**OBJECTIVES**

***Targeted Life Skills:*** self-esteem, decision making, problem solving, critical thinking, communication, cooperation, and teamwork

This activity will provide the framework for 4-H members to learn a variety of topics related to the production, management, and evaluation of beef cattle, sheep, swine, and goats. In their training prior to the annual state contest, the 4-H'ers should learn breeds of livestock, equipment identification, feeds identification, quality assurance procedures, hay evaluation, wool evaluation, meats evaluation and general livestock knowledge. These skills will be necessary to complete the team portion of the contest with includes understanding the needs of a scenario and making the best management decisions given the information. Written and oral communication skills will be promoted through the team portions of the contest. Individuals and teams are encouraged to compete in livestock skills contests as they are available for additional training prior to the state contest.

# **ACTIVITY**

The State 4-H Livestock Skill-a-thon will be held Friday, August 9, 2024 at the Arkansas Tech University campus in Russellville. Contest headquarters will be at the Hull Student Union. **All teams and individuals must be registered via Formstack by their County Extension Agent by July 29, 2024. The link to the registration will be found in ZSuite. The fee for teams is $100 and the fee for individuals is $25.** ISDs will be initiated from the State Office to bill the county after the registration deadline has passed.

Registration will be from 8:30-9:00 a.m. the day of the contest. Contestants should be in the designated holding room by 9:10 a.m. for announcements about the contest. The contest will start promptly at 9:30 a.m. Lunch will be provided between the individual and team portions of the contest.

# **ELIGIBILITY**

* The contest is open to Junior and Senior 4-H members.
	+ Juniors must be 9-13 years old.
		- Junior members are youth aged 9-13 as of January 1.
	+ Seniors must be 14-19 years old.
		- Senior members are youth who are 14 as of January 1 and who have NOT reached their 19th birthday by January 1 of the current year. *Example: If a 4-H’er is 18 on January 1 and turns 19 on January 2, they are eligible to compete because they were 18 on January 1. If a 4-H’er turns 19 on December 31, they are ineligible to compete because they were 19 as of January 1*
* For a county to be eligible for team competition, it must have at least three entries. A county may enter four individuals, but only the top three scores will count toward the winning team.
	+ A county may only enter one senior team.
	+ A county may enter multiple junior teams.
	+ A county may enter an unlimited number of individuals in either division.
* If individuals from counties where a team is not represented choose to compete, they may be assigned to a team upon arrival at the contest. They will be eligible to compete for team awards but will not be eligible to compete at the National 4-H Livestock Skill-a-thon Contest in Louisville, Kentucky.
* Any senior 4-H members that have previously competed at the National 4-H Livestock Skill-a-thon Contest in Louisville, Kentucky are ineligible to participate in the state contest.

# **METHOD OF CONDUCT**

1. The contest will be divided into two rounds: an individual round and a team round. Order of competition through both rounds will be randomly assigned.
2. During the individual competition round of the contest, contestants will be further divided into groups and will remain with that assigned group throughout the individual round of classes. While completing the individual competition classes, there will be no conferring between contestants or between a contestant and anyone else except as directed by contest officials. Contestants will be allowed 15 minutes to complete each individual competition class.
3. During the team competition round of the contest, team members will complete one official answer sheet for each team effort class representing the combined effort of all team members. After all individual participants have signed in for the competition and are not on a team, contest officials will divide individuals into teams for this portion of the contest. Teams will be allowed 20 minutes to complete the group assignment for each class and turn in their answer sheet. During the team competition round of the contest, contestants will be allowed to confer only with team members during the time period allowed for each class.
4. Contestants should bring a clipboard, small pocket calculator (programmable calculators will not be permitted), and 2-3 pencils. The contestants are not allowed to bring books, notes, pamphlets, or other reference material into the contest area. Contest officials reserve the right to check all contestants’ clipboards to make sure they are blank just prior to the contest. Violators are subject to contest dismissal.
5. Contestants are not to pick up or touch any item that is being identified or evaluated in the individual competition classes unless otherwise directed by contest officials.
6. Contestants registered as individuals will not go through the team portions of the contest unless assigned to a team at check-in.
7. Coaches are invited to review contest materials at the conclusion of the contest.

# **CONTEST SECTIONS**

INDIVIDUAL SECTIONS

**Junior Division**

1. **Livestock Breed Identification:** (20 possible points) Identify from photographs 20 livestock (beef cattle, swine, sheep, and goat) breeds. (A list of breeds will be provided.)
2. **Livestock Equipment Identification:** (20 possible points) Identify the proper name for 20 pieces of equipment used in livestock production. (A list of equipment will be provided.)
3. **Retail Meat Cut Identification:** (30 possible points) Identify 10 beef, lamb, and/or pork retail cuts from the National 4-H Meat Judging Retail ID List. Contestants will identify the cut by species and retail cut name. One point will be awarded for correct species and two points will be awarded for correct retail cut. (A list of species, retail cut names, and wholesale cut names will be provided.)
4. **Quality Assurance Exercise:** (30 points) Example tasks include: demonstrate how to read a medicine label, calculate withdrawal times, complete a treatment record, and make responsible management decisions regarding quality assurance. (Only one medicine label will be utilized.)
5. **Quiz:** (30 points) Complete a 15-question multiple choice quiz concerning the total livestock industry.

**Senior Division**

1. **Livestock Breed Identification:** (40 possible points) Identify from photographs 20 livestock (beef cattle, swine, sheep, and goat) breeds. Contestants must also match the breed with the most appropriate description supplied for each breed. (A list of breeds will be provided.)
2. **Livestock Equipment Identification:** (60 possible points) Identify the proper name for 30 pieces of equipment used in livestock production. (A list of equipment will be provided.)
3. **Retail Meat Cut Identification:** (60 possible points) Identify 15 beef, lamb, and/or pork retail cuts from the National 4-H Meat Judging Retail ID List. Contestants will identify the cut by species, primal cut name, and retail cut name. One point will be awarded for correct species, one point will be awarded for correct primal, and two points will be awarded for correct retail cut. (A list of species, retail cut names, and wholesale cut names will be provided.)
4. **Hay and Wool Judging:** (120 possible points) Rank a class of four hay (40 points) and four wool (40 points) samples with analysis information. Answer questions about the classes (40 points).
5. **Quality Assurance Exercise:** (60 points) Example tasks include: demonstrate how to read a medicine label, calculate withdrawal times, complete a treatment record, and make responsible management decisions regarding quality assurance.
6. **Quiz:** (60 points) Complete a 30-question multiple choice quiz concerning the total livestock industry.

TEAM SECTIONS

**Junior Division**

1. **Animal Breeding Scenario and Exercise:** (100 possible points) Team members will evaluate a breeding/marketing animal scenario and make animal selection/marketing decisions based upon phenotype and performance data to rank breeding animals or market them for use within the situation. Verbally defend reasons. (This will involve live animals. May be any livestock species.)
2. **Livestock Feeding:** (100 possible points) Identify the proper name for livestock feeds. Feed samples and lists of feed names will be provided. Utilizing feed tags provided, answer questions.

**Senior Division**

1. **Quality Assurance Exercise:** (100 possible points) Demonstrate how to read an animal health product label, calculate dosage rates and withdrawal times, complete a treatment record, be familiar with administration routes, animal identification and restraint methods, and make responsible management decisions regarding quality assurance. (This will involve live animals. May be any livestock species.)
2. **Meat & Carcass Evaluation:** (100 possible points) Rank one class of four similar retail cuts and answer questions about the class (50 points). Evaluate photos of a carcass and price carcasses using a grid (50 points).
3. **Management, Performance & Marketing Problem:** (100 possible points) Determine best options for management and/or marketing of livestock (e.g., should producers sell calves at weaning, retain ownership through feedlot, combination), when provided with information on markets and performance to evaluate.
4. **Animal Breeding Scenario and Exercise:** (100 possible points) Team members will evaluate a breeding/marketing animal scenario and make animal selection/marketing decisions based upon phenotype and performance data to rank breeding animals or market them for use within the situation. Verbally defend reasons. (This will involve live animals. May be any livestock species.)
5. **Livestock Feeding:** (100 possible points) Identify the proper name for livestock feeds and answer corresponding questions. Feed samples and lists of feed names will be provided. Utilizing feed ingredients given, formulate a ration for a group of livestock.
6. **Reproduction:** (100 possible points) Identify reproductive anatomy and physiology and/or reproductive management equipment for livestock species. Demonstrate common reproductive management techniques such as artificial insemination, palpation, calving, etc.

**SCORING**

Junior Division:

Total Possible Individual Section Points: 130 points

Total Possible Team Section Points: 200 points

\*Total Possible Team Score: 590 points

Senior Division:

Total Possible Individual Section Points: 400 points

Total Possible Team Section Points: 600 points

\*Total Possible Team Score: 1800 points

\*Total team scores will be determined by adding the highest three team member individual competition class totals with the total accumulated from the team competition classes.

* **Overall Individual Score –** Total of all individual competition class points.
	+ Tie Breakers: 1. Quiz 2. Retail Meat Cut ID 3. QA Score
* **Overall Team Score** – Determined by adding the highest three team member individual competition class totals with the total accumulated from the team competition classes.
	+ Tie Breakers: 1. Animal Breeding Score 2. Team Quiz Score 3. Livestock Feeding Score
* **Evaluation Individual Score (seniors only)** – Hay and Wool Judging Score
	+ Tie Breakers: 1. Wool Questions 2. Hay Questions 3. Individual Overall Score
* **Evaluation Team Score (seniors)** – Top 3 individual evaluation scores + Team Meat + Team MPM + Team Feeding + Team Animal Breeding
	+ Tie Breakers: 1. Team Hay and Wool Judging Score 2. Team Animal Breeding Score 3. Team Overall Score
* **Evaluation Team Score (juniors)** – Team Animal Breeding + Team Feeding
	+ Tie Breakers: 1. Team Animal Breeding Score 2. Team Feeding Score 3. Team Overall Score
* **Identification Individual Score** – Equipment ID + Breeding ID + Retail Meat Cut ID
	+ Tie Breakers: 1. Retail Meat Cut ID Score 2. Breed ID Score 3. Equipment ID Score
* **Identification Team Score** – Top 3 scores from individual identification
	+ Tie Breakers: 1. Team Retail Meat Cut ID Scores 2. Team Breed ID Scores 3. Team Overall Score
* **Quality Assurance Individual Score** – QA Score + Quiz
	+ Tie Breakers: 1. Quiz Score 2. QA Score 3. Overall Individual Score
* **Quality Assurance Team Score (seniors)** – Top 3 Individual QA Scores + Team QA
	+ Tie Breakers: 1. Team QA Score 2. Team Quiz Score 3. Team Overall Score
* **Quality Assurance Team Score (juniors)** – Top 3 Individual QA Scores
	+ Tie Breakers: 1. Team Quiz Score 2. Team QA Score (Top 3 individual QA scores) 3. Team Overall Score

# **AWARDS**

The following awards will be given in both the Junior and Senior Divisions.

* 1st-5th Overall Team
* 1st-5th Overall High Point Individual
* 1st-3rd Place Quality Assurance Team
* 1st-3rd Place Quality Assurance Individual
* 1st-3rd Place Identification Team
* 1st-3rd Place Identification Individual
* 1st-3rd Place Evaluation Team
* 1st-3rd Place Evaluation Individual (NO junior awards)

The highest placing senior team from one county will be eligible to attend the National 4-H Livestock Skill-a-thon Contest in Louisville, Kentucky. Partial travel funding will be available.

# Icon  Description automatically generated**CONTEST ADMINISTRATION**

Allison Harman – Instructor, 4-H Youth Livestock

**Livestock Breed Identification List**

The list below includes **potential** breeds of livestock to be used in the contest.

**Beef Cattle**

* Angus
* Beefmaster
* Belgian Blue
* Braford
* Brahman
* Brangus
* Charolais
* Chianina
* Dexter
* Gelbvieh
* Hereford
* Limousin
* Maine Anjou
* Piedmontese
* Pinzgauer
* Red Angus
* Salers
* Santa Gertrudis
* Shorthorn
* Simmental
* Wagyu
* White Park

**Goat Breeds**

* Alpine
* Angora
* Cashmere
* Boer
* Kiko
* LaMancha
* Myotonic
* Nigerian Dwarf
* Nubian
* Pygmy
* Saanen
* Savanna
* Spanish
* Toggenburg

**Sheep Breeds**

* Barbados Blackbelly
* Border Leicester
* Cheviot
* Columbia
* Corriedale
* Dorper
* Dorset
* Finnsheep
* Hampshire
* Katahdin
* Lincoln
* Merino
* Montadale
* Oxford
* Rambouillet
* Romney
* Shropshire
* Southdown
* Suffolk
* Texel
* Tunis
* Valais Blacknose

**Swine Breeds**

* Berkshire
* Chester White
* Duroc
* Hampshire
* Hereford
* Landrace
* Mangalista
* Meishan
* Mulefoot
* Pietrain
* Poland China
* Red Wattle
* Spot
* Tamworth
* Yorkshire

**Additional Resources:**

Oklahoma State University Livestock Breed Pictures and Descriptions: <https://breeds.okstate.edu/>

**Livestock Equipment Identification List**

The list below includes **potential** pieces of equipment to be used in the contest.

* Cattle Clippers
* Balling Gun
* Branding Iron
* Buhner Needle
* Implant Gun
* OB Chain & Handle
* OB Snare
* AI Gun
* Barnes Dehorner
* Electric Dehorner/Disbudder
* Tube Dehorner
* Scrotal Circumference Tape
* Ear Notcher
* Nose Lead
* Electric Fence Tester
* Drench Gun
* Hoof Trimmers
* Elastrator
* Elastrator Ring/Band
* Burdizzo
* California Castration Bander
* Ear Tag Pliers
* Ear Tags
* Electronic ID Tag
* Hog Snare
* Marking Harness
* Pig Tooth Nippers
* Hog Ring Pliers
* Nipple Waterer
* Scotch Comb
* Sorting Paddle
* Sorting Boards
* Tattoo Pliers & Tattoo Numbers
* Multi-Dose Syringe
* Ewe Prolapse Retainer/Ewe Spoon
* Disposable Syringes
* Emasculator
* Lamb Feeding Tube
* Wool Card
* Heat Detection Patch
* Beef Cattle Frame Stick
* Show Stick
* Straw Cutter
* Hoof Block
* Teat Canula
* Electronic Identification Reader
* CIDR (Cattle & Sheep)
* CIDR Applicator
* Ear Tag Remover
* AI Sheath
* Semen Straw
* Semen Bottle
* Weigh Tape
* Pelvimeter
* Rectal Ring
* Rope Halter
* Scalpel
* Hay Probe
* Vacutainer Blood Tube
* Hanging Vaccine Holder
* Meat Hook
* Node Hook
* Calf Weaning Nose Clip
* Trocar
* Chin-Ball Marker
* Goat Blanket
* Livestock Chalk
* Vet Wrap
* Rice Root Brush
* Ink Tag Marker
* Hand Shears
* Soil Probe
* Rumen Magnet
* Transfer Needle

**Additional Resources:**

University of Kentucky Equipment Identification Pictures http://afs.ca.uky.edu/livestock/feedstuff-equipment/livestock-equipment-identification

**Feed Identification List**

The list below includes **potential** feeds to be used in the contest.

* Rice Bran
* Distillers Dried Grains
* Cottonseed Meal
* Cracked/Chopped Corn
* Limestone
* Gin Trash
* Cottonseed Hulls
* Soybean Meal
* Soybeans
* Trace Mineralized Salt
* Wheat
* White Salt
* Whole Corn
* Molasses
* Grain Sorghum (Milo)
* Hominy
* Wheat Midds (Middlings)
* Oats (Crimped)
* Oats
* Rice (Rough Rice)
* Cottonseed
* Alfalfa Pellets
* Dicalcium Phosphate
* Fish Meal
* Corn Gluten Meal
* Ground Corn
* Dried Brewer’s Grains
* Poultry Litter
* Beet Pulp
* Barley
* Blood Meal
* Bone Meal
* Soybean Hulls
* Urea

**Additional Resources:**

UADA Feed Kit

University of Kentucky Livestock Discovery - Feedstuffs <https://afs.ca.uky.edu/livestock/test/feedstuffs>

**Additional Resources:**

Texas A&M University Meat Identification Pictures <http://aggiemeat.tamu.edu/meat-identification-pictures/>

Texas Tech University Retail Identification <http://www.depts.ttu.edu/meatscience/retailid.php>

University of Nebraska Meat Identification https://food.unl.edu/meat-cuts-identification

**Additional Skill-a-thon Resources**

University of Illinois Livestock eQuiz

<http://web.extension.illinois.edu/equiz/>

Iowa State University “Animal U”

<https://www.extension.iastate.edu/animalu/>

Cornell Cooperative Extension General Livestock Sample Questions

<http://ulster.cce.cornell.edu/resources/livestock-skillathon-quiz-bowl-questions>

Ohio 4-H Livestock Activity Guide

<https://ohio4h.org/sites/ohio4h/files/d6/files/publications/documents/4H_959_Chapter_2.pdf>

National Swine Registry Skillathon Quiz Resources

<https://nationalswine.com/resources/resources-main.php>

YouTube video on sheep handling

<https://www.youtube.com/watch?v=LKSUQapM7po>

You Tube video on pig handling

<https://www.youtube.com/watch?v=YeKNWf4QPqw>

USDA AMS Method for Grid Assessment of Beef Carcass Ribeye Area

<https://www.ams.usda.gov/sites/default/files/media/Method_for_Grid_Assessment_of_Beef_Carcass_Ribeye_Area%5B1%5D.pdf>

How to Calculate Yield Grade - Dr. Janeal Yancey YouTube Video

<https://www.youtube.com/watch?v=oaP0xeBS8vQ&feature=youtu.be>

University of Georgia Extension Understanding Beef Carcass Reports

<http://extension.uga.edu/publications/detail.cfm?number=B1326>

U.S. Premium Beef USDA Quality Grades and Yield Grades

<http://www.uspremiumbeef.com/DocumentItem.aspx?ID=21>

USDA Food Safety and Inspection Service Meat and Poultry Labeling Terms

<https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/meat-and-poultry-labeling-terms>

Understanding Expected Progeny Differences (EPDs) – Cattle

<https://www.uaex.uada.edu/publications/pdf/FSA-3068.pdf>

EPD and $Value Definitions – American Angus Association

<https://www.angus.org/Nce/Definitions>

Swine EPD Terminology

<https://nationalswine.com/genetics/stages-glossary.php>

National Sheep Improvement Program – Estimated Breeding Values (EBVs)

<http://nsip.org/nsip-resources-2/estimated-breeding-values/>

Goat Reproduction Selection Genetic Animal Evaluation EPDs – Extension

<https://goats.extension.org/goat-reproduction-selection-genetic-animal-evaluation-epds/>

Texas A&M Wool Judging Guide

<https://texas4-h.tamu.edu/wp-content/uploads/Judging-Wool-and-Mohair.pdf>

University of Maryland Hay Judging Example

<https://extension.umd.edu/sites/extension.umd.edu/files/2021-03/Hay_Judging_Example_Class.pdf>

Oklahoma State University Hay Judging publication

<https://afs.ca.uky.edu/files/oklahoma_cooperative_hay_judging_pub_pss-2588.pdf>

University of Kentucky publication on using forage quality reports for hay judging

<https://afs.ca.uky.edu/sites/afs.ca.uky.edu/files/interpreting_forage_quality_reports_id-101.pdf>

University of Kentucky publication on judging performance classes

<https://afs.ca.uky.edu/files/judging_performance_classes_asc-167.pdf>

University of Kentucky publication on common calculations needed in Skill-a-thon contests

<https://afs.ca.uky.edu/files/livestockcalculationspublication.pdf>

Pork Checkoff Skill-a-thon and Quiz Bowl materials

<https://lms.pork.org/Tools/View/skillathon-quiz-bowl>

UADA Sheep and Goat Production Resources

<https://www.uaex.uada.edu/farm-ranch/animals-forages/sheep-goats/>

Beef Quality Assurance training manuals

<https://www.bqa.org/resources/manuals>