



National FFA Career Development Events

*A Special Project of the
National FFA Foundation*

National FFA Career Development Events

General Information

Contact:
Career Development Events
Education Specialist
National FFA Center
6060 FFA Drive
PO Box 68960
Indianapolis, Indiana 46268-0960
(317) 802-4288

Technical Writer:
Jessica Scholer
Indianapolis, Indiana

These are the official rules and regulations for National FFA Career Development Events for 2012-2016. Refer to the CDE webpage on ffa.org for the most up-to-date edition of the career development event handbook.

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

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

Philosophy of National FFA Career Development Events

The National FFA Organization is dedicated to organizing experiences that will meet the future needs of students while accomplishing the current purposes of agricultural education. The primary goal of career development events is to develop individual responsibilities, foster teamwork and promote communication while recognizing the value of ethical competition and individual achievement.

The activities in each career development event:

- include problem solving, critical thinking and teamwork skills, where appropriate.
- encourage appreciation for diversity by reducing barriers to participation among members.
- develop general leadership and recognize individual and team achievement.
- promote concentrated focus on future needs of members and society.

The National FFA Organization assumes the leadership role in developing and continuously improving relevant FFA career development events. National career development events should reflect instruction that currently takes place in the entire agricultural education program, including classroom instruction, laboratory instruction, individualized instruction and/or supervised agricultural experience. Career development events and awards are intended to be an outgrowth of instruction. Also, it is appropriate for the national organization to develop career development events and awards that stimulate instruction in emerging areas that reflect both current and future community, national and global work force needs. National FFA Career Development Events should be developed with significant input from FFA members, teachers, partners, respective industry sponsors and others involved in agricultural education. The National FFA Organization continues to encourage accessibility and provide opportunities for achievement and recognition for students with diverse backgrounds.

Career development events that include team activities should be based on cooperation and teamwork while recognizing the value of competition and individual achievement. Where appropriate, team activities will be included that require two or more members from one chapter working cooperatively.

Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards

Agriculture is a highly technical and ever-changing industry upon which everyone is dependent. In order to maintain agriculture as the nation's number one industry, it is crucial to understand the importance of agrisciences, marketing strategies, safe food production and continuous research. Strong, relevant agriscience programs are one way to can maintain the nation's agricultural edge.

The National AFNR Career Cluster Content Standards were developed as part of the National FFA 10 x 15 project to provide state agricultural education leaders and teachers with a forward-thinking guide for what students should know and be able to do through the study of agriculture. The National AFNR Career Cluster Content Standards should be used as a guide to develop well-planned curriculum in agriscience education to be delivered to students throughout the country. For a complete copy of the AFNR Career Cluster Content Standards please visit www.agedlearning.org.

National FFA Organization has adopted the AFNR Career Cluster Content Standards and integrated them into all national award and recognition programs for the benefit of the members, school administration and agriculture as a whole. Details outlining the incorporation of the standards in career development events can be found at the end of each event chapter in the CDE handbook.

Official CDE Rules and Policies – 2012-2016

General Rules

Violations of any of the following rules may be grounds for the event superintendent to disqualify the participants. National FFA staff and event superintendents will use the published rules and procedures to organize and implement the National FFA Career Development Events. Event activities may not be conducted due to lack of necessary materials, expertise or extreme impact to event budgets. Teams that are certified to compete will receive the current event format in a team orientation packet prior to the convention.

Official Dress Recommendations, Number of Participants and Number of Scores for Team Total

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

Eligibility of Participants

- A. Each participant must be a current, bona fide, dues paying FFA member in good standing with the local chapter, state FFA association and the National FFA Organization during the school year which the participant qualified to participate at the national level.
 - 1. In the event a participant's name is not on the chapter's official roster for the years in which the dues were payable to the National FFA Organization, a past due membership processing fee, in addition to the dues, must be paid prior to the national event.
 - 2. National FFA membership staff will set the processing fee amount annually.
- B. The participant, at the national event, must:
 - 1. Be a high school FFA member; high school refers to grades 9-12. (A graduating senior is considered eligible to compete in state and national career development events up to and including his/her first national convention following graduation.)
 - 2. Have qualified as a 7th, 8th or 9th grade member to participate in the Creed speaking event.
 - 3. While in high school, be enrolled in at least one agricultural education course during the school year and/or follow a planned course of study; either course must include a supervised agricultural experience program, the objective of which is preparation for an agricultural career.
 - 4. If a student moves to a different chapter or a different state once a he/she has qualified as a state representative in a career development event, that student may be allowed to compete in the national event with the school he/she qualified with during the qualifying year.
- C. A student may not participate more than once in the same official National FFA Career Development Event.
- D. No student may participate in more than one National FFA Career Development Event each year.
- E. Each member participating in a National FFA Career Development Event must submit the proper *Waiver, Release of Liability and Consent to Medical Treatment Form* prior to start of event.

Selection and Certification of State Teams

- A. Each state will submit a team declaration form by **June 1** prior to the national FFA convention. An entry processing fee will be charged for participation in each declared event with the exception of the dairy cattle handlers activity.
- B. Each team will be composed of the number of members determined by the specific event rules and formats. The members of a state team must be from the same chapter. Members must qualify in the career development event in which they are to participate at the national level. Teams must be selected at a state or interstate career development event held between the immediate previous national FFA convention and prior to the national FFA convention in which they are participating. States that qualify more than one year out must request and submit a written waiver for approval by the certification deadline.
 - 1. Online certification deadline: **September 15**.
 - 2. Online add/delete deadline: **Tuesday before convention at noon (Eastern)**.
- C. With extenuating circumstances a teacher may substitute another student from the chapter who may not have participated at a state qualifying event, with the exception of Creed speaking, dairy handlers activity, extemporaneous public speaking, job interview and prepared public speaking, which must be submitted and approved by state staff.

- D. The state supervisor of agricultural education or the executive secretary must certify that participants are eligible. If an ineligible student participates in any career development event, the member will be disqualified and may result in the disqualification of the team as well.
- E. All students must be certified online by the designated deadline. Once original certification has been completed, no member may be added without first deleting a member.
- F. The national organization will certify National FFA Career Development Event winners for international competition when states request, with the understanding that the state team will provide their own travel expenses.

Emergency Conditions

Under emergency conditions a state team participating in a National FFA Career Development Event may be made up of less than the required members. States must still certify teams prior to the national FFA convention, but fewer than the required members could compete if an emergency condition such as illness, death in the family or an act of God would occur. Those individuals competing would still be eligible to qualify for individual awards, if applicable.

Disqualification

- A. Any communication, verbal or non-verbal, between participants during a career development event will be sufficient cause to eliminate the team member involved from the career development event. The only exception to this would be communications between team members during the team activity portion of a given career development event.
- B. Teams or participants arriving after the career development event has begun may be disqualified or penalized.
- C. Any assistance given to a team member from any source other than the career development event officials or assistants will be sufficient cause to eliminate the team from the career development event.
- D. Event superintendents may stop any participant if they deem their manner to be hazardous either to themselves or others. Such action shall deem the individuals disqualified for that section of the career development event.
- E. Participants who start an event and do not complete the event without notifying event officials at the time of departure will be disqualified. This can affect the overall team rank and position. In some events this will also disqualify the entire team.
- F. Participants will not be allowed to utilize personal electronic communication devices, other than those approved by the event officials, during the entire course of the event. Participants who access personal electronic communication devices without prior approval of the event officials will be disqualified.
- G. No participant shall gain access to real materials that will be utilized by the event committee during competition. Any team, participant, advisor or coach reported and proven to do so will be disqualified from the national event.

Additions/Deletions of National Events

- A. National FFA staff is expected to be proactive in developing new or initiating changes within existing career development events to ensure that they meet the needs of FFA members.
- B. If fifteen (15) state supervisors/executive secretaries develop a proposal for a new career development event, the national FFA staff will conduct a study for the validity of the career development event and make a recommendation to the chief executive officer. Representatives of these states must be from each of the FFA regions. The same process may be used to eliminate a national career development event.
- C. Three years following the initiation of a new career development event, at least fifteen (15) states should be participating. After the next three-year period, at least twenty-six (26) states should be participating in order to retain the event at the national level.

Rules Committee/Scoring Appeals Process

- A. If a written appeal is filed within the seven (7) calendar days after results announcement, national CDE staff will review the appeal. Upon receiving input from team leader and division director, national CDE staff will accept or deny the appeal. The national CDE staff's recommendation will be shared with appeals committee and National FFA Chief Executive Officer for further input, if necessary.
 1. The written appeal must be filed with the Education Division staff responsible for scoring career development events within seven (7) calendar days of the results announcement and accompanied by a \$50 filing fee. The fee will be returned if the appeal is justified.
- B. The appeals committee will be chaired by the National FFA Awards, Recognition and Career Development Events Advisory Committee chairperson who will in turn appoint a representative of each of the following organizations: National Association of Supervisors of Agricultural Education (NASAE), National Association of Agricultural Educators (NAAE) and the American Association for Agricultural Education (AAAE). The National FFA staff responsible for career development events will also serve on the committee.

Waiver of FFA Rules

Any local chapter seeking a waiver of a National FFA policy or procedure must submit in writing to the chapter's state FFA association office. If the request is approved at the state level, it must be forwarded, under the signature of the state advisor or executive secretary, to the career development events education specialist. After study by the appropriate FFA staff, a recommendation to grant or deny the appeal will be forward to the chief executive officer for his/her approval. The request must be submitted to the national FFA staff at least 30 days prior to the scheduled event or due date for which the waiver is requested. This policy does not supersede any current FFA policy for appeals already established for a particular FFA program.

Selection of CDE Superintendents and CDE Committee Members

- A. Nominations for CDE superintendents may come to National FFA staff from the following sources:
 - 1. standing CDE superintendent
 - 2. current CDE committee members
 - 3. state leadership
 - 4. Team Ag Ed partners
- B. CDE superintendents will be selected by national CDE staff and approved by the National FFA Chief Executive Officer.
- C. Each CDE superintendent will serve a three to five year term. At the end of the superintendent's term, a qualified replacement will assume the duties of superintendent.
- D. National FFA staff and CDE superintendents will select qualified individuals to serve on CDE committees. Selection of committee members will be based on:
 - 1. individual qualifications.
 - 2. recommendations from state leaders, current CDE committee members, CDE superintendents or National FFA staff.
 - 3. recommendations from Team Ag Ed partners.
 - 4. current rotational procedures developed by each CDE committee.
 - 5. provide diversity for the committee.
 - 6. commitment to serve a minimum of three years on the committee.
- E. Final approval of new committee members is the responsibility of the National FFA CDE staff with input and recommendations from CDE event superintendent and committee.

Sanctioning Events

Sanctioning of non-national FFA competitive events (those competitive events conducted by organizations other than the National FFA Organization) as National FFA Career Development Events should occur when:

- 1. The highest quality event possible is conducted.
- 2. Organization conducting event and National FFA Organization agree that event can and should be sanctioned.
- 3. Event is recommended by the National FFA Staff responsible for CDEs with input and agreement from the Award and Recognition Advisory Committee and approved by the National FFA Chief Executive Officer.
- 4. National FFA is represented by staff responsible for career development events on the planning and implementation committee for each event.
- 5. Winners of the national sanctioned event will be recognized in the same manner as national career development events winners are currently recognized.

Official Dress

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

Accessibility for All Students

All special needs requests and appropriate documentation as outlined in the special needs request policy must be submitted at time of certification.

- 1. Special needs policy is posted on the CDE program page at www.ffa.org/cde
- 2. Special needs request due: **August 15**

Written Document Penalties

A penalty of 10% of the total points allotted will be assessed for the written documents received after the postmarked deadline. If the document is still not received seven days after the postmarked deadline, the team/individual may be subject to disqualification.

1. National staff will mark late entries as such.
2. Event officials will be notified of late entries at the time written documents are provided for judging.
3. Event superintendent will ensure that penalty is applied.

National FFA Livestock Evaluation Career Development Event

A Special Project of the National FFA Foundation

Important Note

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

I. Objectives

The objective of the National FFA Livestock Evaluation Career Development Event is to:

- A. Understand and to interpret the value of performance data based on industry standards.
- B. Measure students' knowledge in the following categories:
 1. to make accurate observations of livestock.
 2. to determine the desirable traits in animals.
 3. to make logical decisions based on these observations.
 4. to discuss and to defend their decisions for their placing.
 5. to instill an appreciation for desirable selection, management and marketing techniques.
- C. Develop the ability to select and market livestock that will satisfy consumer demands and provide increased economic returns to producers as well as meet the needs of the industry.
- D. Become proficient in communicating the terminology of the industry and the consumer.
- E. Provide an opportunity for participants to associate with professionals in the industry.
- F. Utilize current technology as it relates to the livestock industry.

II. Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards

With the recommendation of the National FFA Board of Directors, all national FFA programs have incorporated these standards to guide the direction and content of program materials and activities. Refer to Appendix A in this chapter of the handbook for a complete list of the measurable activities that participants will carry out in this event. For details about the incorporation of AFNR standards, refer to the Introduction chapter of the CDE handbook.

III. Event Rules

- A. Each team will be comprised of four members. All four scores will be used to determine the total team score.
- B. It is highly recommended that participants wear FFA Official Dress for this event.
- C. Event information may be added or deleted as changes occur in the livestock industry. When new criteria are adopted, the information will be forwarded to all states by January 1 of the event year by the National FFA program manager responsible for career development events.
- D. Participants will report to the event superintendent or designee for instructions at the time and place shown in the current year's team orientation packet.
- E. Any participant in possession of an electronic device in the event area is subject to disqualification.

IV. Event Format

A. Equipment

1. Materials students must provide: Participants must bring two No. 2 pencils. Teams may be asked to provide two laptops depending on each year's activities (all computers must have wireless Internet access). The announcement regarding laptops will be included in the team orientation packet provided to each certified team.
2. Equipment provided: Participants are not to bring any paper or clipboards. All paper and support boards will be provided. All other necessary materials will be provided by event committee.

B. Team Activity - 300 points total

1. Assessment and Solutions – 100 points
Team members working collaboratively will answer 10 questions drawn from a live animal class. Scenario and/or performance data may be provided as needed.
2. Scenario Activities – 200 points
For example team activity scenarios, refer to section IX in this handbook.
 - a. Market activity–100 points
Two team members will be assigned to participate in the market activity. Students will work collaboratively to provide a response to the scenario provided by event officials.
 - b. Genetics activity–100 points
Two team members will be assigned to participate in the genetics activity. Students will work collaboratively to provide a response to the scenario provided by event officials.

C. Individual Activities

1. Livestock classes: Eight classes of four animals each will be placed using a computerized scorecard. Classes may be breeding or market animals from beef, swine, sheep or meat goat species. At least one class will include the use of production/performance data. (50 points/class, 400 points total)
2. Oral reasons: Four sets of oral reasons will be designated by the event superintendent at the beginning of the event. One set of reasons will be given on the production data class. Reasons will be given after all classes have been placed. Participants will be provided paper to take notes on each reason class for preparation. Use of notes during the reason presentation is strongly discouraged. (50 points/class, 200 points total)
3. Keep/cull classes: There will be three selection classes that may be beef, swine, sheep or meat goats; each made up of eight breeding animals. Participants will be required to select the four best animals from the eight, using visual appraisal and performance data. Performance data will be provided. Production/performance data (including EPD's) may be used in the keep/cull classes of beef, swine, sheep or meat goats. Performance criteria, when used, shall be based on current industry standards. (50 points/class, 150 points total)
4. Written test: The objective, multiple choice exam is designed to determine team members understanding of the livestock industry. The exam will consist of 25 multiple choice questions (2 points each). Thirty minutes will be given for the exam. (50 points)

V. Scoring

All team member scores will be used to determine final team placing.

	Individual	Team
Team		
Assessment and solutions		100
Market activity		100
Genetics activity		100
Individuals		
Classes – 8 at 50 points each	400	1600
Reasons – 4 at 50 points each	200	800
Keep/cull – 3 at 50 points each	150	600
Exam – 50 questions	<u>50</u>	<u>200</u>
Totals	800	3500

VI. Tiebreakers

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

1. Total of oral reasons.
2. Total of placing classes.
3. Total of keep/cull classes.

VII. Awards

Awards will be presented at the awards ceremony. Awards are presented to teams as well as individuals based upon their rankings. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation. The individual and the team scoring the highest in each species of livestock, oral reasons and exam will receive special recognition. The top five team scores in the team activity will receive a certificate.

VIII. 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. The following list contains references that may prove helpful during event preparation.

National FFA Core Catalog – national CDE test, practicums and team activities

<http://shop.ffa.org/cde-qas-c1413.aspx>

Beef Improvement Federation
 Department of Animal Sciences and Food
 Kansas State University
 Northwest Research Extension Center
 105 Experiment Farm Road
 Colby, KS 67701
www.beefimprovement.org

National Swine Improvement Federation
204 Polk Hall
North Carolina State University
Raleigh, NC 27695-7621
www.nsif.com

Gillispie, James R. *Modern Livestock and Poultry Production 8th edition* or most current edition.
Albany, NY: Delmar Publishers, Inc. 2004.

Hunsley, R. *Livestock Judging, Selection and Evaluation*. 5th Edition. Danville, IL: Interstate Publishers, 2001.

Sheep Evaluation Reference
<http://animalscience.ag.utk.edu/itcmodules/module1/introductiontosheepevaluation.htm>

Meat Goat Evaluation Reference
<http://www.lsuagcenter.com/NR/rdonlyres/B8FE3706-64DC-417F-A592-B8DEC14B4D9F/43292/pub2951MeatGoatJanuary2008LOWRES.pdf>

Goat Handbook
www.texasgoat.com/Goat_Handbook/

IX. Team Activity Example Scenarios

The team activity portion of the livestock evaluation CDE will be separated into two sections. The sections will focus on a market activity and a genetic activity. Teams will be split into two pairs to work on the two activities. This will be decided randomly by the committee and announced at the event; therefore, all team members should be prepared for each section.

Market Activity Example – 30 minutes

Team members will view a video auction (Western Video Markets, Superior, etc.) and purchase a group of animals (steers, heifers, market hogs, etc.). They will use a laptop and determine mileage and transportation cost. Predetermined animal pick-up and delivery locations will be provided. Participants will be required to calculate several expenses possibly based on weight, quantity processing cost per head and transportation cost. Value will be determined by final sale price. Teams' final answer(s) will be derived from several steps (including calculation of cost and income); therefore, allowing the accumulation of partial points. Examples of costs and income are animal cost, transportation, labor expense, feed consumption, feed conversion rate, feed cost and market value.

Genetics Activity Example – 30 minutes

Teams will be given a group of females (heifers, gilts, ewes, etc.) with performance data, ultrasound data, etc. A group of four or five males (bulls, boars, rams, etc.) with performance data and genetic background will be used to determine mating decisions. Mating decisions will need to correlate with a given outcome scenario (replacements, market cattle, show cattle, bulls) and an environmental scenario (labor availability, weather, terrain, feed availability, etc.) provided by the committee. Teams' final answers will be derived from several areas allowing the accumulation of partial points. Such areas are mating methods (artificial insemination or natural), cost of mating methods, sire selections for environmental conditions and specific pairings (more than one sire that can earn points with some of greater value than others).

Team Review – 10 minutes

All four team members will be given time to reconvene and review decisions before the completion of the team activity.

X. Keep/Cull Example

Keep/Cull Class Sample Card									
Beef/Sheep/Swine									
Participant/Team Name _____									
Participant/Team No. _____									
Circle or list the numbers of the 4 animals you want to keep as replacements.									
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8									
Event officials will assign a point value to each one of the individual animals, giving the most points to the most desirable animal and the least points to the least desirable animal. If the participant selects the best four animals, full credit will be given.									

Official Placing- Keep/Cull

8	7	6	5	4	3	2	1	Animal
18	13	11	8	7	4	3	0	Points

Keep/Cull Class Scores

Participant	Score								
A	6	11	3	4	4	7	2	3	25
B	8	18	7	13	6	11	5	8	50
C	7	13	6	11	5	8	1	0	32

Animals are shown in regular font and point values are in bold font. Point values are established by official judges and will differ with each class.

**Livestock Evaluation Career Development Event
Keep/Cull Scorecard**

Name: _____ **Chapter:** _____
State: _____ **Team No.:** _____
Member No.: _____

Keep/Cull Activity

Beef/Sheep/Swine – (Select only one species)

Circle or list the numbers of the four animals you want to keep as replacements.

1 – 2 – 3 – 4 – 5 – 6 – 7 – 8

Event officials will assign a point value to each of the individual animals, giving the most points to the most desirable animal and the least points to the least desirable animal. If the participant selects the best four animals, full credit will be given.

Example of Official Placing – Keep/Cull

8	7	6	5	4	3	2	1	Animal
18	13	11	8	7	4	3	0	Points

<i>Participant</i>									<i>Score</i>
A	6	11	3	4	4	7	2	3	25
B	8	18	7	13	6	11	5	8	50
C	7	13	6	11	5	8	1	0	32

Animals selected are shown in regular font with point values for that particular animal shown in bold font. Point values are established by official judges and will differ with each class.

Appendix A: AFNR Career Cluster Content Standards

	Performance Measurement Levels	Event Activities Addressing Measurements	Related Academic Standards
AS.01.01. Performance Indicator: Evaluate the development and implications of animal origin, domestication and distribution.			Science: C3 Social Studies: 7h
	AS.01.01.01.c. Predict adaptations of animals to production practices and environments.	All activities	
AS.02.02. Performance Indicator: Apply principles of comparative anatomy and physiology to uses within various animal systems.			Science: C1, C5 and F2
	AS.02.02.01.c. Explain how the components and systems of animal anatomy and physiology relate to the production and use of animals.	All activities	
AS.02.03. Performance Indicator: Select animals for specific purposes and maximum performance based on anatomy and physiology.			Science: C5
	AS.02.03.01.c. Evaluate and select animals to maximize performance based on anatomical and physiological characteristics that affect health, growth and reproduction.	All activities	
	AS.02.03.02.b. Assess an animal to determine if it has reached its optimal performance level based on anatomical and physiological characteristics.	All activities	
AS.03.01. Performance Indicator: Prescribe and implement a prevention and treatment program for animal diseases, parasites and other disorders.			Science: C4, F1 and F5
	AS.03.01.01.a. Explain methods of determining animal health and disorders.	Exam	
AS.04.01. Performance Indicator: Formulate feed rations to provide for the nutritional needs of animals.			Math: 1C and 6B Science: A4 and C5
	AS.04.01.02.b. Appraise the adequacy of feed rations using data from the analysis of feedstuffs, animal requirements and performance.	Team activity, exam, performance class, keep/cull	
AS.05.01. Performance Indicator: Evaluate the male and female reproductive systems in selecting animals.			Science: C1 and C3
	AS.05.01.01.c. Select breeding animals based on characteristics of the reproductive organs.	All activities	
AS.05.02. Performance Indicator: Evaluate animals for breeding readiness and soundness.			Science: C6
	AS.05.02.01.c. Evaluate and select animals for reproductive readiness.	All activities	
	AS.05.02.02.c. Treat or cull animals with reproductive problems.	Keep/cull, performance class, placing classes, reasons	

AS.05.03. Performance Indicator: Apply scientific principles in the selection and breeding of animals.		Math: 6C Science: A4, C2 and E2
	AS.05.03.01.c. Select a breeding system based on the principles of genetics.	Performance class, team activity, keep/cull, exam
	AS.05.03.02.c. Select animal breeding methods based on reproductive and economic efficiency.	Exam, team activity
	AS.05.03.03.c. Select animals based on quantitative breeding values for specific characteristics.	Team activity, keep/cull, performance class
	AS.05.03.04.b. Explain the processes of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer.	Exam
	AS.05.03.05.b. Explain the materials, methods and processes of artificial insemination.	Exam
AS.06.01. Performance Indicator: Demonstrate safe animal handling and management techniques.		Science: C6
	AS.06.01.02.a. Explain the implications of animal welfare and animal rights for animal agriculture.	Exam, team activity
AS.06.02. Performance Indicator: Implement procedures to ensure that animal products are safe.		Science: F1 and F5
	AS.06.02.01.a. Identify animal production practices that could pose health risks or are considered to pose risks by some.	Exam, team activity
	AS.06.02.02.a. Describe how animal identification systems can track an animal's location, nutrition requirements, production progress and changes in health.	Exam, team activity
AS.07.01. Performance Indicator: Design animal housing, equipment and handling facilities for the major systems of animal production.		Science: C6 and F6
	AS.07.01.01.a. Identify facilities needed to house and produce each animal species safely and efficiently.	Exam, team activity
AS.08.02. Performance Indicator: Evaluate the effects of environmental conditions on animals.		Science: C6 and F4
	AS.08.02.01.b. Describe the effects of environmental conditions on animal populations and performance.	Team activity, exam, performance class, keep/cull

Appendix B: Related Academic Standards

National academic standards for mathematics, science, English language arts and social studies related to this event are reported below. The statements are based on information in reports of the respective associations/organizations in the academic areas. Some adjustment of numbering was done to facilitate the process of alignment with the standards that have been developed in the pathways of the Agriculture, Food and Natural Resources (AFNR) Career Cluster.

The approach was to determine the presence of alignment between the content standards, expectations or thematic strands of the four academic areas and the performance indicators of the AFNR Standards. Supporting statements have been included to clarify content of the respective content standards, expectations or thematic strands. The statements were initially developed independently by the respective organizations and, therefore, are not parallel in wording and presentation. Occasionally minor editing was done to adjust the background or stem of a statement but not the statement itself.

Mathematics

1. Standard and Expectations: Number and Operations
 - 1C. Compute fluently and make reasonable estimates.
6. Standard and Expectations: Problem Solving
 - 6B. Solve problems that arise in mathematics in other contexts.
 - 6C. Apply and adapt a variety of appropriate strategies to solve problems.

Science

- A. Content Standard: Science as an Inquiry
 - A4. Formulate and revise scientific explanations and models using logic and evidence.
- C. Content Standard: Life Science
 - C1. The cell
 - C2. Molecular basis of heredity
 - C3. Biological evolution
 - C4. Interdependence of organisms
 - C5. Matter, energy and organization in living systems
 - C6. Behavior of organisms
- E. Content Standard: Science and Technology
 - E2. Understanding about science and technology
- F. Content Standard: Science in Personal and Social Perspectives
 - F1. Personal and community health
 - F2. Population growth
 - F4. Environmental quality
 - F5. Natural and human-induced hazards
 - F6. Science and technology in local, national and global challenges

English Language Arts

12. Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Social Studies

7. Thematic Strand: Production, Distribution and Consumption
 - 7h. apply economic concepts and reasoning when evaluating historical and contemporary social developments and issues;