Pyrus calleryana* 'Bradford' – Bradford Pear
91. *Quercus macrocarpa* – Bur Oak
92. *Quercus shumardii* – Shumard Red Oak
93. *Quercus virginiana* – Live Oak
94. *Raphiolepis indica* cvs. – Indian Hawthorn
95. *Rhododendron* cvs. – Azalea

96. *Rosa* cvs. – Rose
97. *Rosmarinus officinalis* – Rosemary
98. ~~*Salvia officinalis* – Common Sage, Garden Sage~~
99. *Salvia splendens* – Scarlet Salvia
100. *Sedum spectabile* – Fall Sedum
101. *Senecio cineraria* – Dusty Miller
102. *Sophora secundiflora* – Texas Mountain Laurel
103. *Stachys byzantina* – Lamb's Ear
104. *Stenotaphrum secundatum cvs.* – St. Augustine Grass
105. *Tagetes cvs.* – Marigold
106. *Taxodium distichum* – Bald Cypress
107. *Taxus cuspidata* – Japanese Yew
108. *Tecoma stans* - Esperanza
109. *Ternastroemia gymnathera* – Cleyera
110. *Thuja occidentalis* – American Arborvitae
111. *Trachelospermum asiaticum* – Asiatic Jasmine
112. *Ulmus crassifolia* – Cedar Elm
113. *Verbena X hybrida cv* – Garden Verbena
114. ~~*Viburnum X burkwoodii* – Burkwood Viburnum~~
115. *Vinca ~~major cv~~. spp.* – ~~Bigleaf~~ Periwinkle, Band Plant
~~116. *Vinca minor cv.* – Littleleaf Periwinkle~~
117. *Viola* x *wittrockiana* cvs. – Pansy
118. *Wisteria sinensis* cv. – Chinese Wisteria
119. *Zinnia ~~elegans~~ cvs.* – Zinnia
120. *Zoysia ~~spp~~. cvs*. – Zoysiagrass

Pests

121. *Aphid- adult stage*
122. *Bagworm- larvae stage*
123. *Scale – adult stage*
124. *Spider Mite – adult stage*
125. *Snail/Slug – adult stage*
126. *Thrip – adult stage*
127. *Whitefly- adult stage*
128. *White Grub – larvae stage*
129. *Mealybug – adult stage*

~~**Disorders**~~

Diseases

130. *Anthracnose*
131. *Black Spot*
132. *Fireblight*
133. *Powdery Mildew*

Weeds

134. *Crabgrass*

135. *Dandelion*
136. *Henbit*
137. *Nutsedge*

~~Other~~ *Disorders*

138. *Iron Deficiency*
139. *Nitrogen Deficiency*
140. *~~2,4-D Injury~~ Herbicide Injury*

Tools

141. *Anvil & Blade Pruners*
142. *Architects Scale*
143. *Bow Saw*
144. *Broadcast Spreader*
145. *Compressed Air Tank Sprayer*
146. *Engineers Scale*
147. *Garden Fork*
148. *Bow Rake*
149. *Aluminum Grading Rake*
150. *Granular Fertilizer*
151. *Drop Spreader*
152. *Hoe*
153. *Hook & Blade Pruners*
154. *Leaf Rake*
155. *Loppers*
156. *Pole Pruner*
157. *Pruning Saw*
158. *Reel Mowers*
159. *Resin Coated Fertilizer*
160. *Rotary Mower*
161. *Roto-tiller*
162. *Round Point shovel*
163. *Shade Fabric*
164. *Soil Sampling Tube*
165. *Square Point Shovel*
166. *String Trimmer*
167. *Tree Caliper*
168. *T-Square*
169. *Vermiculite*
170. *Water Breaker*

ID Items added in alphabetical order.

69. Miscanthus spp. - Miscanthus grass
72. Nassella tenuissima - Mexican Feather grass
78. Pentas lanceolata - Pentas
97. Ruellia brittoniana - Dwarf Mexican Petunia
98. Salvia greggii - Autumn Sage
144. Drain Spade "Sharpshooter"
155. Perlite

POULTRY EVALUATION
3 or 4 Member Team

I. PURPOSE

Students engaged in the Poultry Development Event learn to effectively make comparative observations, generalizations to the poultry industry, draw conclusions and make decisions. Students must apply USDA standards and make qualitative judgments concerning eggs, live birds, carcasses and further processed poultry products. Students learn foundational knowledge and master basic skills related to the poultry and food industries

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Event Schedule

1. Participants will have 12 minutes to evaluate each class.
2. There will be a two-minute warning alerting the participants of the impending end of the 12 minute period.
3. Participants will have one minute to move from class to class.

C. Evaluation Classes

1. Live Poultry (100 points)
   a. Each participant will place a class of four market broilers. Each participant will be permitted to "handle" the birds, as long as the birds are inspected in a professional and humane manner. Participants may not remove the broilers from the holding unit.
   b. 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. Birds may be removed from coops but there may be no side by side comparison.
   c. Live Poultry Points
      - Market broilers……..50
      - Egg-type hens……. 50
2. Ready-to-Cook Poultry (100 points)
   a. Each participant will grade a class of 10 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 16 pounds. Four categories may be used, including the USDA quality grades A, B, C and the category NG (non-gradable). 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.
   b. 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 16 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.
   c. Ready-to-Cook Poultry Points
      - 10 chicken and/or turkey carcasses and/or parts for quality grading……50

- Four carcasses for placing……. 50

3. Shell Eggs (175 points)
   a. Each participant will grade a class of 10 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.
   b. Each participant will grade a class of ~~15~~ *10* 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 (non-gradable). Criteria for grading may include decisions related to the following quality factors: 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 (large calcium deposits, body check or pronounced ridges); Shell Thickness (pronounced thin spots); No Defect.
   c. 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.
   d. Shell Eggs Points
      - Ten white-shell eggs for interior quality grading …….50
      - ~~Fifteen~~ *Ten* chicken eggs for exterior quality grading…… 75
      - Evaluation criteria for Class 8 ……50

4. Further Processed Poultry (150 points)
   a. Each participant will determine written quality factors for a class of 10 boneless further processed poultry meat products (e.g. precooked, poultry meat patties, tenders, nuggets or other boneless products). Criteria for evaluation will include coating defects, color defects, consistency of shape/size, broken and/or incomplete products, cluster/marriages and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.
   b. Each participant will determine written quality factors for a class of 10 bone-in further processed poultry meat products (e.g., precooked, bone-in wings or other bone-in poultry meat products). Criteria for evaluation will include coating defects, color defects, consistency of size, broken products, miscut products, mixed products and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.
   c. Each participant will identify 10 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.
   d. Further Processed Poultry Points
      - Boneless Further Processed Poultry Meat Products ……50
      - Bone-In Further Processed Poultry Meat Products ……..50
      - Ten chicken carcass parts for identification ……..50

5. Poultry Management Written Exam (120 points)
   a. The written examination will be administered during the rotation.
   b. Each participant will complete a 30 item written examination on poultry production, management, anatomy and physiology. Five or more items will require mathematical calculations. Exam material will follow the rotation for the National Exam. Examination items will be developed from information found in the references.

c. Written Exam Points
- Written Examination……. 120

III. SCORING

Live Poultry ……100
Ready to Cook ……100
Shell Eggs…….. 175
Further Processed Products…….. 150
Written Exam ……120

Total Points
Individual ……..645
Team ……1935

IV. TIEBREAKER

A. Ties for team awards shall be broken as follows:
1. The team with the higher written exam score will place higher.
2. If still tied, the team with the higher score in the Live Poultry Evaluation will place higher.
3. If still tied, the team with the higher score in shell eggs will place higher.
4. If still tied, the team with the highest alternate score will place higher.
5. If still tied, advisors will match for the team placing.

B. Ties for individual awards shall be broken by substituting the word "individual" wherever the word "team" appears above.

V. REFERENCES

Poultry Science Manual for National FFA Career Development Events, 6th edition, Catalog No. 0418-6.

VI. SCORING REFERENCES

A. Grading Classes

Classes 4, 7 and 8 are grading classes. Each class has a value of 50 points per participant.

1. Class 4 – Scoring for Parts and Carcass Grading
   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 de-ducted 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. (Adapted from information provided by Don Sheets, Retired, Kansas Board of Agriculture, Topeka, Kansas.)
2. Class 7 – Scoring for Interior Egg Quality Grading
   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.
3. Class 8 – Scoring for Exterior Egg Quality Grading

As shown above Class 8 is scored based on the USDA quality grades AA/A, B and NG (non- gradable). In the case of Class 8, each correct grade receives a score of three points. If the item is graded one quality grade below or above the correct grade, one point will be deducted to obtain a score of two points. However, if the “NG” line is “crossed” (i.e., an incorrect judgment), all three points are deducted to obtain a score of zero points.

B. Written Factors Classes

Class 9 is written factors for Class 8 and has a value of 50 points per participant. Classes 10 and 11 are written factors for further processed poultry meat products and have a value of 50 points per class for each participant. For Class 9 each item is evaluated for twelve different quality factors. For Class 10, each item is evaluated for seven different quality factors. For Class 11, each item is evaluated for eight different quality factors. Each item may be determined to have “no defect” or to have one or more defects.

1. For each correct match with the judge, zero points are deducted.
2. For each “defect” or “no defect” missed or added, two points are deducted.
3. No score will be less than zero.

C. Identification Class

Class 12 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.

D. Written Examination Class

Class 13 is an examination consisting of 30 multiple-choice items. The class has a value of 120 points per participant. Each correct answer receives a score of four points.

RANGE
3 or 4 Member Team

I. PURPOSE

This event helps students to develop an interest in the industry that helps feed our state and nation. This program is taught in the agriculture curriculum to help enhance the higher thinking skills of its participants. The Range CDE and its supporting instruction helps students understand the ways to better improve and conserve our natural resources of rangeland. This event provides opportunity for mastery of foundational knowledge and understanding contributing to future learning and success in college level coursework related to range management, soil evaluation and plant identification.

II. EVENT FORMAT

A. Team Make-up

1. Three or four individuals per school form a team.
2. All members will be scored and the top three scores will count towards the team total.
3. A member who has participated previously as a member of the winning team in the State or National Range CDE shall **NOT** be eligible for the Range CDE again. Members who participate in the National Range Event and are not on the state or national winning team are eligible to participate.

B. Equipment

1. Transparent plastic ***compliant**** clipboards and clean manila folders will be allowed. A clear plastic bag may be used to keep materials clean and dry when inclement weather threatens.
2. Books, paper, rulers, or other material are not permitted.
3. Scan sheets and #2 pencils must be furnished by the contestant.
4. Students wishing to record their answers may do so on a clean, blank scan sheet or a blank copy of a scan sheet.

Please refer to General CDE Rules for compliance standards.

C. Event Schedule and Location

1. Eligible teams should register for the event on judgingcard.com as soon as possible after spring qualifying events are held.
2. Check in will begin at 7:30 a.m. in the Teaching Pavilion at Tarleton State University.
3. The range event will be conducted concurrently with the land and home site events. Therefore, it may be necessary to coordinate with other advisors in order to get the students to event sites on time.
4. Judging should begin at 9:00 a.m. (Depending upon travel time to event location)
5. Twenty minutes will be allowed to evaluate each site.
6. This is an outdoor event. Students should be appropriately dressed in compliance to state CDE standards and in attire suitable for this activity.

D. Event Format

1. Three plant identification sites will be used – 100 points per site.
   a. Each with 10 plants for identification.
   b. Each Plant identified will be worth five points

c. Each characteristic of properly identified is equal to one point (five per plant)
d. No points will be awarded for incorrectly identified plants
e. Plants will be marked by a numbered stake. Students should write the Texas Range Plant number from the back of the scan sheet, on the line corresponding to the stake number at the plant.
f. Contestants may move through the plant line at their own pace. 20 minutes will be allowed for each line of ten plants. A five-minute warning will be called after fifteen minutes have passed.
g. Any contestant found handling a plant will be disqualified.

2. Two Ecological sites will be used worth 150 points each.
   a. These two plots will be generally square or rectangular in shape with sides from 30 feet to 60 feet per side. The sides will be clearly marked with ribbon, tape or etc. and contestants are not permitted inside the enclosure, unless a designated walk-way is provided.
   b. Division I of the Ecological site is evaluated for:
      Type of ecological site……25 points
      Similarity Index……40 points
      Habitat rating……20 points
      Beef Cattle Limiting Factors……15 points
   c. Division II of the Ecological site is for recommended management practices- Five points each for a total of 50 points per site
3. Plant Identification and Evaluation
   a. This phase of the event will consist of 30 plants listed in the Texas Plant List, broken into three 20 minutes segments.
   b. Each plant will be marked with a numbered stake.
   c. Students should write the plant number (back of scorecard) on the line of the scorecard corresponding to the number on the stake. (Example - If the student is stationed at the plant marked with stake three, he/she will write in the plant number online three of the scorecard).
   d. Students will move through the plant line at their own pace. Each contestant is allowed 20 minutes to identify 10 plants. The time keeper will give an audible five minute warning letting the contestants know time is almost up.
   e. Any student found handling the plant will be disqualified.
   f. Each plant will be worth a total of 10 points. Five points will be given for correct identification of plant. Each characteristic will be worth one point. No points will be awarded for characteristics marked on incorrectly identified plants.

III. SCORING

Plant ID……..300 Points
Ecological Sites……150 Points each

Total Points
Individual = 600 Points
Team Variable = 1800 Points

IV. TIEBREAKER

In case ties occur for team awards, they will be broken as follows:

1. The team with the highest score in plant identification will win, or if still tied,
2. The team with the highest score in range land classification, or if still tied,
3. The team with the high score alternate will win.

Ties for individual awards will be broken by substituting the word "individual" wherever the word "team" appears.

V. References

"Oklahoma Land Judging Made Easy". landjudging.com

Texas FFA Range Evaluation and Management Guide

Texas Range Plant ID List

ID	Nam	Habitat	Seaso	Origin	Invasive	Food Value
1	Annual Threeawn	Annual	Warm	Native	Non-Invasive	Undesirable
2	Annual Brome	Annual	Cool	Introduced	Invasive	Undesirable
3	Bermudagrass	Perennial	Warm	Introduced	Invasive	Desirable
4	Big Bluestem	Perennial	Warm	Native	Non-Invasive	Desirable
5	Blue Grama	Perennial	Warm	Native	Non-Invasive	Desirable
6	Broomsedge Bluestem	Perennial	Warm	Native	Non-Invasive	Undesirable
7	Buffalograss	Perennial	Warm	Native	Non-Invasive	Desirable
8	Curly Mesquite	Perennial	Warm	Native	Non-Invasive	Desirable
9	Eastern Gamagrass	Perennial	Warm	Native	Non-Invasive	Desirable
10	Fall Witchgrass	Perennial	Warm	Native	Non-Invasive	Desirable
11	Hairy Grama	Perennial	Warm	Native	Non-Invasive	Desirable
12	Hairy Tridens	Perennial	Warm	Native	Non-Invasive	Undesirable
13	Indiangrass	Perennial	Warm	Native	Non-Invasive	Desirable
14	Johnsongrass	Perennial	Warm	Introduced	Invasive	Desirable
15	Little Barley	Annual	Cool	Introduced	Invasive	Undesirable
16	Little Bluestem	Perennial	Warm	Native	Non-Invasive	Desirable
17	***Old World Bluestem***	***Perennial***	***Warm***	***Native***	***Invasive***	***Desirable***
18	Perennial Dropseed	Perennial	Warm	Native	Non-Invasive	Desirable
19	Perennial Threeawn	Perennial	Warm	Native	Non-Invasive	Undesirable
20	Purpletop	Perennial	Warm	Native	Non-Invasive	Undesirable
21	Red Grama	Perennial	Warm	Native	Non-Invasive	Undesirable
22	Sand Dropseed	Perennial	Warm	Native	Non-Invasive	Desirable
23	Sand Lovegrass	Perennial	Warm	Native	Non-Invasive	Desirable
24	Scribner Panicum	Perennial	Cool	Native	Non-Invasive	Desirable
25	Sedge	Perennial	Cool	Native	Non-Invasive	Desirable
26	Sideoats Grama	Perennial	Warm	Native	Non-Invasive	Desirable
27	Silver Bluestem	Perennial	Warm	Native	Non-Invasive	Undesirable
28	Splitbeard Bluestem	Perennial	Warm	Native	Non-Invasive	Undesirable
29	Switchgrass	Perennial	Warm	Native	Non-Invasive	Desirable
30	Texas Bluegrass	Perennial	Cool	Native	Non-Invasive	Desirable

31	Texas Grama	Perennial	Warm	Native	Non-Invasive	Undesirable
32	Texas Wintergrass	Perennial	Cool	Native	Non-Invasive	Desirable
33	Tumblegrass	Perennial	Warm	Native	Non-Invasive	Undesirable
34	Vine Mesquite	Perennial	Warm	Native	Non-Invasive	Desirable
35	Weeping Lovegrass	Perennial	Warm	Introduced	Non-Invasive	Desirable
36	Western Wheatgrass	Perennial	Cool	Native	Non-Invasive	Desirable
37	Wildrye	Perennial	Cool	Native	Non-Invasive	Desirable
38	Windmillgrass	Perennial	Warm	Native	Non-Invasive	Undesirable
39	Catclaw Sensitivebriar	Perennial	Warm	Native	Non-Invasive	Desirable
40	Bundleflower	Perennial	Warm	Native	Non-Invasive	Desirable
41	Prairie Clover	Perennial	Warm	Native	Non-Invasive	Desirable
42	Scurfpea	Perennial	Cool	Native	Non-Invasive	Undesirable
43	***Slender Dales***	***Perennial***	***Warm***	***Native***	***Non-invasive***	***Desirable***
44	Vetch	Annual	Cool	Introduced	Non-Invasive	Desirable
45	Yellow Neptune	Perennial	Warm	Native	Non-Invasive	Desirable
46	Annual Sunflower	Annual	Warm	Native	Non-Invasive	Desirable
47	Antelopehorn Milkweed	Perennial	Cool	Native	Non-Invasive	Undesirable
48	Beebalm	Annual	Warm	Native	Non-Invasive	Undesirable
49	Common Broomweed	Annual	Warm	Native	Non-Invasive	Undesirable
50	Compass Plant	Perennial	Warm	Native	Non-Invasive	Desirable
51	Croton	Annual	Warm	Native	Non-Invasive	Undesirable
52	Curlycup Gumweed	Perennial	Warm	Native	Non-Invasive	Undesirable
53	Daisy Fleabane	Annual	Cool	Native	Non-Invasive	Undesirable
54	Dotted Gayfeather	Perennial	Warm	Native	Non-Invasive	Undesirable
55	Engelmann Daisy	Perennial	Cool	Native	Non-Invasive	Desirable
56	Giant Ragweed	Annual	Warm	Native	Non-Invasive	Undesirable
57	Halfshrub Sundrop	Perennial	Warm	Native	Non-Invasive	Undesirable
58	Heath Aster	Perennial	Warm	Native	Non-Invasive	Undesirable
59	Horseweed	Annual	Warm	Native	Non-Invasive	Undesirable
60	Maximilian Sunflower	Perennial	Warm	Native	Non-Invasive	Desirable
61	Pepperweed	Annual	Cool	Native	Non-Invasive	Desirable
62	Prairie Coneflower/Mexican Hat	Perennial	Warm	Native	Non-Invasive	Undesirable

63	Plains Yucca	Perennial	Cool	Native	Non-Invasive	Undesirable
63	Prickly Pear Cactus	Perennial	Warm	Native	Invasive	Undesirable
64	Sagewort	Perennial	Warm	Native	Non-Invasive	Undesirable
65	Silverleaf Nightshade	Perennial	Warm	Native	Non-Invasive	Undesirable
66	Snow-on-the-Mountain	Annual	Warm	Native	Non-Invasive	Undesirable
67	Wax Goldenweed	Annual	Warm	Native	Non-Invasive	Undesirable
68	Western Ironweed	Perennial	Warm	Native	Non-Invasive	Undesirable
69	Western Ragweed	Perennial	Warm	Native	Non-Invasive	Undesirable
70	Yarrow	Perennial	Cool	Native	Non-Invasive	Undesirable
71	Blackjack Oak	Perennial	Warm	Native	Non-Invasive	Undesirable
72	Cedar	Perennial	Cool	Native	Invasive	Undesirable
73	Buttonbush	Perennial	Warm	Native	Non-Invasive	Undesirable
74	Chittamwood	Perennial	Warm	Native	Non-Invasive	Desirable
75	Eastern Cottonwood	Perennial	Warm	Native	Non-Invasive	Desirable
76	Elm	Perennial	Warm	Native	Non-Invasive	Desirable
77	Fragrant Sumac/Skunkbush	Perennial	Warm	Native	Non-Invasive	Undesirable
78	Greenbriar	Perennial	Warm	Native	Non-Invasive	Desirable
79	Hackberry	Perennial	Warm	Native	Non-Invasive	Desirable
80	Sumac	Perennial	Warm	Native	Non-Invasive	Undesirable
81	Live Oak	Perennial	Warm	Native	Non-Invasive	Undesirable
82	Mesquite	Perennial	Warm	Native	Invasive	Undesirable
83	Post Oak	Perennial	Warm	Native	Non-Invasive	Undesirable
84	Plum	Perennial	Warm	Native	Non-Invasive	Undesirable
85	Redbud	Perennial	Warm	Native	Non-Invasive	Desirable
86	Soapberry	Perennial	Warm	Native	Non-Invasive	Undesirable

RANGE PLANT IDENTIFICATION
3 or 4 Member Teams

I. PURPOSE

This event helps students develop an interest in a wide variety of plants that are important habitat components for wildlife and domestic livestock. This program is taught in the agriculture curriculum to help enhance the higher thinking skills of its participants. The Range and Pasture Plant Identification CDE and its supporting instruction helps students recognize a significant number of specific plants and their fundamental growth characteristics as well as understand the importance of plants as a component of the environment in which animals exist. This event provides opportunity for mastery of the foundational knowledge and understanding contributing to future learning and success in college level coursework related to plant identification, understanding of growth parameters, and economic importance of plants.

II. EVENT FORMAT

A. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

B. Event Format

1. The event shall consist of 60 samples of grasses, *grass-like*, forbs, legumes, and woody plants selected from the ~~Texas~~ Master Plant List *for Texas Range and Pasture Plant Identification Contest. .*
2. The participant will identify each plant and for each indicate (1) ~~length of life~~ *longevity*, (2) season of growth, (3) origin, and (4) the economic values of wildlife and grazing.
3. All grass samples will have inflorescence present. Identification of all plants should be based on botanical characteristics.
4. The ~~Texas~~ Master Plant List *for Texas Range and Pasture Plant Identification Contest* is the official list for this event. ~~The common name of each plant, spelling, capitalization and compounding of plant names follows that of the Master List. Latin names are not required but are included on the Master Plant List~~.
5. Improper identification will nullify all points concerning a given sample.
6. A list of common names associated with a "Plant Number" will be provided to each individual. Individuals will use the "Plant Number" to identify plants on the scoring sheets. For example, ~~*Broom snakeweed*~~ *Bitter sneezeweed* is "Plant Number" ~~**076**~~ ***078***.
7. Plants with dual characteristics should have both correctly ~~checked~~ *marked*. For example: Ash juniper is listed as both a warm and cool season plant and *the* ~~both~~ *"BOTH" answer option should be marked to earn full credit* ~~these characteristics would have to be checked to earn full credit~~. In the event, the only characteristics to be ~~checked~~ *marked* are those given on the attached ~~checklist~~ *plant list.*
8. Materials used in the event will be mounted *or live specimens*. ~~Students~~ *Contestants* will not be allowed to handle specimens.
9. The ~~Texas~~ Master Plant List *for Texas Range and Pasture Plant Identification Contest* will be the official score card for grading the ~~student's~~ *contestant's scan sheet* paper and should be followed during the training period

III. **SCORING**

Scoring for each specimen will be as follows:
Correct identification ..... 5 points
Characteristics ..... 1 point each (6 total)

Total Points
Individual 660
Team 1,980

IV. TIEBREAKERS

If two or more teams have the same total score,

1. The team with the highest score on plant identification will win, if still tied;
2. The team with the highest alternate score will win, if still tied;
3. The winner will be determined by a toss of a coin.

If two or more individuals have the same total score,

1. The contestant with the highest score on plant identification will win.
2. If still tied, the individuals' team with the highest alternate score will win.
3. If still tied, the winner will be determined by a toss of a coin.

V. References

A. General:

S.L. Hatch and J. Pluhar. 1993. Texas Range Plants. Texas A&M University Press.
Stubbendieck, J., S. L. Hatch, and C.H. Butterfield. 1997. North American Range Plants. 5th ed. University of Nebraska Press.

B. Photographic Books:

Ajilvsgi, G. 1984. Wildflowers of Texas. Shearer Publ. Enquist, M. 1987. Wildflowers of the Texas Hill County. Lone Star Botanical. Loughmiller, C. and L. Loughmiller. 1989. Texas Wildlflowers, A Field Guide. Univ. of Texas Press.

Warnock, B.H. 1974. Wildflowers of the Guadalupe Mountains and the Sand Dune Country, Texas. Sul Ross State University.
Warnock, B.H. 1977. Wildflowers of the Davis Mountains and the Marathon Basin. Sul Ross State University.
Whitson, T. and other. 1992. Weeds of the West. Pioneer of Jackson Hole.

C. Technical Publications:

Correll, D.J. and M.C. Johnston. 1979. Manual of the Vascular Plants of Texas. University of Texas.
Gould, F.W. 1951. Grasses of the Southwestern United States. The University of Arizona Press.
Gould, F.W. 1978. Common Texas Grasses, an illustrated guide. Texas A&M University Press.

Hitchcock, A.S. 1971. Manual of the Grasses of the United States (2nd ed., Agnes Chase). Dover Publ. (2 volumes).

Powell, A. M. 1994. Grasses of the Trans-Pecos and Adjacent Areas. University of Texas Press.
Powell, A.M. 1988. Trees and Shrubs of Trans-Pecos Texas. Big Bend Natural History Association.

ID #	Name
	Grasses
001	Alkali sacaton
002	Bahiagrass
003	Barnyardgrass
004	Beaked panicum
005	Bermudagrass
006	Big bluestem
007	Black grama
008	Blue grama
009	Broomsedge bluestem
010	Brownseed paspalum
011	Buffalograss
012	Buffelgrass
013	Burrograss
014	Bush muhly
015	California cottontop
016	Canada wildrye
017	Common carpetgrass
018	Common curlymesquite
019	Dallisgrass
020	Eastern gamagrass
021	Fall witchgrass
022	Florida paspalum
023	Green sprangletop
024	Gulf cordgrass
025	Hairawn muhly
026	Hairy grama
027	Hairy tridens
028	Hall panicum
029	Hooded windmillgrass
030	Inland saltgrass
031	Japanese brome
032	Johnsongrass
033	King Ranch bluestem
034	Kleingrass
035	Knotroot bristlegrass
036	Little barley
037	Little bluestem
038	Longspike tridens
039	Longtom
040	Marshhay cordgrass
041	Meadow dropseed
042	Oldfield threeawn
043	Pink pappusgrass
044	Plains bristlegrass
045	Plains lovegrass
046	Purple threeawn
047	Purpletop
048	Rattail smutgrass
049	Red grama
050	Red lovegrass

ID #	Name
	Grasses
051	Rescuegrass
052	Ryegrass
053	Sand dropseed
054	Sand lovegrass
055	Scribner dichanthelium
056	Sideoats grama
057	Silver bluestem
058	Switchgrass
059	Tall dropseed
060	Tall Fescue
061	Tanglehead
062	Texas cupgrass
063	Texas grama
064	Texas wintergrass
065	Thin paspalum
066	Tobosa
067	Tumblegrass
068	Tumble windmillgrass
069	Vinemesquite
070	Virginia wildrye
071	Weeping lovegrass
072	Western wheatgrass
073	White tridens
074	Wright threeawn
075	Yellow Indiangrass

ID #	Name
	Grass-Like
076	Cedar sedge
077	Cherokee sedge

ID #	Name
	Forbs
078	Bitter sneezeweed
079	Broadleaf milkweed
080	Broom snakeweed
081	Common broomweed
082	Engelmanndaisy
083	Field bindweed
084	Maximilian sunflower
085	Mexican sagewort
086	Orange zexmenia
087	Prairie tea
088	Silverleaf nightshade
091	Threadleaf groundsel
092	Upright prairie-coneflower
093	Western bitterweed
094	Western ragweed
095	Yankeeweed

ID #	Name
	Legumes & Ratany
096	Alfalfa
097	Bur-clover
098	Crimson clover
099	Nuttall milkvetch
100	Singletary pea
101	Texas bluebonnet
102	Trailing ratany
103	White sweetclover
104	Woolly loco
105	Yellow neptunia

ID #	Name
	Woody
106	Algerita
107	Ashe juniper
108	Black brush
109	Blackjack oak
110	Common buttonbush
111	Coyotillo
112	Flameleaf sumac
113	Guajillo
114	Gum bumelia
115	Honey mesquite
116	Huisache
117	Live oak
118	Loblolly pine
119	Lotebush
120	Netleaf hackberry
121	Post oak
122	Redberry juniper
123	Sand sage
124	Shortleaf pine
125	Skunkbush
126	Spiny hackberry
127	White brush
128	Willow baccharis
129	Yaupon

MASTER PLANT LIST FOR TEXAS RANGE AND PASTURE PLANT IDENTIFICATION CONTEST

RS1.044

MASTER PLANT LIST

	NAM E OF P LA NT	LONGEVITY		SEASON OF GROWTH		ORIGIN		ECONOM IC VALUE						
	Latin Names are for reference only							WILDLIFE			GRAZING			
	GRASSES	Annual	Perennial	Cool	Warm	Native	Introduce	Good	Fair	Poor	Good	Fair	Poor	Poison
1	Alkali sacaton *Sporobolus airoides*		X		X	X				X		X		
2	Bahiagrass *Paspalum notatum*		X		X		X			X	X			
3	Barnyardgrass *Echinocloa crusgalli* var. *crusgalli*	X			X		X			X			X	
4	Beaked panicum *Panicum anceps*		X		X	X			X		X			
5	Bermudagrass *Cynodon dactylon*		X		X		X			X	X			
6	Big bluestem *Adropogon gerardii*		X		X	X				X	X			
7	Black grama *Bouteloua eriopoda*		X		X	X		X			X			
8	Blue grama *Bouteloua gracilis*		X		X	X		X			X			
9	Broomsedge bluestem *Andropogon virginicus*		X		X	X				X			X	
10	Brow nseed paspalum *Paspalum plicatulum*		X		X	X			X			X		
11	Buffalograss *Buchloe dactyloides*		X		X	X			X		X			
12	Buffelgrass *Pennisetum ciliare*		X		X		X			X	X			
13	Burrograss *Scleropogon brevifolius*		X		X	X				X			X	
14	Bush muhly *Muhlenbergia porteri*		X		X	X				X	X			
15	California cottontop *Digitaria californica*		X		X	X			X		X			
16	Canada w ildrye *Elymus canadensis*		X	X		X			X		X			
17	Common carpetgrass *Axonopus affinis*		X		X	X			X			X		
18	Common curlymesquite *Hilaria belangeri*		X		X	X				X		X		
19	Dallisgrass *Paspalum dilatatum*		X		X		X		X		X			
20	Eastern gamagrass *Tripsacum dactyloides*		X		X	X			X		X			
21	Fall w itchgrass *Leptoloma cognatum*		X		X	X			X			X		
22	Florida paspalum*Paspalum floridanum*		X		X	X			X		X			
23	Green sprangletop *Leptochloa dubia*		X		X	X			X		X			
24	Gulf cordgrass *Spartina spartinae*		X		X	X				X		X		
25	Hairaw n muhly *Muhlenbergia capillaris*		X		X	X				X		X		
26	Hairy grama *Boutelous hirsuta*		X		X	X			X			X		
27	Hairy tridens *Erioneuron pilosum*		X		X	X				X			X	
28	Hall panicum *Panicum hallii* var. *hallii*		X		X	X			X			X		
29	Hooded w indmillgrass *Chloris cucullata*		X		X	X			X			X		
30	Inland saltgrass *Distichlis spicata* var. *stricta*		X		X	X				X		X		
31	Japanese brome *Bromus japonicus*	X		X			X			X			X	
32	Johnsongrass *Sorghum halepense*		X		X		X		X		X			X
33	King Ranch bluestem *Bothriochloa ischaemum* var. *songarica*		X		X		X		X			X		
34	Kleingrass *Panicum coloratum*		X		X		X		X		X			X
35	Knotroot bristlegrass *Setaria parviflora*		X		X	X			X			X		
36	Little barley *Hordeum pusillum*	X		X		X				X			X	
37	Little bluestem *Sichizachyrium scoparium* var. *frequens*		X		X	X				X	X			
38	Longspike tridens *Tridens strictus*		X		X	X				X		X		
39	Longtom *Paspalum lividum*		X		X	X			X			X		
40	Marshhay cordgrass *Spartina patens*		X		X	X				X	X			
41	Meadow dropseed *Sporobolus asper* var. *drummondii*		X		X	X				X		X		
42	Oldfield threeaw n *Aristida oligantha*	X			X	X				X			X	
43	Pink pappusgrass *Pappophorium bicolor*		X		X	X				X		X		
44	Plains bristlegrass *Setaria leucopila*		X		X	X			X		X			

MASTER PLANT LIST

	NAM E OF P LA NT	LONGEVITY		SEASON OF GROWTH		ORIGIN		ECONOM IC VALUE						
	Latin Names are for reference only							WILDLIFE			GRAZING			
	GRASSES	Annual	Perennial	Cool	Warm	Native	Introduced	Good	Fair	Poor	Good	Fair	Poor	Poison
45	Plains lovegrass *Eragrostis intermedia*		X		X	X				X	X			
46	Purple threeaw n *Aristida purpurea* var. *purpurea*		X		X	X				X			X	
47	Purpletop *Tridens flavus*		X		X	X			X			X		
48	Rattail smutgrass *Sporobolus indicus*		X		X		X			X			X	
49	Red grama *Bouteloua trifida*		X		X	X				X			X	
50	Red lovegrass *Eragrostis secundiflora*		X		X	X				X			X	
51	Rescuegrass *Bromus catharticus*	X		X			X		X			X		
52	Ryegrass *Lolium perenne*	X		X			X		X		X			
53	Sand dropseed *Sporobolus cryptandrus*		X		X	X				X		X		
54	Sand lovegrass *Eragrostis trichodes*		X		X	X				X	X			
55	Scribner dichanthelium *Dichanthelium oligosanthes* var. *scribnerianum*		X	X		X			X			X		
56	Sideoats grama *Bouteloua curtipendula* var. *curtipendula*		X		X	X		X			X			
57	Silver bluestem *Bothriochloa saccharoides* var. *torreyana*		X		X	X				X		X		
58	Sw itchgrass *Panicum virgatum*		X		X	X			X		X			
59	Tall dropseed *Sporobolus asper* var. *asper*		X		X	X				X		X		
60	Tall fescue *Festuca arundinacea*		X	X			X		X		X			
61	Tanglehead *Heteropogon contortus*		X		X	X				X	X			
62	Texas cupgrass *Eriochloa sericea*		X		X	X			X		X			
63	Texas grama *Bouteloua rigidiseta*		X		X	X				X			X	
64	Texas w intergrass *Nassella leucotricha*		X	X		X			X			X		
65	Thin paspalum *Paspalum setaceum*		X		X	X			X			X		
66	Tobosa *Hilaria mutica*		X		X	X				X		X		
67	Tumblegrass *Schedonnardus paniculatus*		X		X	X				X			X	
68	Tumble w indmillgrass *Chloris verticillata*		X		X	X				X			X	
69	Vinemesquite *Panicum obtusum*		X		X	X			X		X			
70	Virginia w ildrye *Elymus virginicus*		X	X		X			X		X			
71	Weeping lovegrass *Eragrostis curvula*		X		X		X			X		X		
72	Western w heatgrass *Elymus smithii*		X	X		X			X		X			
73	White tridens *Tridens albescens*		X		X	X			X			X		
74	Wright threeaw n *Aristida purpurea var. wrightii*		X		X	X				X		X		
75	Yellow Indiangrass *Sorghastrum nutans*		X		X	X			X		X			
	GRASS-LIKE													
76	Cedar sedge *Carex planostachys*		X	X	X	X			X			X		
77	Cherokee sedge *Carex cherokeensis*		X	X	X	X			X			X		
	FORBS													
78	Bitter sneezew eed *Helenium amarum*	X			X	X				X			X	X
79	Broadleaf milkw eed *Asclepias latifolia*		X		X	X				X			X	X
80	Broom snakew eed *Gutierrezia sarothrae*		X		X	X			X				X	X
81	Common broomw eed *Amphiachyris dracunculoides*	X			X	X				X			X	
82	Engelmanndaisy *Engelmannia pinnatifida*		X	X		X		X			X			
83	Field bindw eed *Convolvulus arvensis*		X		X		X			X			X	
84	Maximilian sunflow er *Helianthus maximiliana*		X		X	X			X			X		
85	Mexican sagew ort *Artemisia ludoviciana*		X		X	X				X	X			
86	Orange zexmenia *Zexmenia hispida*		X		X	X				X	X			
87	Prairie tea *Croton monanthogynus*	X			X	X		X					X	
88	Silverleaf nightshade *Solanum eleagnifolium*		X		X	X				X			X	X

MASTER PLANT LIST

	NAM E OF P LA NT	LONGEVITY		SEASON OF GROWTH		ORIGIN		ECONOM IC VALUE						
	Latin Names are for reference only							WILDLIFE			GRAZING			
	FORBS	Annual	Perennial	Cool	Warm	Native	Introduced	Good	Fair	Poor	Good	Fair	Poor	Poison
89	Slim aster *Aster subulatus* var. *ligulatus*	X			X	X			X			X		
90	Texas croton *Croton texensis*	X			X	X		X					X	
91	Threadleaf groundsel *Senecio longilobus*		X		X	X				X			X	X
92	Upright prairie-coneflow er *Ratibida columnifera*		X		X	X		X					X	
93	Western bitterw eed *Hymenoxys odorata*	X		X		X				X			X	X
94	Western ragw eed *Ambrosia psilostachya*		X		X	X		X					X	
95	Yankeew eed *Eupatorium compositifolium*		X		X	X				X			X	
	LEGUMES & RATANY (HERBACEOUS)													
96	Alfalfa *Medicago sativa*		X		X		X	X			X			
97	Bur-clover *Medicago polymorpha* var. *vulgaris*	X		X			X		X		X			
98	Crimson clover *Trifolium incarnatum*	X		X			X		X		X			
99	Nuttall milkvetch *Astragalus nuttallianus* var. *nuttallianus*	X		X		X				X		X		X
100	Singletary pea *Lathyrus hirsutus*	X		X			X		X		X			
101	Texas bluebonnet *Lupinus subcarnosus*	X		X		X				X			X	
102	Trailing ratany *Krameria lanceolata*		X		X	X			X			X		
103	White sw eetclover *Melilotus alba*	X			X		X		X		X			
104	Woolly loco *Astragalus mollissimus*		X	X		X				X			X	X
105	Yellow neptunia *Neptunia lutea*		X		X	X			X			X		
	WOODY													
106	Algerita *Mahonia trifoliolata*		X	X	X	X			X				X	
107	Ashe juniper *Juniperus ashei*		X	X	X	X			X				X	
108	Blackbrush *Acacia rigidula*		X		X	X			X				X	
109	Blackjack oak *Quercus marilandica*		X		X	X			X				X	X
110	Common buttonbush *Cephalanthus occidentalis*		X		X	X				X			X	X
111	Coyotillo *Karwinskia humboldtiana*		X		X	X				X			X	X
112	Flameleaf sumac *Rhus copallina*		X		X	X			X			X		
113	Guajillo *Acacia berlandieri*		X		X	X			X			X		X
114	Gum bumelia *Bumelia lanuginosa*		X		X	X			X			X		
115	Honey mesquite *Prosopis glandulosa*		X		X	X			X				X	
116	Huisache *Acacia farnesiana*		X		X	X				X			X	
117	Live oak *Quercus virginiana*		X	X	X	X		X				X		X
118	Loblolly pine *Pinus taeda*		X	X	X	X				X			X	
119	Lotebush *Ziziphus obtusifolia*		X		X	X		X					X	
120	Netleaf hackberry *Celtis reticulata*		X		X	X		X				X		
121	Post oak *Quercus stellata*		X		X	X			X				X	X
122	Redberry juniper *Juniperus pinchotii*		X	X	X	X				X			X	
123	Sand sage *Artemisia filifolia*		X		X	X				X			X	
124	Shortleaf pine *Pinus echinata*		X	X	X	X				X			X	
125	Skunkbush *Rhus aromatica* var. *flabelliformis*		X		X	X			X			X		
126	Spiny hackberry *Celtis pallida*		X		X	X		X				X		
127	White brush *Aloysia gratissima*		X		X	X				X			X	X
128	Willow baccharis *Baccharis salicina*		X		X	X				X			X	X
129	Yaupon *Ilex vomitoria*		X	X	X	X		X				X		

EXPLANATION OF CHARACTERISTICS

GRASS - A member of a large, world-wide family of annual or perennial plants distinguished by round or flattened stems, solid at the nodes and 2-ranked, alternate, parallel-veined leaves composed of a split sheath and blade. The flowered unit is the spikelet composed of one or more florets.

FORB - Any herb other than a grass.

LEGUME - Herbs or woody plants with usually showy bonnet-like or butterfly-shaped flowers, alternate mostly compound leaves with stipules, and a simple pod bearing one or several seeds in one row.

WOODY PLANT - Containing tissues such as are present in true wood. Some plants are woody only near the base.

ANNUAL - Living less than one year. Such plants must grow from seeds each year.

PERENNIAL - Lasting more than a year. Producing leaves and stems each year from rootstocks, crown buds or branches.

COOL - Making all or most of the growth in the fall, winter, and spring.

WARM SEASON - Making most of the growth in the frost-free months of spring, summer and fall.

ECONOMIC VALUES - The desirability and ranking of a plant for reseeding, wildlife and grazing use in range and pasture management.

NATIVE - Native to the North American continent.

INTRODUCED - Not native to North America. It may be desirable or undesirable for use.

WILDLIFE VALUES - Are based on palatability of the plants to wildlife of an economic importance--deer, antelope, turkey, quail and dove. The plants were rated from the standpoint of food only. A plant may be rated "good" for quail and be "poor" or worthless for deer and antelope. The highest rating for the plant was selected as the economic wildlife value.

> Good - Highly palatable to one or more of the classes of wildlife. Fair - The plant is commonly used by one or more of the classes of wildlife. Poor-The plant is seldom used as food.

GRAZING VALUES - The worth of a plant for livestock, determined by considering its palatability, nutritive quality, and volume of forage produced. It must be considered in relation to the climate and soil and its adaptation and proper use. For example:

> Buffalograss is GOOD value on a clay loam soil in a 20-inch rainfall area, but on the same soils in a 35-inch rainfall belt it produces less than half the forage of big bluestem, little bluestem and Indiangrass and, therefore, in the higher rainfall area would not have more than a FAIR value. Grazing value is a comparative value, but it is not intended to compare plants

from irrigated or improved pasture (where fertilizers and legumes are used) with plants of native ranges (where fertility is maintained by natural means).

GOOD GRAZING - A term applied to a plant that is in high volume production, highly palatable (not necessarily at all seasons), and nutritious, where it is adapted.

FAIR GRAZING - The plant is not as good as the better plants in volume production, palatability, and quality in an area where it is adapted.

POOR GRAZING - The plant rates the lowest in one of more basic requirements, in most areas where it is found.

POISON - A plant that has a toxic substance at different stages growth that will cause sickness or death to livestock. At other times during the growth stage the plant may be considered good for grazing.

~~Approved by the Texas FFA BOD 9/9/13~~
~~***This is an area qualifying event***~~

VETERINARY SCIENCE
3 or 4 Member Team

I. PURPOSE

To promote career and post-secondary readiness by providing opportunities to develop knowledge and demonstrate skills in the field of veterinary science.

II. EVENT FORMAT

A. Team make up

1. The event will be a team event consisting of three or four students. The top three score count toward the team total.
2. It is required that participants be in official FFA dress OR medical scrubs (the only logos permissible on shirts are school or organizational logos). All team members must be dressed alike. Team members must all have solid color matching pants and solid color matching tops, regardless of the color combination. Students will be allowed to correct the dress code problem as long as the start time of the event is not effected.
3. Time allowed to complete the various event components is contingent on the practicums being conducted. The event provider shall exercise discretion in determining time allowed.

III. Equipment/Materials

1. Contestant must provide his/her own transparent clipboard.
2. Contestant must bring his/her own pencil and scan sheet to the contest.
3. No notes, books, pictures, or other materials are permitted.
4. Contestant may bring a basic, non-programmable calculator.
5. Contestants may use a copy of the scan sheet to record their answers for review after the contest.
6. Blank paper will be provided at the contest site.
7. Section or group leaders will not return scan sheets after a student has turned them in.

Please refer to General CDE Rules for compliance standards.

IV. Classes/Practicums

A. Written Test (100 points)

The test will consist of 50 questions, each question worth two points. The questions will come from a file of 285 questions from the veterinary science COE link located at www.texasffa.org → events → CDE.

B. Identification (150 points)

The identification portion will consist of:

1. Five Exotic animal breeds and 20 domestic animal breeds (two points each)
2. 25 Equipment/materials (two points each)
3. 25 Parasites and animal body parts (two points each)
   a. The student will correctly position slides, set up a microscope to identify internal and external parasites. The student will also correctly identify internal organs from cats, dogs, swine, cattle, sheep, goats, or horses. Each identification will be worth two points. These will come

from a list found on the Texas FFA COE website on the Veterinary Science COE link. (texasffa.org 7 events7 COE) Animal body part may be high quality pictures or real body parts.

C. Veterinary Science Skills Individual Practicum Rotation (100 points)

1. This practicum is designed to evaluate participant's knowledge of and ability to evaluate common laboratory, radiology and examination procedures performed in a veterinarians' clinic. Some skills may require participants to complete posology calculations. A practicum may combine more than one skill which is listed for the designated contest year. In some cases, contestants may be provided a written scenario that they must assess to determine correct solutions. Students will prepare for a possibility of five veterinary skills described in the five year rotation noted below. The providers will select ~~two~~ *one or two, but no more than two* of these skills to evaluate using a standard rubric. The two skills may be performed separately or together. *If only one practicum is used, it will be worth a total of 100 points. If two are used, they will be worth 50 points each, for a total of 100 points*

2. *Skills practicums MUST be recited verbally as well as demonstrated physically. The practicum will alternate noted:*

   2017-2018: Removing a Cat from a Cage, Applying a Cat Muzzle. Cat Stretch.Restraint of the Cat for a Femoral Venipuncture, and Fecal Floatation with Fecalyzer.
   2018-2019: Restraint of the dog in Sternal Recumbency . Restraint of the dog for Venipuncture of the Lateral Saphenous Vein, Restraint of the dog for Jugular Venipuncture, Restraint of the dog for Cephalic Venipuncture and Placing a Tail Tie.
   2019-2020: Administering Aural Medication. Administering Opthalmic Medication, Administering Topical Wound Treatment. Administering an Intermuscular Injection , and Administering a Subcutaneous lr\jection.
   2020-2021: Opening a Surgery Pack, Prepare a Surgical Pack for Sterilization. Surgical Preparation , Prescription Filling, and Removal of Sutures
   2021-2022: Administering Topical Parasiticide, Haltering Cattle. Haltering a Horse. Restraint of a Rabbit, and Ty ing a Reefer's Knot

V. TOTAL TEAM SCORE

Written Exam.....100 points
Identification ..... 150 points
Skills practicum.....100 points

TOTAL TEAM SCORE
INDIVIDUAL .....350 points
TEAM.....1050 points

VI. TIEBREAKER

A. Team and Individual tiebreakers will be settled in the following order:
   1. Team with the higher score in the identification section wins.
   2. If still tied, the team with the higher score in the skills practicum Part 1 wins.
   3. If still tied, the team with the higher score on the written exam wins.
   4. If still tied, the team with the highest alternate score wins.

B. Ties for individual awards shall be broken by substituting the word "individual" wherever the word "team" appears above.

VII. REFERENCES

- Veterinary Assistant handbook- First Edition Author: Floron C. Faries, Jr.
- Instructional Materials Service, Texas A&M University
- Cornell Veterinary Curriculum (Vet. Teminology, Clinical exams, Hospital Procedures, Parasitology, Laboratory Techniques, Animal Nutrition, posology, and Principles of Disease).
- Veterinary Instruments and Equipment-A Pocket Guide Author: Teresa F Sonsthagen, BS, LVT
- Elsevier Mosby ISBN-13: 978-0-323-03203-2
- Review Questions and Answers for Veterinary Technicians Author: Thomas P Colville, DVM
- Mosby ISBN-13 978-0-323-01926-2
- American Kennel Club Breed Website - www.akc.org/breeds/
- Cat Fanciers' Association Breed Website - www.cfainc.org/breeds.html
- Oklahoma State University-Animal Science Website - http://www.ansi.okstate .edu/breeds/

VIII. CONTEST INTEGRITY

The 1st and 2nd place placing team advisors from the previous year will go through the state contest with the provider, prior to the contest, to ensure the accuracy of the contest. Once the walk through has occurred, those teacher will be sequestered until all teams have entered the contest.

2012 Vet Tech Instrument List

001 Alligator forceps
002 All-in-one castrator, docker, and ear marker
003 Ambu bag
004 Artificial Vagina
005 Autoclave
006 Automatic dose syringe
007 Backaus towel forceps
008 Balling Gun
009 Barnes Dehorner
010 Bone-plate bender
011 Castroviejo needle holder with catch
012 Cornell teat curette
013 Dental rasp
014 Dental tooth punch
015 Depth probe and explorer
016 Differential cell counter
017 Dog snare or capture pole
018 Doppler ultrasonic blood flow monitor
019 Drench pump
020 Drench-matic dose syringe
021 Dressing forceps
022 Ear notcher
023 ECG monitor combination
024 Elastrator
025 Elizabethan collar
026 Emasculator
027 Endoscope
028 Endotracheal tube
029 Esophageal stethoscope
030 Eye bulb syringe
031 Eye speculum
032 Fecal loop
033 Feline restraint bag
034 Female canine catheter
035 Fetal extractor (calf puller)
036 Forester sponger holding forceps
037 Groove director
038 Guillotine nail trimmer
039 Half circle taper point suture needle
040 Half curved cutting edge suture needle
041 Half curved tissue forceps
042 Halstead mosquito forceps
043 Hartman mosquito forceps
044 Hemacytometer
045 Holzheimer retractor
046 Hoof trimmer for sheep and goats
047 Horn gouge
048 Identification tag applicator
049 Incisor and root extracting forceps
050 Incisor, canine, and premolar extracting forceps
051 Insemination pipette
052 Intravenous drip set
053 Iris hook
054 Jacquette tartar scaler
055 Kelly foreceps
056 Killian vaginal speculum
057 Knowles bandage scissors
058 Lens hoop
059 Lister bandage scissors
060 Mayo scissors
061 Mayo-hegar needle holder
062 Molar-extracting forceps
063 Needle-sterilizing rack
064 Olson-hegar needle holder-scissors combination
065 Operating scissors
066 Opthalmoscope
067 Oral calf drencher
068 Otoscope
069 Pet piller
070 Pig tooth nipper
071 Pill splitter
072 Polansky canine vaginal speculum
073 Pole syringe
074 Rectal prolapse ring
075 Refractometer
076 Reimer emasculator
077 Restraint gloves
078 Scalpel handle
079 Sheep trimming shears
080 Silver nitrate stick
081 Sphygmomanometer
082 Spring mouth speculum or gag
083 Stethoscope
084 Stomach tube
085 Tarter scrapers single ended
086 Tattoo outfit manual
087 Taylor percussion hammer
088 Teat slitter
089 Three way stopcock
090 Tom cat catheter
091 Transfer needle
092 Twitch-chain
093 Twitch-humane
094 Umbilical clamp
095 Vetamatic dose syringe
096 White nail trimmer
097 Wood's light
098 X-ray measuring caliper

Parasite/Internal organs

300 Ancylostoma-Hookworm
301 Anoplura(sucking)-Lice
302 Argasidae-soft ticks
303 Ctenocephalides canis-flea
304 Ctenocephalides felis-flea
305 Demodex-Mite
306 Dipylidium caninum-Tapeworm dog and cat
307 Dirofilaria immitis-Heartworm
308 Fasciolahepatica-Liver fluke of cattle and sheep
309 Gasterophilus hemorrhoidalis-bot fly of horse
310 Giardia cyst
311 Giardia troph
312 Heartworm Adult
313 Isospora-dog and cat protozoa
314 Ixodidae- hard tick
315 Mallophaga (chewing) – Lice
316 Otodectes - ear mite
317 Sarcoptes- Mite
318 Stephanurus dentatus – kidney worm in swine
319 Strongyloides westeri – Intestinal Threadworms of horse
320 Strongylus vulgaris - Large Strongyle of the horse

321 Taenia pisiformis - Tapeworm dog
322 Toxascara canis - Roundworm
323 Toxocara - adult round worm
324 Trichuris vulpis- whipworm

325 Fallopian tubes
326 Gall bladder/stones
327 Heart
328 Kidney
329 Liver
330 Lungs
331 Ovary
332 Stomach system
333 Trachea
334 Uterus
335 Cervix
336 Cecum
337 Hardware/fur balls
338 Testicle

Vet Tech Breeds

Cattle Breeds

100 Angus
101 Ayrshire
102 Beefmaster
103 Belted Galloway
104 Braford
105 Brahman
106 Black Brangus
107 Braunvieh
108 Brown Swiss
109 Charolais
110 Gelbvieh
111 Guernsey
112 Hereford
113 Holstein
114 Jersey
115 Limousin
116 Maine Anjou
117 Polled Hereford
118 Red Angus
119 Red Brangus
120 Santa Gertrudis
121 Shorthorn
122 Simmental
123 Texas Longhorn

Horse Breeds

124 Andalusian
125 Appaloosa
126 Arabian
127 Belgian
128 Buckskin
129 Clydesdale
130 Dutch draft
131 Dutch Warmblood
132 Friesan
133 Hackney
134 Hanovarian
135 Lipizzan
136 Miniature
137 Mustang
138 Paint
139 Palomino
140 Paso Fina
141 Percheron
142 Quarter Horse
143 Shetland Pony
144 Shire

Dog Breeds

147 Australian Cattle dog
148 Bassett Hound
149 Beagle
150 Bloodhound
151 Border Collie
152 Boxer
153 Bulldog
154 Chihuahua
155 Chow Chow
156 Cocker Spaniel
157 Dachshund
158 Dalmation
159 Doberman Pinscher
160 English Cocker Spaniel
161 Golden Retriever
162 Great Dane
163 Labrador Retriever
164 Lhasa Apso
165 Pomeranian
166 Poodle
167 Pug
168 Rottweiler
169 Shetland Sheepdog
170 Shih Tzu
171 Welsh Corgi
172 Yorkshire terrier

Cat Breeds

173 Abyssinian
174 American Curl
175 Balinese
176 Birman
177 Burmese
178 Color Point Shorthair
179 Cornish Rex
180 Devon Rex
181 Domestic Longhair
182 Domestic Shorthair
183 Egyptian Mau
184 Exotic Shorthair
185 Havana Brown
186 Maine Coon
187 Manx
188 Persian
189 Persian Himalayan
190 Russian Blue
191 Scottish Fold

Goat/Sheep/Swine Breeds

195 Angora oat
196 Boer goat
197 Spanish goat
198 Barbado sheep
199 Columbia sheep
200 Dorper sheep
201 Dorset sheep
202 Hampshire sheep
203 Rambouillet sheep
204 Southdown sheep
205 Suffolk sheep
206 American landrace swine
207 American Yorkshire swine
208 Berkshire swine
209 Chester White swine
210 Cross/blue Butt
211 Duroc swine
212 Hampshire swine
213 Hereford swine
214 Pietrain swine
215 Poland China swine
216 Red Wattle
217 Spots swine
218 Tamworth
219 Vietnamese Potbelly swine

EXOTICS

220 Angora rabbit
221 Ball Python
222 Burmese Python
223 Californian rabbit
224 Chinchilla
225 Chinese Dwarf hamster
226 Columbian Red-tail Boa
227 Cockatiel
228 Cockatoo
229 Common Snapping Turtle
230 Desert horned lizard
231 English Lop rabbit
232 Ferret
233 Gerbil
234 Green Tree Frog
235 Guinea Pig
236 Hedge Hog
237 Honduran Milk Snake
238 Iguana
239 Long hair Teddy Bear Hamster

145 Tennessee Walking Horse
146 Thoroughbred

192 Selkirk Rex
193 Siamese
194 Somali

240 Lovebird
241 Mata Mata
242 New Zealand Rabbit
243 Parakeet
244 Prairie Dog
245 Red Ear Slider
246 Savannah Monitor
247 Scarlett Macaw parrot
248 Southern Flying Squirrel
249 Sugar Glider
250 Yellow Canary

Vet Tech Parasite/Internal Organs

300 Ancylostoma-Hookworm
301 Anoplura(sucking)-Lice
302 Argasidae-soft ticks
303 Ctenocephalides canis-flea
304 Ctenocephalides felis-flea
305 Demodex-Mite
306 Dipylidium caninum-Tapeworm dog and cat
307 Dirofilaria immitis-Heartworm
308 Fasciolahepatica-Liver fluke of cattle and sheep
309 Gasterophilus hemorrhoidalis-bot fly of horse
310 Giardia cyst
311 Giardia troph
312 Heartworm Adult
313 Isospora-dog and cat protozoa
314 Ixodidae- hard tick
315 Mallophaga (chewing) – Lice
316 Otodectes - ear mite
317 Sarcoptes- Mite
318 Stephanurus dentatus – kidney worm in swine
319 Strongyloides westeri – Intestinal Threadworms of horse
320 Strongylus vulgaris - Large Strongyle of the horse
321 Taenia pisiformis - Tapeworm dog
322 Toxascara canis - Roundworm
323 Toxocara - adult round worm
324 Trichuris vulpis- whipworm
325 Fallopian tubes
326 Gall bladder/stones
327 Heart
328 Kidney
329 Liver
330 Lungs
331 Ovary
332 Stomach system
333 Trachea
334 Uterus
335 Cervix
336 Cecum
337 Hardware/fur balls
338 Testicle

Equipment and Materials Identification List

100. Ambubag
101. Anesthetic machines
102. Animal clippers
103. Autoclave
104. Autoclave tape indicator
105. Backhaus towel clamps
106. Balling gun
107. Bands (castration or docking)
108. Bandaging material- Elasticon
109. Bandaging material– roll gauze
110. Bandaging material– vet wrap
111. Basket muzzle
112. Betadine
113. Brush - Body (soft bristle)
114. Brush - Dandy (stiff bristle)
115. Brush - Slicker
116. Brush - Pin
117. Bulb syringe
118. Cat bag
119. Carmalt
120. Catch pole (dog snare)
121. Catheter - IV
122. Catheter - butterfly
123. Catheter - urine
124. Centrifuge
125. Chain twitch
126. Chemical indicator strips
127. Clipper blades
128. Clipper comb
129. Surgical drapes
130. Cold sterile tray
131. Comb - Curry
132. Comb - Flea
133. Comb - Scotch
134. Cover slips
135. Dehorner - Barnes
136. Dehorner - electric
137. Dehorner - scoop or tube
138. Dental floats
139. Dental retractor
140. Dental scaler
141. Disposable hypodermic needles
142. Drench gun
143. Ear notcher
144. Ear tags
145. Ear tag (metal) pliers
146. Elastrator
164. Mouth gag speculum (small)
165. Mouth gag speculum (large)
166. Gavage needle
167. Gravity feeder / J tube
168. Halter
169. Head chute
170. Hog snare
171. Hoof knife
172. Hoof nippers
173. Hoof pick
174. Hoof rasp
175. Hoof trimmers
176. Humane twitch
178. Identification tag applicator
179. IV fluids
180. IV administration
181. Laryngoscopes
182. Lead rope
183. Lead shank
184. Needle holder - Mayo-Hegar
185. Needle holder - Olsen-Hegar
186. Microscope slides
187. Muzzle- commercial
188. Nail clippers - guillotine
189. Nail clippers - plier
190. Obstetrical chain and handle
191. Ophthalmoscope
192. Otoscope
193. Paste gun
194. Pig tooth nippers
195. Pill counting tray
196. Radiology personal protective equipment
197. Rumen magnet
198. Scalpel blade
199. Scalpel handle
200. Scissors– Bandage
201. Scissors- Lister bandage
202. Scissors- Littauer suture removal
203. Scissors- Mayo dissecting
204. Scissors- Metzenbaum dissecting
205. Shedding blade
206. Silver nitrate sticks
207. Small animal oxygen cage
208. Snook ovariohysterectomy hook
209. Squeeze chute
210. Staple remover
211. Steel lift table

Equipment and Materials Identification List (Continued)

147. Elizabethian collar
148. Emasculators
149. Endotracheal tubes
150. Fecal loop
151. Fecalyzers
152. Feeding tube for small animals
153. Fetal extractor
154. Fingertip toothbrush
156. Forceps - Alligator
157. Forceps- Allis tissue
158. Forceps- Babcock tissue
159. Forceps- Brown-Adson thumb
160. Forceps- Crile
161. Forceps- Halstead mosquito hemostatic
162. Forceps- Kelly
163. Forceps - Rat tooth thumb
212. Stethoscope
213. Surgical cap
214. Surgical gloves
215. Surgical gown
216. Surgical masks
217. Surgical tray
218. Suture materials
219. Suture needle
220. Suture wire cutting scissors
221. Syringe - leur lock
222. Syringe - slip tip
223. Syringe - automatic, multi-dose
224. Tattooing instruments - small & large
225. Tourniquet
226. Trocar & cannula
227. Weight tape

Parasite Identification List

300. Blowfly (Family Calliphoridae)
301. Blowfly Maggot (Family Calliphoridae)
302. Cat Warble (Genus Cuterebra)
303. Cattle Grub (Genus Hypoderma)
304. Coccidia (Genus Isospora or Eimeria)
305. Demodectic Mite (Genus Demodex)
306. Ear Mite (Family Ascaridae; Genus Otodectes)
307. Fleas (Genus Ctenocephalides)*
308. Flea Larva (Genus Ctenocephalides)
309. Flea Tapeworm (Genus Dipylidium)*
310. Flea Tapeworm Egg (Genus Dipylidium)*
311. Flea Tapeworm Segment (Genus Dipylidium)*
312. Giardia (Genus Giardia)
313. Hard Tick (Family Ixodidae; Genus Amblyomma or Dermacentor)
315. Heartworm Adult (Genus Dirofilaria)*
316. Heartworm Microfilaria (Genus Dirofilaria)*
317. Hookworm Adult (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)*
318. Hookworm Egg (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)*
319. Horse Bots (Genus Gasterophilus)*
320. Horse Strongyles (Family Strongylidae; Genus Strongylus)*
321. Lice - Biting (Order Mallophaga; Genus Bovicola or Trichodectes)
322. Lice - Sucking (Order Anoplura; Genus Linognathus or Hematopinus)
323. Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium)
324. Lungworm (Family Metastrongylidae; Genus Metastrongylus, Dictyocaulus or Aelurostrongylus)
325. Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes)

Parasite Identification List (Continued)

326. Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes)
327. Pinworm (Genus Oxyuris)
328. Roundworm Adult (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)*
329. Roundworm Egg (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)*
330. Sarcoptic Mite (Family Ascaridae; Genus Sarcoptes or Notoedres)
331. Taenia Tapeworm (Family Taeniidae; Genus Taenia)*
332. Taenia Tapeworm Egg (Family Taeniidae; Genus Taenia)*
333. Taenia Tapeworm Segment (Family Taeniidae; Genus Taenia)*
335. Whipworm (Genus Trichuris)*
336. Whipworm Egg (Genus Trichuris)*
**Asterisk indicates which parasite life cycles could have questions.*

Breed/Species Identification List

Dogs

SPORTING GROUP
400. Brittany
401. Cocker Spaniel
402. English Setter
403. English Springer Spaniel
404. German Shorthaired Pointer
405. Golden Retriever
406. Irish Setter
407. Labrador Retriever
408. Weimaraner

NON-SPORTING GROUP
409. Bichon Frise
410. Boston Terrier
411. Bulldog
412. Chinese Shar-Pei
413. Chow Chow
414. Dalmatian
415. Lhasa Apso
416. Poodle

TERRIER GROUP
417. Bull Terrier
418. Cairn Terrier
419. Miniature Schnauzer
420. Parson Russell Terrier
421. Scottish Terrier
422. Smooth Fox Terrier
423. West Highland White Terrier
424. Wire Fox Terrier

HERDING GROUP
425. Australian Cattle Dog
426. Australian Shepherd
427. Border Collie
428. Cardigan Welsh Corgi
429. Collie
430. German Shepherd Dog
431. Old English Sheepdog
432. Pembroke Welsh Corgi
433. Shetland Sheepdog

Cats
500. Abyssinian
501. American Shorthair
502. Burmese
503. Cornish Rex
504. Devon Rex
505. Exotic
506. Maine Coon
507. Manx
508. Persian
509. Ragdoll
510. Russian Blue
511. Siamese
512. Sphynx
513. Turkish Angora

Rabbits
514. American Fuzzy Lop
515. Angora
516. Californian

Reptiles
548. Chameleon
549. Gecko
550. Iguana
551. Lizard
552. Bearded Dragon
553. Snake
554. Turtle
556. Frog
557. Toad

Dairy Cattle
600. Ayrshire
601. Brown Swiss
602. Guernsey
603. Holstein
604. Jersey

Beef Cattle
605. Angus
606. Brahman
607. Charolais
608. Hereford
609. Simmental
610. Shorthorn

Swine
611. American Landrace
612. Berkshire
613. Chester White
614. Duroc
615. Hampshire

Breed/Species Identification List

WORKING GROUP

434. Akita
435. Alaskan Malamute
436. Bernese Mountain Dog
437. Boxer
438. Bullmastiff
439. Doberman Pinscher
440. Giant Schnauzer
441. Great Dane
442. Great Pyrenees
443. Mastiff
444. Newfoundland
445. Portuguese Water Dog
446. Rottweiler
447. Saint Bernard
448. Samoyed
449. Siberian Husky
450. Standard Schnauzer

TOY GROUP

451. Cavalier King Charles Spaniel
452. Chihuahua
453. Italian Greyhound
454. Maltese
455. Miniature Pinscher
456. Papillon
457. Pekingese
458. Pomeranian
459. Poodle
460. Pug
461. Shih Tzu
462. Silky Terrier
463. Toy Fox Terrier
464. Yorkshire Terrier

HOUND GROUP

465. Afghan Hound
466. American Foxhound
467. Basenji
468. Basset Hound
469. Beagle
470. Black and Tan Coonhound
471. Bloodhound
472. Dachshund
473. English Foxhound
474. Greyhound
475. Whippet
517. Dutch
518. Dwarf Hotot
519. English Spot
520. Flemish Giant
521. Jersey Wooly
522. Holland Lop
523. Netherland Dwarf
524. New Zealand
525. Polish
526. Mini-Rex
527. Satin

Birds

528. Cockatiel
529. Cockatoos
530. Love Birds
531. Parakeet
532. African Gray Parrot
533. Canary
534. Macaw
535. Mynah
536. Rainbow Lorikeet
537. Society Finch
538. Sun Conure
539. Zebra Finch

Small Mammals

540. Chinchilla
541. Degus
542. Ferret
543. Gerbils
544. Guinea Pig
545. Hamster
546. Hedgehog
547. Sugar Glider

Poultry

558. Chicken- Cornish
559. Chicken- Leghorns
560. Chicken- Rhode Island Red
561. Chicken- Plymouth Rock
562. Duck
563. Geese
564. Quail
565. Turkey

Other

566. Potbellied Pig
616. Yorkshire

Horse

617. Appaloosa
618. Arabian
619. Belgian
620. Clydesdale
621. Haflinger
622. Miniature
623. Morgan
624. Paint
625. Paso Fino
626. Percheron
627. Quarter Horse
628. Saddlebred
629. Standardbred (w/cart)
630. Tennessee Walking Horse
631. Thoroughbred
632. Donkey
633. Mule

Goat

635. Alpine
636. Nubian
637. Angora
638. Boer
639. LaMancha
640. Oberhasli
641. Pygmy
642. Saanen
643. Toggenburg

Sheep

645. Cheviot
646. Columbia
647. Dorset
648. Hampshire
649. Jacob
650. Merino
651. Montadale
652. Rambouillet
653. Southdown
654. Suffolk

Organs

655 Uterine horn/horns
656 Gall bladder
657 Heart
658 Kidney
659 Liver
660 Lungs
661 Ovary
662 Ruminant stomach
663 Monogastric stomach
664 Rumen
665 Reticulum
666 Omasum
667 Abomasum
668 Large intestine
669 Small intestine
670 Trachea
671 Uterus
672 Cervix
673 Cecum
674 Testicle
675 spleen
676 brain
677 esophagus

Removing a Cat from a Cage (1)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student opens the cage door and calls the cat by name.	10	
2. The student scruffs the cat with one hand and lifts it up.	10	
3. The student cradles the cat's abdomen with their other hand and removes the cat from the cage.	10	
4. With the cat still scruffed, the student places the cat under one arm close to their body and closes the cage door with their free hand.	10	
5. The student carries the cat close to their body to its destination.	10	
Total Points	50	

Applying a Cat Muzzle (1)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student selects a muzzle of appropriate size for the cat.	8	
2. The student places the cat in sitting or sternal position on exam table.	6	
3. The student positions the muzzle properly in his/her hands.	6	
4. The student approaches the cat from behind with the muzzle in both hands while another person restrains cat.	10	
5. The student brings the muzzle up to the cat's face in one swift motion.	10	
6. The student secures the muzzle.	10	
Total Points	50	

“Cat Stretch” (1)

(Restraint of the Cat in Lateral Recumbency)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge’s Signature Date

Criteria	Points Possible	Points Earned
1. The student places the cat on an examination table.	12	
2. The student scruffs the cat with one hand and lifts it off of the table enough to grasp both hind legs with his/her other hand.	14	
3. The student lays the cat on its side with the hind legs stretched rearward	12	
4. The student approaches the cat from behind with the muzzle in both hands while another person restrains cat.	12	
Total Points	50	

Restraint of the Cat for the Femoral Venipuncture (1)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student places the cat on an examination table.	12	
2. The student scruffs the cat with one hand and lifts it off of the table enough to grasp both hind legs with his/her other hand.	14	
3. The student lays the cat on its side	12	
4. The student tucks top rear leg and tail while occluding with side of hand.	12	
Total Points	50	

Fecal Flotation with Fecalyzer (1)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student selected about ¼ teaspoon of feces and placed it into a fecalyzer.	6	
2. The student added enough flotation solution to fill the fecalyzer about half full.	6	
3. The student mixed the feces into solution until no large fecal particles remain.	6	
4. The student places insert into fecalyzer.	6	
5. The student filled the vial with more solution until there was a visible meniscus at the top.	6	
6. The student placed a cover slip on top of the fecalyzer.	6	
7. The student stated that they will allow the vial to sit undisturbed for 10- 15 minutes.	6	
8. The student carefully removed the cover slip without tilting it and placed it on a microscope slide.	8	
Total Points	50	

Restraint of the Dog in Sternal Recumbency (2)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student puts a noose leash on the dog.	10	
2. The student begins with the dog sitting.	10	
3. The student places one arm around the dog's neck and places the other arm around the dog's back to grasp the forelimbs.	10	
4. The student pushes the dog's back with his/her body to encourage the dog to lie down.	10	
5. The student positions the dog so that head can be examined.	10	
Total Points	50	

Restraint of the Dog for Venipuncture of the Lateral Saphenous Vein (2)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student places a noose leash on the dog	4	
2. The student places the dog in the standing position.	4	
3. The student places his/her right arm across the dog's neck and reaches between the front legs to grasp the dog's right forelimb in right hand.	6	
4. The student places left arm over the dog's back and reaches for the dog's right rear limb; just proximal to the hock.	8	
5. With the dog's body close, the student gently lifts the limbs while allowing the dog's body to move to the table; the dog should be on its right side.	8	
6. The student allows the dog to relax for a couple seconds, not releasing the grasp on the limbs.	6	
7. The student uses left hand to hold the limb tightly in the area just distal to the stifle, which will occlude the vein.	14	
Total Points	50	

Restraint of the Dog for Jugular Venipuncture (2)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student places a noose leash on the dog.	12	
2. The student places dog in sternal position.	12	
3. The student holds the head up under the jaw, away from the chest (can be achieved by cupping hand underneath the muzzle and by pushing the head upward.)	14	
4. The student's other hand grasps the front legs and extends them over the end of the table.	12	
Total Points	50	

Restraint of the Dog for Cephalic Venipuncture (2)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student places a noose leash on the dog.	8	
2. The student restrains the dog in sternal recumbency.	8	
3. The student stands on the dog's right side; wrapping his/ her right arm around the dog's neck.	8	
4. The student holds the dog's left forelimb with elbow in the palm of his/her hand; extend the limb forward toward the person performing the procedure.	8	
5. With the elbow of the dog in his/her palm, the student rotates his/her thumb up so it is on top of the limb at the bend of the elbow.	10	
6. The student occludes the vessel with the thumb, rotates the thumb laterally.	8	
Total Points	50	

Placing a Tail Tie (2)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student lays the rope over the tail at the tip of the tail bone.	10	
2. The student folds all the tail hairs up over the rope.	10	
3. The student passes the short end of the rope behind the tail, and makes a fold or bight in it.	10	
4. The student passes the fold or bight over the folded tail and under the rope, which is looped around the tail.	10	
5. The student pulls tight.	10	
Total Points	50	

Administering Aural Medication (3)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student applies gloves.	6	
2. The student cleans ears.	6	
3. The student successfully administered the medication into the ear canal without contamination of the applicator tip.	10	
4. The student applies proper amount of medication into the ear as noted by the veterinarian.	8	
5. The student massages the base of the outside of the ear canal causing a swishing sound from the medication moving around in the ear canal.	8	
6. The student wipes any solution that may have leaked onto the outside of the ear flap or hair.	6	
7. The student disinfects the medication dispenser with alcohol and places in appropriate area.	6	
Total Points	50	

Administering Ophthalmic Medication (3)

Participant Name:_____ Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student wipes any discharges from the patient's eye using a gauze sponge or cotton ball.	8	
2. The student opens the end of the ophthalmic medicine and holds in one hand.	6	
3. The student, using the free hand, uses the index finger and thumb to pull the upper and lower lids apart to open the eye. a. The student's thumb pulls the lower lid down and the index finger pulls the upper lid upward. b. The student's other finger may rest on the head of the animal.	10	
4. The student gently tilts the head upward.	6	
5. The student applies the drops or ointment gently into the eye, counting each drop or applying the proper amount of ointment.	8	
6. The student releases the eyelids.	6	
7. The student allows the animal to blink to move the medication throughout the eye.	6	
Total Points	50	

Administering Topical Wound Treatment (3)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student cleans area as necessary.	10	
2. The student uses a tongue depressor to transfer an amount of topical medication if the container is for multiple doses.	10	
3. The student applies the ointment onto the area in a circular motion, starting at the center of the wound and gently working outward.	10	
4. The student does not contaminate the medication by touching items that touched the animal.	10	
5. The student cleans the area and puts items away.	10	
Total Points	50	

Administering an Intramuscular Injection (3)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student selected the proper site for administration.	10	
2. The student rubs an alcohol saturated cotton ball over the injection site.	8	
3. The student directs the needle through the skin and in to muscle mass.	8	
4. The student aspirates the plunger on the syringe; if no blood is noted, inject the substance slowly.	8	
5. The student withdraws the needle and places in the sharps container.	8	
6. The student massages the area where the injection was given and praises the patient.	8	
Total Points	50	

Administering a Subcutaneous Injection (3)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student lifts the skin using the thumb and forefinger of one hand. Form a triangle or tent with the skin.	8	
2. The student wipes the area with an alcohol-soaked cotton ball.	6	
3. The student uses the other hand to insert the needle into the skin at the base of the tent or triangle parallel to the body.	6	
4. The student releases the skin once the needle is placed.	6	
5. The student aspirates the end of the plunger, looking for any signs of blood entering the syringe; if no blood enters the syringe, administer the injection.	10	
6. The student withdraws the needle and places in the sharps container.	8	
7. The student rubs the injection site with one hand and praises the patient.	6	
Total Points	50	

Opening a Surgery Pack (4)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student placed the surgery pack on a clean, dry surface.	4	
2. The student removed or tore the tape securing the package.	4	
3. The student opened the first flap away from them.	8	
4. The student opens side flaps without reaching across opened pack.	8	
5. The student opens flaps towards them.	8	
6. The student opened the pack without contamination.	10	
7. If internal wrap is present, student does not contaminate.	4	
8. The student stepped away so the surgeon or scrub nurse could complete the opening of the pack.	10	
Total Points	50	

Prepare a Surgical Pack for Sterilization (4)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student gathered the appropriate instruments and instrument pan if applicable.	8	
2. The student gathered the appropriate linen supplies if applicable.	8	
3. The student selected the appropriate packaging material and chemical indicator.	8	
4. The student assembled the pack correctly by following the instructions on the checklist or recipe.	10	
5. The student appropriately selected and placed the chemical indicator.	8	
6. The student appropriately selected and utilized packaging material.	8	
Total Points	50	

Surgical Preparation (4)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student applied antiseptic scrub to the site	8	
2. The student prepped the site with a clean surgical sponge beginning at the incision site and worked toward the edges.	8	
3. The student discarded the sponge once it reached the edge of the clipped area.	8	
4. The student did not bring the sponge back to the incision site once it was moved away from the incision site.	8	
5. The student wiped the site with a rinse solution using a clean surgical sponge following the same pattern as when scrubbing with the antiseptic.	8	
6. The student repeated the scrub and rinse a minimum of 3 times or until the final rinse sponge was clean.	10	
Total Points	50	

Prescription Filling (4)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student reads and interprets prescription.	10	
2. The student selects the correct drug and concentration.	8	
3. The student places the pill counting tray on the pharmacy counter with the channel to the left and the open plate in front of him/her.	2	
4. The student pours the medication tablets or capsules onto the tray plate.	2	
5. The student opens the channel cover.	2	
6. The student uses a spatula or tongue depressor to push groups of tablets or capsules into the channel.	2	
7. The student tilts the tray to return the unused medicine into the stock bottle.	2	
8. When the student has counted the desired amount of medication, he/she closes the channel cover and lift tray to place the channel spout into the medicine vial or container.	10	
9. The student places the closed vial on the counter.	2	
10. The student appropriately fills out label with prescription information.	10	
Total Points	50	

Removal of Sutures (4)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student clearly visualized and inspected the incision site.	10	
2. If there were problems with the incision site, the student informed the veterinarian.	10	
3. If there were no problems with the incision, the student removed the sutures.	10	
4. The student used the correct tool to remove the sutures.	10	
5. The student did not cause unnecessary harm or discomfort to the patient.	10	
Total Points	50	

Administering Topical Parasiticide (5)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student selects appropriate dose by weight.	25	
2. The student applies topical parasiticide by following product directions	25	
Total Points	50	

Haltering Cattle (5)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student places crown piece of halter over ears, then slips nose through nosepiece	12	
2. The student properly adjusts the halter such that the nose band crosses over bridge of nose halfway between the nostrils and eyes	14	
3. The student ensures that the adjustable portion of the nose band is under the chin, not across the bridge of the nose.	12	
4. The student keeps the standing end or lead rope portion on the left side of the cow.	12	
Total Points	50	

Haltering a Horse (5)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. Without quick movements and loud noises, the student properly approaches the patient at a 45 degree angle to the patient's left shoulder.	8	
2. The student places end of the lead rope over the horse's neck and passes sufficient length of lead to form a handheld loop around the horse's neck.	8	
3. Holding the handheld loop in their right hand, with their left hand, the student slipped the nose-band of the halter over the nose.	8	
4. With their right hand under the horse's neck, the student passes the crown strap over the head and behind the ears and attaches the end to the appropriate place on the halter.	8	
5. The student snaps the end of the lead to the lead ring of the halter and undrapes the lead rope from the horse's neck.	8	
6. The student adjusts the halter so it is snug enough that the nose piece could not fall over the end of the nose, but not so tight that the halter cut or rubbed the horse or restricted jaw movement or breathing.	10	
Total Points	50	

Restraint of a Rabbit (5)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student approaches the rabbit calmly and quietly.	10	
2. The student scruffs the rabbit with one hand while gently lifting the front end.	10	
3. The student's other hand immediately reaches under the hind limbs and holds them (not allowing the hind limbs to dangle).	10	
4. The student rests the rabbit's body on the arm with the hand holding the hind limbs.	10	
5. The scruffing hold is released and the hand is moved to hold the elbow of the opposite arm.	10	
Total Points	50	

Tying a Reefer's Knot (5)

Participant Name:_____Area: _____

Participant must talk through practicum steps with judge.

_____ _____

Judge's Signature Date

Criteria	Points Possible	Points Earned
1. The student places the rope over a pole or tie area.	12	
2. The student passes the short end over and under the long end.	14	
3. The student makes a fold or bight in the short end and passes it over and under the long end.	12	
4. The student pulls securely on the long end and loop of the short end.	12	
Total Points	50	

WILDLIFE AND RECREATION MANAGEMENT
3 or 4 Member Teams

I. PURPOSE

The purpose of the wildlife and recreation management career development event is to support instructional objectives related to management and conservation of natural resources for wildlife habitat, knowledge of and respect for laws related to hunting and other outdoor recreational activities, and safety.

II. EVENT FORMAT

A. Team Make-up

1. Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.
2. Participation of incomplete teams (one or two members) is at the discretion of the event officials but members of incomplete team are not eligible for individual or team awards or prizes.
3. Students should dress for field conditions.

B. Equipment

1. Teams are responsible for providing their own scan sheets. CDE officials may provide a photocopy of ~~a scan sheet for preliminary scoring~~ *the front side and back side of the official scan sheet*. If this is done, contestants will be given ample time at the conclusion of the last rotation, not to exceed 10 minutes, to transfer their data to the official scan sheet.
2. Each contestant will be allowed to bring the following items to the contest area:
    - Transparent Clipboard
    - Official Scan Sheet
    - Basic calculator (non-programmable type)
    - Plastic bag for storing scan sheet in wet weather
    - Manila folder, with NO stray marks for storing scan sheet
    - #2 pencils
3. Contestants will NOT be allowed to bring any of the following items to the contest area:
    - Programmable calculator
    - Electronic compass or any other device that is prohibited by CDE General Rules
    - Papers of any kind containing contest written information
    - Any contestant bringing any of these items into the contest area will be immediately disqualified from competition. Possession alone is enough to disqualify a contestant. It is not necessary for the contestant to be seen using any of the devices.

C. General Event Information

The following contest format will be used in each of the five regional contests as well as the state contest:

1. Each region competition may draw select plants from the statewide list of 121 plants available that best represent their region. The state competition will select those plants that best represent the regions. Plants will be listed in the *Wildlife and Recreation Management Study Guide* for each CDE.
2. The game animals found in each region will vary. Information regarding each animal and their preferred plants will remain constant in all CDE's.
3. All WRM CDE's will consist of eight question areas listed below. The eight question areas are discussed in detail in the *Wildlife and Recreation Study Guide*.
4. Additional references will be used in the competition and are listed in each section.
5. Point value for each question area along with an explanation of the assignment of points is provided below. Due to variables in the CDE, the total point value for individual and team scores may vary. Still, the scoring for each question area will remain constant from region to region and state competitions. Total points (score) of some questions may fluctuate due to variables within the question. This is not a typical 100-point contest. Point values listed below may reflect the absolute minimum/varies/absolute maximum scores for each question where three values are given. Typically the range for the complete CDE should be 115 to 150 points for individuals and 345 to 450 for teams.

6. Scan sheets will be used in all WRM CDEs where conditions permit. If conditions do not permit use of the scan sheet, contest officials will hand score all entries and scoring will conform to guidelines in

this set of regulations.
7. The rules for this competition shall follow those established by the State CDE Committee for all Texas FFA Career Development Events with the following exceptions or modifications.

D. Question 1: Wildlife Plant Identification (Individual-30 pts., Team-90 pts.)
Many trees, shrubs, vines, legumes, grasses, aquatic plants and forbs are found throughout Texas and the ability to identify them is important in wildlife management. For this question, 15 species of plants will be tagged with a letter from "A" through "O". Plants may be imported from all parts of the region or state for this section. Every effort should be taken by contest officials to provide plants that are fresh and clearly represent the correct genus and species as listed in the *Wildlife and Recreation Study Guide* for each CDE. Each plant will have a value of two points. Contestants will identify each by entering the correct number from the Question Sheet on to the scan sheet.

E. Question 2: Wildlife Plant Preference (Individual-15/Varies/45 pts.; Team-45/Varies/135 pts.)
The same plants used in Question 1: Wildlife Plant Identification will also be used for this question. Three species will be listed to match with their plant preferences in this question. Contestants will select the plants that are considered preferred for a selected wildlife group (i.e. deer & waterfowl) and bubble in the “Y” on the scan sheet under that species if the plant is preferred by that species. More than one animal species may prefer the same plant. There will be one point awarded per animal correctly matched to its plant preference. If the plant is not preferred by any of the three species listed for competition purposes, the contestant should bubble in the “N” under “Not preferred by these species.” However, if the plant is not correctly identified in Question 1, no credit will be given for the rating in this question.

F. Question 3: Wildlife Biological Facts (Individual-20 pts.; Team-60 pts.)
In Texas, game biologists and landowners manage a variety of game animals. Question 3 tests the student's knowledge of each of these species. The students will be asked to correctly answer 20 questions related to the species found in the *Wildlife and Recreation Management Study Guide* for their respective region or state competition. One point is awarded per question.

G. Question 4: Wildlife Habitat Evaluation (Individual-9 pts.; Team-27 pts.)
Habitat development is a major factor in managing wildlife in Texas. The habitat needs for each species is different and the land manager must know the requirements of that animal. Contestants will evaluate three animal species on their need for (1) food, (2) cover, and (3) water as discussed in the *Wildlife and Recreation Management Study Guide* for the CDE in which the contestant is participating. Contestants will be given information on the evaluation site. Three target species from those in the biological facts section of the study guide for the CDE will be identified for the contestants. Aerial or other maps may be provided. The management goals of the property manager will be provided. The Quadrant method will be used statewide to determine Food Adequacy or Inadequacy portion. The student will be asked to rate the food, cover, and water of the site and determine if each is adequate (A) or deficient (D). *Adequate* is defined as the habitat element being sufficient to maintain or increase the numbers for the species. *Deficient* is defined as being lacking or insufficient to the degree that the habitat cannot support or perpetuate the particular species. Each of these three areas will be valued at one point. Contestants will bubble in the “A” on the scan sheet if the element is adequate for the given species. If the element is deficient for the given species, the contestant will bubble in the “D” on the scan sheet.

H. Question 5: Wildlife and Habitat Management Practices (Individual-Varies, Team-Varies)
When managing for wildlife in Texas, many areas will need some habitat improvement. Using various management practices can make the needed improvement. The number of habitat management practices in this question area will vary within each region and the state competition. The *Wildlife and Recreation Management Study Guide* for region and state competitions will list and discuss those practices considered for each CDE. Officials setting up the CDE will follow recommendations for use of management practices as outlined in the respective study guides for regions and state events. Contestants will be given information on the management site. Three target species from those in the biological facts section of the study guide for the CDE will be identified for the contestants. Aerial or other maps may be provided. The management goals of the property manager will be provided. The number of management practices that are needed will vary on conditions of the site and the target species being managed. Contestants will be provided with a list of

management practices that should be considered for the CDE. One point will be awarded for each correctly identified management practice matched to the target species. A student should correctly identify only those practices needed for that target species. Each incorrectly identified practice will deduct one point from the total score. For example, if a contestant correctly identifies six management practices and incorrectly identifies two additional practices, the contestant will score four points instead of six points. The contestant will bubble in the "Y" under the target species for each correct management practice. If a management practice is not used by any of the three target species, the contestant should mark the "N" under the column "Not used for these three species."

I. Question 6: Game Laws (Individual- 15 pts.; Team- 45 pts.)
Knowledge of state and federal game laws is important in wildlife management. Students will be tested on their knowledge of current Texas fish and game laws. Contestants will be given a 15 question True/False, Multiple Choice exam. Contestants will answer the questions by bubbling in the correct response on the scan sheets. Each question will be valued a one point per question.

J. Question 7: Safety (Individual- 5 to 15 pts., Team-15 to 45 pts.)
This question will test the students' knowledge of safety as it applies to the outdoors. A safe outing is a good outing. This question may be administered simply as a Multiple Choice – Safe/Unsafe exam where question relate directly to hunting, fishing, boating, or camping safety. This question may be administered as a skit, scene, or enactment. Contestants will be given a question sheet that directs them to consider various safety situations. A situation can be used if it
is illegal but only if it is unsafe as well. If a situation is only illegal, it should not be part of this question. For example, registration numbers on a boat is illegal but it is not unsafe. It should not be used in this question. Contest officials can use from five to 15 safety question/situations to complete this question area. Each safety question/situation has a value of one point. Students will correctly answer each question on the scan sheet by bubbling in the correct response, Safe/Unsafe or the correct multiple-choice response. The Texas Parks & Wildlife's Hunter Education Manual, Angler Education Manual, and Boater Safety Manual will serve as references for this question. This question is valued at no less than five points or more than 15 points per contestant.

K. Question 8: Techniques (Individual-20 pts.; Team-60 pts.)
To manage wildlife, biologists use basic skills and techniques. For example, to manage a deer herd for quality hunting, the age of the deer is an important factor. Contestants will be asked to demonstrate their skills on 20 techniques selected from knowledge area found in the contest study guide. Each technique will be valued at one point. Examples of techniques are:

- aging a deer from jawbones,
- identify wildlife species by wings, tracks, pelts, mounts, skulls, or scat; and
- perform a variety of measurements on deer antlers.

Techniques may repeat. For example, there may be two or more wings, pelts, or skulls of different species to identify or two or more deer jawbones to age. Contestants will be given a question sheet that asks a question or gives directions for answering or identifying that technique. Each questions/instruction will require either a Multiple Choice or True/False response. They are to bubble in the correct response for each technique on the scan sheet. Each technique will have a value of one point for a maximum total of 20 points per contestant.

III. SCORING AND TIEBREAKERS
A. A representative from each region will be available during the state contest to review tests and scan sheet keys for errors.
B. In the event that the score of two or more teams results in a tie, the following procedure will be used to break the tie:

1. The team with the highest total score of three team members on Question 1 will be the higher placing team.
2. If the teams are still tied, the team with the highest total score of three team members on Question 8 will be the higher placing team.
3. If the teams are still tied, the team with the highest alternate score.
4. If teams are still tied, the coaches of the team will meet with contest officials who will conduct a coin toss to determine the higher placing team.

C. Individuals with scores resulting in a tie will follow the following tie-breaker policy:

1. The contestant with the highest score on Question 1 will be the higher placing individual.
2. If the individuals are still tied, the contestant with the highest score on Question 8 will be the higher placing individual.
3. If the individuals are still tied, the team with the highest alternate score.
4. If individuals are still tied, they will be accompanied by their coach and will meet with contest officials who will conduct a coin toss to determine the higher placing individual.

V. EVENT OPERATIONS

Participation on regional competition will require endorsement from the local Soil and Water Conservation District in which the competing team is located. Local contests may be conducted in collaboration with the local FFA Chapters and 4-H Clubs and one or more local Soil and Water Conservation Districts (SWCD). The number of teams allowed to enter local competition will be determined by the local SWCD. Only one team from an FFA chapter will be able to advance to
regional competition. For the purpose of conducting this CDE, Texas has been divided into five regions. FFA Areas are assigned to the region, which represents the majority of the habitat for that area. 4-H Clubs will compete bases on which FFA area they are located. Area assignments for regional competition are as follows:

Biological Regions	FFA Area
I	I
II	II & VII
III	III & X
IV	VI & IX
V	IV, V & VIII

VII. SPECIAL RULES CONCERNING EVENT SITES

Pursuant to Texas FFA state CDE policies, on-site presence of any competing team, coach, or individuals not directly related to hosting the competition is strictly forbidden at least 2 weeks prior to competition. The entire premises of an area are considered part of the competition site and should be avoided. For example, if a state or region CDE is to be held at the Welder Wildlife Refuge in Sinton, Texas, then all of the Welder Wildlife Refuge is considered the competition site.

WOOL
3 or 4 Member Teams

I. PURPOSE

The purpose of the wool career development event is to support instructional objectives related to the grading and marketing of wool. Students apply skills related to grading wool based on spinning count and yield, factors used to market the product. Additionally, students make observations and generalization and apply decision-making skills.

II. EVENT FORMAT

1. Team Make-up

Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.

2. Fleece Evaluation (300 points)

a. Evaluation for fineness, length and yield will be done on the scan sheet.
b. Students will be given 30 minutes to evaluate 30 fleeces (at least one minute per fleece, based on provider preference).
~~c.~~ Each fleece is worth ten 10 points. Correct checks receive four points for fineness, ~~three~~ two points for length and ~~three~~ four points for yield~~. No partial credit is given.~~
    i. Fineness will be determined according to the four ~~blood grades~~ Spinning Count: ~~Fine~~ , 3/8 blood, 1/2 blood and 1/4 blood.
    ii. Length will be classified as staple, French combing or clothing.
    iii. ~~Strength is important in determining length. If a fleece contains a break, the longer of the two pieces should be used to determine length~~. Staple lengths will also be pulled and attached to a paper background and mounted on card stock for staple length. This is the only staple that should be analyzed to determine staple length. Correct answers will receive 2 points any incorrect answer will receive 0 points.
    iv. ~~Yield will be indicated as high, medium or low. High-yielding fleeces yield more than 55 percent; medium-yielding fleeces, 48 to 55 percent; and low-yielding fleeces, less than 48 percent clean fiber.~~
    Students will write in a percentage for yield any answer within 4% will receive full credit of 4 points. Any answer within 5% to 8% will receive 2 points. 9% or more away 0 points
d. The use of any type of measuring device will not be allowed, including markings on hands or other body parts or attire. Mishandling of fleeces will cause a contestant to be disqualified.

3. Placing and Reasons (400 points)

a. Four classes of four fleeces each will be placed and questions will be asked on each class (two breeds and two commercial).
b. The wool placing and reasons will be scored on scan sheet.
c. Students will be given 15 minutes to place and fill out reasons on each class.
d. The highest possible placing score for a class is 50 points and the highest possible reasons score for a class is 50 points, making a total possible score of 100 points for each class. See sample of wool placing and reasons sheet (in Resources).
e. For reasons, the student must list the number of the fleece, which matches the fleece description. Students must use only one number for each description. Officials have the option of giving credit for more than one answer for a particular description if they think the fleeces are equal. Three points are deducted for each incorrect answer in determining reasons score.

f. The use of any type of measuring device will not be allowed, including markings on hands or other body parts or attire. Mishandling of fleeces will cause a contestant to be disqualified.

III. SCORING

Evaluation for fineness, length and yield…… 300
Placing and Reasons Classes ……400

Total Points
Individual ……700
Team ……2,100

IV. TIEBREAKERS

Team and individual ties will be broken using the following tiebreakers:

1. High score on grading wins.
2. If still tied, high score on questions wins.
3. If still tied, high score on placing classes wins.
4. If still tied, the winner will be determined by a coin toss.

V. RESOURCES

~~BLOOD GRADES~~	SPINNING COUNT	~~CRIMPS PER INCH~~	STAPLE	FRENCH COMBING	~~CLOTHING~~	~~AVERAGE YIELD, %~~	~~RANGE IN YIELD, %~~	Carding
~~FINE~~	64's 70's 80's and Finer	~~14 to 30~~	≥3"	2 1/4"-3"	~~<2"~~	~~45~~	~~30-60~~	< 2 ¼"
~~½ BLOOD~~	60's 62's	~~10 to 13~~	≥3 1/4"	~~2 ½ -3 ½"~~ 2 ¼" to 3 1/4"	~~<2 ½"~~	~~50~~	~~35-65~~	< 2 ¼"
~~3/8 BLOOD~~	56's 58's	~~8 to 10~~	≥3 ~~¾~~ ½"	~~NONE~~ 2 ½ to 3 ½"	~~<3 3/4"~~	~~55~~	~~40-70~~	<2 ½"
~~1/4 BLOOD~~	50's 54's	~~5 to 8~~	≥4" ≥3 ½	~~NONE~~ 2 ½" to 3 ½"	~~<4"~~	~~58~~	~~43-73~~	< 2 1/2"
~~LOW 1/4 BLOOD~~	48's and coarser ~~46's 44's~~	~~2 to 5~~	~~≥4 1/4"~~ ≥4''	~~NONE~~ 2 ½" to 4"	~~<4 1/4"~~	~~60~~	~~45-75~~	< 2 ½"
~~COMMON & BRAID~~	~~44's 40's 36's~~	~~1 to 3~~	~~≥4 ½"~~	~~NONE~~	~~<4 ½" 2 ½" to 44"~~	~~65~~	~~50-80~~	

WOOL PLACING AND REASONS SHEET

Contestant No. _____
Class Name and No._____
Placing order: 1st _____ 2nd _____ 3rd _____ 4th _____
Reasons: List the number of the fleece, which matches the fleece description below. Use only one number for each description.

Fleece Description	Number
Longest staple	
Shortest staple	
Most uniform staple length	
Finest in class	
Coarsest in class	
Most uniform fineness (DIA.)	
Heaviest grease WT	
Lightest grease WT	
Most LBS clean wool	
Least LBS clean wool	
Highest yielding	
Lowest yielding	
Most character	
Most vegetable matter	
Most stained wool	
Least fiber strength	

Reasons scoring: 50 total points possible PLACING SCORE _____
Deduct 3 points for each incorrect answer REASONS SCORE_____