

**4-H LIVESTOCK SKILL-A-THON CONTEST
GENERAL RULES AND INFORMATION
2018-2019
TEXAS 4-H ROUNDUP**

Date: Tuesday, June 11, 2019

Time / Location: Hildebrand Equine Complex

OBJECTIVE

The Livestock Skill-a-thon contest tests a 4-H member's knowledge and comprehension of animal science and livestock management practices. The contest provides an opportunity for youth to gain and develop production livestock skills and life skills through a competitive environment.

TEAM AND CONTESTANT ELIGIBILITY

1. The contest is an Invitational (non-qualifying) Contest open to any eligible 4-H member in 6-12 grades.
2. Contest will be divided into Intermediate and Senior age divisions.
3. Teams consist of three or four members. In teams in which there are four members, all will compete, but the member receiving the lowest overall score will be automatically declared the alternate. The scores of the alternate will not be included in any of the team totals, but will be considered in making all individual awards. Teams consisting of three members will have no alternate and all members' scores will count in determining individual and team awards.
4. Teams or individuals who have competed in the North American International Livestock Exposition, which is the designated National 4-H Contest for Livestock Skill-a-thon are not eligible to compete in State 4-H Roundup.

CONTEST METHOD OF CONDUCT

1. The contest will be divided into three areas: identification, judging (which consist of meat cuts, wool and/or hay classes), and quizzes (quality assurance quiz, and industry quiz.) Contestants will be divided into groups and have time limits for each station area. Contestants are not allowed to talk to teammates or other contestants during the contest. Those doing so are subject to dismissal by contest officials.
2. The contest will utilize a scantron form. #480-5b (Meat Skill-a-thon)
3. While competing in the event, there will be no conferring between contestants or between a contestant and anyone else except as directed by contest officials. Contestants will be allowed specific time limits to complete each individual class.
4. Contestants may use a blank steno pad or a clipboard and blank paper. The contestants may bring no books, notes, pamphlets, or other reference material into the contest area. Contest officials reserve the right to check all contestant's notepads or 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. *(Wool classes are the exception)*
6. Coaches are invited to review contest materials in the contest area at the conclusion of the event.



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CONTEST CLASSES

The following is a list of common skill-a-thon classes. Please note that actual classes may deviate from this list in an effort to keep current with a rapidly changing livestock industry. All pictures, equipment items, retail meat cuts, feed samples, judging classes, and quizzes will be developed using resources obtained from Texas A&M University and West Texas A&M University.

Identification

1. **Livestock equipment Identification:** Identify the proper name and use for pieces of equipment used in livestock production.
2. **Livestock Breed Identification:** Identify from photographs or pictures livestock (beef cattle, swine, sheep and goat) breeds. Contestants must also match the breed with the most appropriate description supplied for each breed.
3. **Retail meat cut identification:** Identify beef, lamb, and pork retail cuts from the National 4-H Meat Judging Retail ID List. Contestants will identify the retail cut specie, primal cut, and retail cut name.
4. **Feed Sample Identification:** identify various samples of feeds and indicate their classification.

Judging

5. **Hay Judging class:** Rank a class of four hay samples with analysis information and answer questions about the classes.
6. **Wool Judging class:** Rank a class of four fleeces and answer questions about the class.
7. **Retail Meat Judging Class:** Rank a class of four retail meat cuts (beef, pork, or lamb) and answer questions about the class

Quizzes

8. **Quality Assurance exercise:** Demonstrate how to read a medicine label, calculate withdrawal times, complete a treatment record, and make responsible management decisions regarding quality assurance.
9. **Industry Quiz:** Complete a 30-question multiple choice quiz concerning the total livestock industry.

AWARDS

Top 10 individuals overall
 Top 5 teams overall

*Overall total score will consist of a combination of judging classes, identification scores, and quizzes.

Top 3 teams will be recognized during the Tuesday Evening Assembly. The placings will be announced at that time.

NATIONAL CONTEST

The first-place senior level team qualifies to advance to the 2019 National 4-H Livestock Skill-a-thon contest at the North American International Livestock Exposition (NAILE) in Louisville, KY.



Meat Identification				
ID #	Species	Primal	Retail	Cookery
1	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
2	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
3	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
4	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
5	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
6	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
7	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
8	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
9	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M
10	B P L	A B C D E F G H I J	A B C D E F G H I J	D M D/M

Breed Identification	
Breed	Description
1 A B C D E	1 A B C D E
2 A B C D E	2 A B C D E
3 A B C D E	3 A B C D E
4 A B C D E	4 A B C D E
5 A B C D E	5 A B C D E
6 A B C D E	6 A B C D E
7 A B C D E	7 A B C D E
8 A B C D E	8 A B C D E
9 A B C D E	9 A B C D E
10 A B C D E	10 A B C D E

Equipment Identification	
Equipment	Use
1 A B C D E F G H I J	1 A B C D E F G H I J
2 A B C D E F G H I J	2 A B C D E F G H I J
3 A B C D E F G H I J	3 A B C D E F G H I J
4 A B C D E F G H I J	4 A B C D E F G H I J
5 A B C D E F G H I J	5 A B C D E F G H I J
6 A B C D E F G H I J	6 A B C D E F G H I J
7 A B C D E F G H I J	7 A B C D E F G H I J
8 A B C D E F G H I J	8 A B C D E F G H I J
9 A B C D E F G H I J	9 A B C D E F G H I J
10 A B C D E F G H I J	10 A B C D E F G H I J

Feed Identification	
Feed	Class.
1 A B C D E F G H I J	1 A B C
2 A B C D E F G H I J	2 A B C
3 A B C D E F G H I J	3 A B C
4 A B C D E F G H I J	4 A B C
5 A B C D E F G H I J	5 A B C
6 A B C D E F G H I J	6 A B C
7 A B C D E F G H I J	7 A B C
8 A B C D E F G H I J	8 A B C
9 A B C D E F G H I J	9 A B C
10 A B C D E F G H I J	10 A B C

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Livestock Equipment Master List 2018-2019

Note: Most questions in the equipment identification section will be selected from this list. However, the contest committee reserves the right to utilize items not listed here for the contest. Also, while some items on the list could be considered to have uses other than those included here, we ask that participants only mark the use that has been identified on this list.

Tool	Use	Tool	Use
Ammonia Sensor	Diagnostic	Nose Ring	Facilities/Restraint
Balling Gun	Product Administration	Obstetrical Chain	Breeding
Beef Halter	Fitting & Showing	OB Handle	Breeding
Blocking Blade	Fitting & Showing	Obstetrical Forceps	Breeding
CIDR Applicator	Breeding	OB Sleeve (Disposable)	Breeding
Clippers (Hairhead)	Fitting & Showing	Paint Branding Iron	Identification
Clippers (Sheephead)	Fitting & Showing	Pistol Grip Syringe	Product Administration
Clip on Feeder	Facilities/Restraint	Pour On Applicator Gun	Product Administration
Cordless Clippers	Fitting & Showing	Prolapse Ring Retainer	Emergency/Preventative Health
Curry Comb	Fitting & Showing	Ram Marking Harness	Breeding
Disposable Syringe	Product Administration	Rumen Magnet	Emergency/Preventative Health
Drench Gun	Product Administration	Rice Pelvimeter	Breeding
Ear Notchers	Identification	Rice Root Brush	Fitting & Showing
Ear Tagger	Identification	Roto Brush	Fitting & Showing
Elastrator	Castration/Docking	Scotch Comb	Fitting & Showing
Electronic ID Tag	Identification	Sheep/Goat Blanket	Fitting & Showing
Electric Dehorner	Dehorning	Sheep Hand Shears	Fitting & Showing
Electric Branding Iron	Identification	Sheep/Goat Halter	Fitting & Showing
Electric Fence Tester	Facilities/Restraint	Show Chain (Goat)	Fitting & Showing
Emasculator	Castration/Dehorning	Show Stick (Cattle)	Fitting & Showing
French Style Insemination Gun	Breeding	Straw Cutter	Breeding
Forage Probe	Diagnostic	Swine Breeding Spirette	Breeding
Freeze Branding Iron	Identification	Swine Show Whip	Fitting & Showing
Hog Snare	Facilities/Restraint	Tattoo Pliers	Identification
Hoof Trimmers (Sheep & Goat)	Emergency/Preventative Health	Teat Dip	Emergency/Preventative Health
Implant Gun	Product Administration	Test Tube	Diagnostic
Intravenous Set	Product Administration	Thermometer	Diagnostic
Lamb Tube Feeder	Emergency/Preventative Health	Vacutainer	Diagnostic
Nipple Waterer	Facilities/Restraint	Water Tank Float Valve	Facilities/Restraint
Nose Lead	Facilities/Restraint	Weaning Ring	Facilities/Restraint
		Wool Card	Fitting & Showing



Breeds of Livestock Master List for 2018-2019

Note: Most questions in the breed identification section will be selected from this list. However, the contest committee reserves the right to utilize breeds not listed here for the contest.

Beef	
Angus	British breed with highest number of registrations in the US. Noted for mothering ability and carcass marbling
Beefmaster	Started by Ed C. Lasater in 1908, when he purchased Brahman bulls to use on his commercial herd of Hereford and Shorthorn cattle
Belted Galloway	Known by their distinctive white belt which may vary in width, but usually covers most of the body from the shoulders to the hooks.
Brangus	Developed in the US, made up of 3/8 Brahman and 5/8 Angus. Bred for heat tolerance of Brahman and maternal and carcass traits of Angus.
Brahman	Through centuries of exposure to inadequate food supplies, insect pests, parasites, diseases and the weather extremes of tropical India, the native cattle developed some remarkable adaptations for survival.
Braunvieh	Name is a German word meaning "brown cow." Once accounted for 47% of all cattle in Switzerland. In Europe they are still used primarily for milk production.
Charolais	Creamy white in color, but the skin carries appreciable pigmentation. The hair coat is usually short in summer but thickens and lengthens in cold weather. Known for muscle and cutability.
Chianina	Developed in Italy. Known for size and growth, referred to as the tallest breed of cattle.
Gelbvieh	Developed in Germany, originally considered a dual-purpose breed. Has good carcass cutability and relatively early puberty.
Hereford	A breed that's origin goes back to the mid-1700's. The American association was formed in 1881.
Limousin	Developed in France with moderate growth rate and frame size and high carcass cutability.
Maine-Anjou	Developed in France by crossing the Durham and the Mancelle breeds. Has good muscling.
Red Angus	From Scotland. Considered maternal with good terminal-related performance.
Santa Gertrudis	Developed on the King Ranch in Texas by crossing the Brahman (3/8) and Shorthorn (5/8) breeds. Became first official breed developed in the US.
Simmental	Originally developed in Switzerland for meat, milk and draft. Now noted for high growth rate, milking ability, and carcass cutability.
Simbrah	Described as "The All Purpose American Breed". Developed in America, their genetics may be called on to infuse maternal traits into a herd. Known for their rapid growth, vigor, and heat tolerance.
Shorthorn	Originated in England, with three distinct color patterns, considered a maternal breed.
Wagyu	Japanese breeds imported to the US in 1976. Known for meat quality traits and calving ease.



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<i>Note: Most questions in the breed identification section will be selected from this list. However, the contest committee reserves the right to utilize breeds not listed here for the contest.</i>	
Swine	
Berkshire	Originally from England noted for pork quality, tenderness and marbling.
Chester White	Known as a maternal breed with high conception rates, developed in PA.
Duroc	Noted for high growth rate, durability and leanness, developed in New Jersey and New York.
Hampshire	Terminal sire breed with unique color patterns that is noted for muscle and cutability.
Hereford	Dual purpose breed, red with white markings on head and lower body.
Landrace	Noted for large litters and large droopy ears, generally refined in bone.
Pietrain	Noted for extreme muscle volume and shape, with a high propensity for stress which is related to pork quality concerns.
Poland China	Lean, heavy muscled, black breed with six white points and droopy ears from Ohio.
Spot	Black and white, developed in US, noted for rapid growth and as aggressive breeders
Yorkshire	Has erect ears, known as the "mother breed".
Sheep	
Columbia	Large frame US breed, developed from Lincolns and Rambouillets
Dorper	Primarily a mutton sheep, this breed was developed in South Africa and is one of the most fertile of sheep breeds.
Dorset	English, white face, meat breed known for out of season breeding
Hampshire	Large framed, English, meat breed with black face and wool cap
Merino	Very fine fleece breed with heavy wool production from Spain
Rambouillet	Wool breed developed in France and Germany from Merino breed
Southdown	This breed is early maturing with good lambing ability and average milk production.
Suffolk	Large framed, black faced breed known for high growth rate and carcass cutability from England
Goat	
Angora	The most valuable characteristic of this breed as compared to other goats is the value of the mohair that is clipped
Boer	A prominent strong head with brown eyes and a gentle appearance. Nose with a gentle curve, wide nostrils, and well-formed mouth with well-opposed jaws. Body should be boldly three dimensional: long, deep, wide
Myotinic	Their muscles become extremely stiff when they are frightened. This hereditary condition makes the goat very muscular.
Pygmy	Originally exported from Africa to zoos in Sweden and Germany where they were on display as exotic animals.
Spanish	Not of a specific breed ancestry they have developed through natural selection. Domesticated from feral goats and also referred to as "Brush Goats."



2017 FFA/4-H Retail Meat Identification Codes

Beef Primal	Retail Cut Name	Cookery Method	Specie	Primal	Name	Cookery
Brisket	Corned	Moist	B	B	89	M
	Flat Half, Bnls	Moist	B	B	15	M
	Whole, Bnls	Moist	B	B	10	M
Chuck	7-bone Pot-Roast	Moist	B	C	26	M
	Arm Pot-Roast	Moist	B	C	03	M
	Arm Pot-Roast, Bnls	Moist	B	C	04	M
	Blade Roast	Moist	B	C	06	M
	Eye Roast, Bnls	Dry/Moist	B	C	13	D/M
	Eye Steak, Bnls	Dry	B	C	45	D
	Mock Tender Roast	Moist	B	C	20	M
	Mock Tender Steak	Moist	B	C	48	M
	Petite Tender	Dry	B	C	21	D
	Shoulder Pot Roast (Bnls)	Dry/Moist	B	C	29	D/M
	Top Blade Steak (Flat Iron)	Dry	B	C	58	D
Flank	Flank Steak	Dry/Moist	B	D	47	D/M
Loin	Porterhouse Steak	Dry	B	F	49	D
	T-bone Steak	Dry	B	F	55	D
	Tenderloin Roast	Dry	B	F	34	D
	Tenderloin Steak	Dry	B	F	56	D
	Top Loin Steak	Dry	B	F	59	D
	Top Loin Steak, Bnls	Dry	B	F	60	D
	Top Sirloin Cap Steak, Bnls	Dry	B	F	64	D
	Top Sirloin Steak, Bnls Cap Off	Dry	B	F	63	D
	Top Sirloin Steak, Bnls	Dry	B	F	62	D
	Tri Tip Roast	Dry	B	F	40	D
Plate	Short Ribs	Moist	B	G	28	M
	Skirt Steak, Bnls	D/M	B	G	54	D/M
Rib	Rib Roast	Dry	B	H	22	D
	Ribeye Roast, Bnls	Dry	B	H	13	D
	Ribeye Steak, Bnls	Dry	B	H	45	D
	Ribeye Steak, Lip-On	Dry	B	H	50	D
Round	Bottom Round Roast	Dry/Moist	B	I	08	D/M
	Bottom Round Rump Roast	Dry/Moist	B	I	09	D/M
	Bottom Round Steak	Moist	B	I	43	M
	Eye Round Roast	Dry/Moist	B	I	14	D/M
	Eye Round Steak	Dry/Moist	B	I	46	D/M
	Round Steak	Moist	B	I	51	M
	Round Steak, Bnls	Moist	B	I	52	M
	Tip Roast - Cap Off	Dry/Moist	B	I	36	D/M
	Tip Steak - Cap Off	Dry	B	I	57	D
	Top Round Roast	Dry	B	I	39	D
	Top Round Steak	Dry	B	I	61	D
Various	Beef for Stew	Moist	B	N	82	M
	Cubed Steak	Dry/Moist	B	N	83	D/M
	Ground Beef	Dry	B	N	84	D

Variety Meats	Retail Cut Name	Cookery Method	Specie	Primal	Name	Cookery
	Heart	Dry/Moist	B	M	76	D/M
	Heart	Dry/Moist	L	M	76	D/M
	Heart	Dry/Moist	P	M	76	D/M
	Kidney	Dry/Moist	B	M	77	D/M
	Kidney	Dry/Moist	L	M	77	D/M
	Kidney	Dry/Moist	P	M	77	D/M
	Liver	Dry/Moist	B	M	78	D/M
	Liver	Dry/Moist	L	M	78	D/M
	Liver	Dry/Moist	P	M	78	D/M
	Oxtail	Moist	B	M	79	M
	Tongue	Dry/Moist	B	M	80	D/M
	Tongue	Dry/Moist	L	M	80	D/M
	Tongue	Dry/Moist	P	M	80	D/M
	Tripe	Moist	B	M	81	M

Pork Primal	Retail Cut Name	Cookery Method	Specie	Primal	Name	Cookery	
Ham/Leg	Pork Fresh Ham Center Slice	Dry/Moist	P	E	44	D/M	
	Pork Fresh Ham Rump Portion	Dry/Moist	P	E	25	D/M	
	Pork Fresh Ham Shank Portion	Dry/Moist	P	E	27	D/M	
	Smoked Ham, Bnls	Dry	P	E	91	D	
	Smoked Ham, Center Slice	Dry	P	E	90	D	
	Smoked Ham, Rump Portion	Dry	P	E	96	D	
	Smoked Ham, Shank Portion	Dry	P	E	97	D	
	Tip Roast, Bnls	Dry	P	E	35	D	
	Top Roast, Bnls	Dry	P	E	38	D	
	Loin	Back Ribs	Dry/Moist	P	F	05	D/M
		Blade Chops	Dry/Moist	P	F	66	D/M
Blade Chops, Bnls		Dry/Moist	P	F	67	D/M	
Blade Roast		Dry/Moist	P	F	06	D/M	
Butterflied Chops Bnls		Dry	P	F	68	D	
Center Loin Roast		Dry	P	F	11	D	
Center Rib Roast		Dry	P	F	12	D	
Loin Chops		Dry	P	F	70	D	
Rib Chops		Dry	P	F	71	D	
Sirloin Chops		Dry	P	F	73	D	
Sirloin Cutlets		Dry	P	F	53	D	
Sirloin Roast		Dry	P	F	30	D	
Smoked Pork Loin Chop		Dry	P	F	93	D	
Smoked Pork Loin Rib Chop		Dry	P	F	95	D	
Tenderloin, Whole		Dry	P	F	34	D	
Top Loin Chops	Dry	P	F	74	D		
Top Loin Chops, Bnls	Dry	P	F	75	D		
Top Loin Roast, Bnls	Dry	P	F	37	D		
Shoulder	Arm Picnic, Whole	Dry/Moist	P	J	02	D/M	
	Arm Roast	Dry/Moist	P	J	03	D/M	
	Arm Steak	Dry/Moist	P	J	41	D/M	
	Blade Boston Roast	Dry/Moist	P	J	07	D/M	
	Blade Steak	Dry/Moist	P	J	42	D/M	
Smoked Picnic, Whole	Dry/Moist	P	J	94	D/M		
Side/Belly	Slab Bacon	Dry	P	K	98	D	
	Sliced Bacon	Dry	P	K	99	D	
	Fresh Side	Moist	P	K	17	M	
Spareribs	Pork Spareribs	Dry/Moist	P	L	32	D/M	
Various	Country Style Ribs	Dry/Moist	P	N	69	D/M	
	Ground Pork	Dry	P	N	85	D	
	Hock	Moist	P	N	86	M	
	Pork Cubed Steak	Dry/Moist	P	N	83	D/M	
	Pork Sausage Links	Dry	P	N	87	D	
	Sausage	Dry	P	N	87	D	
	Smoked Pork Hock	Moist	P	N	92	M	

Lamb Primal	Retail Cut Name	Cookery Method	Specie	Primal	Name	Cookery
Breast	Ribs (Denver Style)	Dry/Moist	L	A	24	D/M
Leg	American Style Roast	Dry	L	E	01	D
	Center Slice	Dry	L	E	44	D
	Frenched Style Roast	Dry	L	E	16	D
	Leg Roast, Bnls	Dry	L	E	18	D
	Sirloin Chops	Dry	L	E	73	D
	Sirloin Half	Dry	L	E	31	D
Loin	Loin Chops	Dry	L	F	70	D
	Loin Roast	Dry	L	F	19	D
Rib	Rib Chops	Dry	L	H	71	D
	Rib Chops Frenched	Dry	L	H	72	D
	Rib Roast	Dry	L	H	22	D
	Rib Roast, Frenched	Dry	L	H	23	D
Shoulder	Arm Chops	Dry/Moist	L	J	65	D/M
	Blade Chops	Dry/Moist	L	J	66	D/M
	Square Cut	Dry/Moist	L	J	33	D/M
Various	Shank	Moist	L	N	88	M

Feedstuffs Master List 2018-2019	
<i>Note: Most questions in the feed identification section will be selected from this list. However, the contest committee reserves the right to utilize feedstuffs not listed here for the contest.</i>	
Feed Name	Class
Alfalfa Cubes	Protein
Alfalfa, Dehydrated	Protein
Barley, Rolled	Energy
Beet Pulp, Dried	Energy
Canola Meal	Protein
Copper Sulfate	Mineral
Corn, Cracked	Energy
Corn, Ground	Energy
Corn, Steam Flaked	Energy
Corn, Whole	Energy
Cottonseed Hulls	Energy
Cottonseed Meal	Protein
Cottonseed, Whole	Protein or Energy
Dicalcium Phosphate	Mineral
Dried Distillers Grain	Energy
Feather Meal	Protein
Fish Meal	Protein
Limestone	Mineral
Milo, Ground	Energy
Milo, Whole	Energy
Mollasses, Dried	Energy
Mollasses, Liquid	Energy
Oats, Rolled	Energy
Oats, Whole	Energy
Peanut Meal	Protein
Range Cubes	Protein or Energy
Rice Hulls	Energy
Rye, Whole	Energy
Soybean Hulls	Energy
Soybean Meal	Protein
Soybeans, Whole	Protein
Sunflower Meal	Protein
Trace-Mineral	Mineral
Urea	Protein
Wheat, Whole	Energy
Wheat Middlings	Energy
Whey, Dried	Protein
White Salt	Mineral



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RESOURCES This list is just some of the potential resource information available. Please feel free to utilize other sources as you deem appropriate.

Swine Resources

- National Swine Registry Skill-a-thon Training <https://nationalswine.com/resources/resources-main.php>
- Texas A&M Swine Skill-a-thon study guide <https://animalscience.tamu.edu/livestock-species/swine/skillathon/>
- Oklahoma State Swine Breeds - <http://afs.okstate.edu/breeds/swine>
- National Pork Board : <http://www.pork.org/youth-and-education/skillathon-quiz-bowl/>

Beef Resources

- Texas A&M Beef Skill-a-thon <https://beefskillathon.tamu.edu/>
- Iowa State Beef Skill-a-thon <https://www.ans.iastate.edu/beef-skillathon>
- Oklahoma State Cattle Breeds - <http://afs.okstate.edu/breeds/cattle/>

Sheep & Goat Resources

- Sheep and Goat programs - <http://animalscience.tamu.edu/livestock-species/sheep-goats/>
- Iowa State Sheep Skill-a-thon <https://www.ans.iastate.edu/sheep-skillathon>
- Oklahoma State Sheep Breeds - <http://afs.okstate.edu/breeds/sheep>
- Oklahoma State Goat Breeds - <http://afs.okstate.edu/breeds/goats>
- Maryland Small Ruminant Page - <https://www.sheepandgoat.com/skillathon>

Meat Judging and Identification Resources

- <http://www.meatscience.org/students/meat-judging-program/meat-judging-resources/>
- <http://aggiemeat.tamu.edu/meat-identification-pictures/>
- <https://aggiemeat.tamu.edu/example-classes/>

Equipment Identification

- Nasco - <https://www.enasco.com/>
- Valley Vet - <https://www.valleyvet.com>
- Sullivan's Supply - <https://www.sullivansupply.com/>
- Weaver Livestock - <https://www.thewinnersbrand.com>

Feed Sample Identification

- <https://quizlet.com/22837845/feed-stuff-identification-flash-cards/>
- <https://extension.msstate.edu/sites/default/files/publications/publications/P2834.pdf>
- http://pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/400/400-011/400-011_pdf.pdf

Wool Judging

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

Hay Judging

- <https://www.ces.ncsu.edu/files/library/19/Hay%20Judging%20Resources.doc><https://extension.msstate.edu/sites/default/files/publications/publications/P2834.pdf>
- <https://cherokee.agrilife.org/4-h/hay-judging/>

National Livestock Skill-a-Thon

- <http://www.livestockexpo.org/educationContests>

Texas FFA Livestock Quiz Question Bank

- https://www.texasffa.org/docs/2017-21%20Livestock_QBank_Export_Key_71269.pdf

