

Livestock Management

Nebraska Career Development Event
Handbook and Rules for 2020-2024

1. Event Purpose

- a. The livestock management career development event is predominantly a team-based competition with an individualized knowledge based component. Teams of five (5) students will work together to complete six different species-based (beef cattle, dairy cattle, horse, poultry, sheep, and swine) practicum exams that will test their knowledge regarding the scientific basis and practical application of livestock management concepts related to nutritional management, breeding, genetic, and reproductive management, quality assurance and herd health management, and business management that includes both marketing and product evaluation.
- b. Agriculture Education courses that align with the Livestock Management CDE include: Introduction to Agriculture, Food, and Natural Resources; Animal Science; Large Animal Management; and Veterinary Science.

2. CDE Objectives

- a. Nutritional Management Objectives
 - i. Identify feedstuffs used for the current year's focal species.
 - ii. Characterize feedstuffs according to nutritional group and/or purpose.
 - iii. Calculate and/or covert dry matter content of a given feed sample.
 - iv. Evaluate and/or formulate simple rations for the focal species.
 - v. Assign body condition scores.
 - vi. Demonstrate proper use of nutritional equipment, such as grain sampling probe, forage sampling probe, feed scales.
- b. Breeding, Genetic, and Reproductive Management Objectives
 - i. Interpret and use genetic information that is readily available for the focal species, such as EPDs and Indexes, to answer questions related to production decisions.
 - ii. Use a Punnett Square to determine possible offspring results.
 - iii. Identify anatomical parts and functions of male and female tracts of the focal species.
 - iv. Demonstrate proper use of reproductive equipment, such as obstetrical chains, artificial insemination pipette, measuring scrotal circumference, based on the focal species and provided resources.
 - v. Identify and characterize breeds and breed characteristics of the focal species.
- c. Quality Assurance and Herd Health Management Objectives
 - i. Read and interpret pharmaceutical labels.
 - ii. Calculate dosage rates using the provided label.
 - iii. Determine withdrawal dates using the provided label.
 - iv. Demonstrate locations of administration of pharmaceutical.
 - v. Select needle size for given species and size or stage of the species.
 - vi. Identify and provide treatments of key diseases of the focal species.
 - vii. Identification of parasites and suggest proper control methods.
 - viii. Answer questions about the normal body temperature, heart rate, and respiration rate of the focal species.
 - ix. Determine the vital signs of species provided.
 - x. Demonstrate proper use of herd health equipment, such as a stethoscope, thermometer, loading syringes, and needles.
- d. Business Management, Marketing, and Product Evaluation Objectives
 - i. Evaluate the product and price that is derived from the focal species.
 - ii. Determine the yield and quality of the focal species.
 - iii. Demonstrate proper use of livestock product evaluation equipment, such as meat probe/ruler, visual evaluation, pricing grid, egg candler.
 - iv. Identify anatomical parts of carcasses.

- v. Rank carcasses and/or cuts of meat, if applicable to the focal species.
 - vi. Estimate value of market animals based on current markets.
 - vii. Compare financial and/or production scenarios to database information.
 - viii. Calculate basic production and financial measures of the focal species.
 - e. Individual Examination Objectives
 - i. Identify individuals who hold key governmental positions, related to agriculture, at the federal and state (Nebraska) levels of government.
 - ii. Describe the role of producer representative organizations, and identify individuals who hold prominent leadership roles within those organizations (particularly, if they originate from Nebraska).
 - 1. Beef: NCBA, Nebraska Cattlemen’s Association, Beef Council, etc.
 - 2. Dairy: National DHIA, NE State Dairy Association, etc.
 - 3. Equine: To Be Determined
 - 4. Poultry: NE Poultry Industries, American Egg Board, United Egg Producers, etc.
 - 5. Sheep: American Sheep Industry, NE Sheep & Goat Producer’s Association.
 - 6. Swine: National Pork Producers Assoc., Nebraska Pork Producers Assoc., National Pork Board.
 - iii. Statistically, describe the various livestock industries in the state of Nebraska, compared to the nation. Such as, but not limited to, where does Nebraska rank in:
 - 1. number of [species],
 - 2. [species] on feed,
 - 3. [species] harvested,
 - 4. [species] production,
 - 5. etc.
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3. Eligibility

- a. This event is open to students in grades 9 through 12.
- b. The top 25% schools from each district will qualify for the state event.
- c. Teams are allowed a maximum of five students and are recommended to have five students on the team.
- d. Schools must register teams with a minimum of four students.
- e. While teams of fewer than 5 students may compete, they are at a competitive disadvantage. For example, a team of 4 would have a score of 0 included on the written exam and their maximum team score would be 80 rather than 100.

4. Recommended Attire

- a. This event takes place in the livestock arena with a sand floor, and most stations will involve some direct contact with livestock, horses, or poultry.
- b. Closed-toe, protective shoes or boots typical for livestock work. Dress shoes and heels are not recommended.
- c. Jeans or work pants are recommended rather than dress pants or skirts.
- d. It is recommended that FFA Jackets and/or lab coats/jackets be part of the attire to distinguish teams.

5. Required Supplies & Equipment

- a. Pen or pencil per team member.
- b. Clipboard per team member.
- c. All other items needed for the event will be provided, including calculators.

6. Event Schedule

- a. When check-in closes, instructions will be given (15 minutes).
- b. Teams will have 13 minutes to complete each station with 2 minutes to rotate between each of the seven stations (six species stations plus the individual exam).

7. Annual Theme

- a. Each species station will be assigned a primary disciplinary focus. For that species, all questions, hands-on activities, and problems will be based upon and/or related to the assigned disciplinary focus. Each year thereafter, the disciplinary focus will rotate through a four-year cycle as follows:

Species Station	2020	2021	2022	2023	2024
Beef Cattle	1	2	3	4	1
Dairy Cattle	4	1	2	3	4
Horse	4	1	2	3	4
Poultry	1	2	3	4	1
Sheep	2	3	4	1	2
Swine	3	4	1	2	3

1 = Nutritional Management

2 = Breeding, Genetic, and Reproductive Management

3 = Quality Assurance and Herd Health Management

4 = Business Management, Marketing, and Product Evaluation

8. Event Format

- a. A livestock management team will consist of five (5) individuals who may work together as a team to answer questions, complete hands-on activities, or solve problems associated with the various species-specific stations. Although you may work together and visit as a team, please be aware that there will typically be two teams present at each station at the same time. Teams may also elect to split-up to effectively “divide and conquer” the various activities associated with each station.
- b. The event will consist of six (6) separate species-specific stations including beef cattle, dairy cattle, horse, poultry, sheep, and swine which are completed as a team.
- c. There is one individual exam station of 20 multiple choice questions.

9. Scoring

Event	Point Value
• Beef Cattle	100 Points
• Dairy Cattle	100 Points
• Horse	100 Points
• Poultry	100 Points
• Sheep	100 Points
• Swine	100 Points
• Individual Exam (20 points x 5 participants)	100 Points
Total Score	700 Points

10. Tiebreaker

- a. Per Species:
 - i. Prior to the start of the event, the faculty coordinator or event superintendent will identify a specific question or set of questions, within each species as the tie-breaker for that species.
- b. Overall:
 - i. 1st - highest average score of all five team members on the individual exam. If a team competes with only four team members, the 5th test will receive a score of zero; the same would be true for the 4th test of a three-member team.
 - ii. 2nd - will be the more desirable average team RANK across all stations.

11. Resource Materials

- a. Webinar videos and necessary resources will be provided on the ALEC CDE Livestock Management website.
 - i. https://drive.google.com/drive/folders/16rm83k93EhNINMmMmCymvF_3TR2RdaW8N
- b. The vast majority of content is located on the resource page listed above. A supplementary textbook that could be used as a support resource is the *Handbook of Livestock Management* by Richard A. Battaglia.

12. Past Exams

- a. Refer to previous years webinars located on the ALEC CDE Livestock Management CDE website.
 - i. <https://alec.unl.edu/agedcde/livestock-management>

13. Post-CDE debriefing opportunity and criteria

- a. Video debriefing will be made available after the state event.