



2015 4-H State O'Rama Livestock Skills Contest Information & Resource Packet



Contest Eligibility

1. The contest is limited to senior 4-H members. The contestant must be 14 years old on January 1 of the current year but not have had his or her 19th birthday as of January 1 of the current year.
2. Any 4-H member whose name is entered by his or her county extension agent will be eligible to enter this contest and compete as an individual; unless, they have competed at the National 4-H Livestock Skills Contest then they are ineligible from competition.
3. For a county to be eligible for team competition, it will have to have at least three individuals to comprise the team. A county may enter four individuals, but only the top three scores will count toward the winning team.

Contest Method of Conduct

1. The contest will be divided into two rounds. In the first round of the contest, one group will participate in the team oriented classes while the other group will complete the individual competitor classes of the contest. In the second round, the two large groups will switch areas of competition.
2. During the individual competition round of the contest, contestants will be further divided into groups and will remain with that assigned group throughout that contest 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. 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 25 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. Coaches are invited to review contest materials in the contest area at the conclusion of the contest.

Contest Classes

Classes competed as an Individual

1. **Livestock Equipment Identification:** (10 possible points) Identify the proper name for 10 pieces of equipment used in livestock production. (A list of equipment will be provided.)
2. **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.)
3. **Retail Meat Cut Identification:** (45 possible points) Identify 15 beef, lamb, and pork retail cuts from photographs. Contestants will identify the cut by species, primal cut name, and retail cut name. (A list of species, retail cut names, and wholesale cut names will be provided.)
4. **Feed Identification:** (10 possible points) Identify 10 types of feed. (A list of feeds will be provided.)
5. **Quiz:** (20 points) Complete a 20 question multiple choice quiz concerning the total livestock industry.

Total Possible Individual Class Points = 105

Tie breakers for individual skills:

1. Quiz
2. Retail Meat Cut Identification

Classes completed as a Team

1. **Quality Assurance Exercise:** (40 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. Contestants should know how to properly handle a sheep for this exercise.)
2. **Meat & Carcass Evaluation:** (40 possible points) Measure ribeye area and calculate yield grade. (Formula will be provided.)

- 3. Evaluation of Performance & Marketing Information:** (30 possible points) Evaluate performance information on a group of livestock and then use the information given to make the best marketing decisions.

Total Possible Team Class Points = 110

Tie breakers for team skills:

1. Evaluation of Performance & Marketing Information
2. Meat & Carcass Evaluation

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.

Total Possible Team Points = 215

High individual scoring will only come out of the individual class skills portion.

Total High Individual Points = 105

Awards

- High Point Team – Trophy and expense paid trip to the National 4-H Livestock Skills Contest in Louisville, Kentucky.
- 2nd-5th place team – Ribbon
- High Point Individual – Trophy
- 2nd-5th place high point individual – Ribbon

Livestock Equipment Identification List

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

- Cattle Clippers
- Comb & Cutter
- Balling Gun
- Paint Branding Iron
- Freeze Branding Iron
- Heat Branding Iron
- Suture Needle
- Ralgro Implant Gun
- OB Chain & Handle
- AI Gun
- Dehorner
- Scrotal Circumference Tape
- Ear Notcher
- Nose Lead
- Electric Prod (hot shot)
- Drench Gun
- Hoof Trimmers
- Elastrator
- Burdizzo
- Ear Tag Pliers
- Hog Snare
- Marking Harness
- Pig Nippers/Pliers
- Nipple Waterer
- Scotch Comb
- Sorting Paddle
- Tattoo Pliers
- Swine Breeding Spirette
- Pistol Grip Syringe
- Ewe Prolapse Retainer
- Disposable Syringes
- Emasculator
- Lamb Tube
- Electronic ID Tag
- Wool Card
- Nasal Cannula
- Heat Detection Patch
- Beef Cattle Frame Stick
- Breeding Catheter

Additional Resources:

University of Kentucky Equipment Identification Pictures

<http://www2.ca.uky.edu/agripedia/agmania/EQUIPID/EQUIP1.asp>

Livestock Breed Identification List

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

Beef Cattle

- Angus
- Beefmaster
- Brahman
- Brangus
- Charolais
- Chianina
- Gelbvieh
- Hereford
- Limousin
- Maine Anjou
- Red Poll
- Salers
- Santa Gertrudis
- Shorthorn
- Simmental

Goat Breeds

- Boer
- Kiko
- Myotonic
- Nubian
- Pygmy
- Spanish

Swine Breeds

- Berkshire
- Chester White
- Duroc
- Hampshire
- Landrace
- Poland China
- Spot
- Yorkshire

Sheep Breeds

- Cheviot
- Columbia
- Dorper
- Dorset
- Hampshire
- Katahdin
- Merino
- Montadale
- Rambouillet
- Southdown
- Suffolk

Additional Resources:

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

University of Kentucky Breeds of Livestock
<http://www2.ca.uky.edu/agripedia/agmania/BREEDS/index.asp>

Retail Meat Cut Identification List

Species

B = Beef

P = Pork

L = Lamb

Primal Cuts

- Breast
- Brisket
- Chuck
- Flank
- Ham or Leg
- Loin
- Plate
- Rib or Rack
- Round
- Shoulder
- Side (Belly)
- Spareribs
- Variety Meats
- Various Meats

Retail Cuts

Roasts/Pot Roasts

- American Style
- Arm Picnic
- Arm Roast
- Arm Roast (Bnls)
- Back Ribs
- Blade Roast
- Blade Boston
- Bottom Round Roast (Bnls)
- Bottom Round Rump Roast (Bnls)
- Brisket, Whole (Bnls)
- Center Loin Roast
- Center Rib Roast
- Eye Roast (Bnls)
- Eye Round Roast
- Flat Half (Bnls)
- Frenched Style
- Fresh Side
- Leg Roast (Bnls)
- Loin Roast
- Mock Tender Roast
- Petite Tender
- Rib Roast
- Rib Roast (Frenched)
- Ribs (Denver Style)
- Rump Portion
- Seven (7) Bone Roast
- Shank Portion
- Short Ribs
- Shoulder Roast (Bnls)
- Sirloin Roast
- Sirloin Half

- Spareribs
- Square Cut (Whole)
- Tenderloin (Whole)
- Tip Roast (Bnls)
- Tip, Cap Off Roast
- Top Loin Roast (Bnls)
- Top Roast (Bnls)
- Top Round Roast
- Tri-Tip Roast

Steaks

- Arm Steak
- Blade Steak
- Bottom Round Steak
- Center Slice
- Eye Steak (Bnls)
- Eye Round Steak
- Flank Steak
- Mock Tender Steak
- Porterhouse Steak
- Ribeye, Lip-On Steak
- Round Steak
- Round Steak (Bnls)
- Sirloin Cutlets
- Skirt Steak (Bnls)
- T-Bone Steak
- Tenderloin Steak
- Tip, Cap Off Steak
- Top Blade (Bnls) Flat Iron Steak
- Top Loin Steak
- Top Loin (Bnls) Steak
- Top Round Steak

- Top Sirloin Steak (Bnls)
- Top Sirloin Cap Off Steak (Bnls)
- Top Sirloin Cap Steak (Bnls)

Chops

- Arm Chop
- Blade Chop
- Blade Chop (Bnls)
- Butterflied Chop (Bnls)
- Country Style Ribs
- Loin Chop
- Rib Chop
- Rib Chop (Frenched)
- Sirloin Chop
- Top Loin Chop
- Top Loin Chop (Bnls)

Variety Meats

- Heart
- Kidney
- Liver
- Oxtail
- Tongue
- Tripe

Various Meats

- Beef for Stew
- Cubed Steak
- Ground Beef
- Ground Pork
- Hocks
- Sausage Link/Pattie
- Shank

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

<http://ansc-cpanel.unl.edu/meats/id/>

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
- Soybean Hulls (Pelleted)
- Corn Gluten Feed Pellets
- Ground Corn
- Cottonseed Hulls
- Rice Mill Feed
- Soybean Meal
- Soybeans
- Trace Mineralized Salt
- Wheat
- White Salt
- Whole Corn
- Molasses
- Grain Sorghum (aka Milo)
- Hominy
- Wheat Midds (Middlings)
- Oats (Crimped)
- Rice (Rough Rice)
- Cottonseed
- Forage, hay

Additional Resources:

University of Kentucky Feed Identification

<http://www2.ca.uky.edu/agripedia/Agmania/feedid/index.asp>

Example Quiz Questions

The quiz portion will consist of a 20 question multiple choice quiz concerning the livestock industry.

1. Scientific name that refers to swine.
a. Caprine **c. Porcine**
b. Ovine d. Dock
2. The period of time during which the female is milking.
a. Gestation c. Birthing
b. Weaning **d. Lactation**
3. An animal that has a monogastric stomach.
a. Lamb c. Cow
b. Goat **d. Pig**
4. Primary way that new genetics are introduced into a herd.
a. Breeding Selection c. EPD
b. Genotype **d. Sire Selection**
5. Figure used to describe how offspring will perform in relation to the average performance of other animals in the breed.
a. **Expected Progeny Difference** c. Genes
b. Crossbreeding d. Linebreeding
6. Example of roughage or high fiber feed.
a. Barley c. Concentrate
b. **Hay** d. Grain
7. Metabolic disorder associated with low magnesium on lush cool season grasses.
a. Bloat c. Acid Poisoning
b. **Grass Tetany** d. Arsenic Poisoning
8. The period of time a female is receptive to the male.
a. Estrous c. Oxytocin
b. **Estrus** d. EPD
9. Term used to describe the expression of physical traits/characteristics.
a. Genotype c. Linebreeding
b. **Phenotype** d. Crossbreeding
10. Example of a legume.
a. **White Clover** c. Fescue
b. Ryegrass d. Bermuda Grass

Additional Resources:

University of Illinois Livestock eQuiz

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

University of Minnesota General Livestock Sample Questions

<http://www.extension.umn.edu/youth/mn4-H/events/project-bowl/docs/PB-GeneralLivestockSampleQuestions.pdf>

Texas FFA Livestock Quiz

<http://www.texasffa.org/docs/Livestock+Exam+Key.pdf>

Quality Assurance Exercise

Team members will demonstrate how to read an animal health product label, calculate dosage rates and withdrawal times, be familiar with administration routes, animal identification, and restraint methods regarding quality assurance.

Below is an example quality assurance exercise. A similar exercise will be used at the 2015 State 4-H O'Rama.

Utilize the below medication labels (Valbazen and Ivermectin) for the exercises:



VALBAZEN®
(albendazole)

Broad-Spectrum Dewormer
Oral Suspension for Use in Cattle, Sheep, and Goats for removal and control of liver flukes, tapeworms, stomach worms (including 4th stage inhibited larvae of *Ostertagia ostertagi*), intestinal worms, and lungworms in cattle and sheep and for the treatment of adult liver flukes in nonlactating goats

Active Ingredient
Albendazole 11.36%
(equivalent to 113.6 mg/mL)

1 L/33.8 fl oz (1 qt 1.8 fl oz)
NADA #110-048, Approved by FDA

8784000
10361701

Broad-Spectrum Dewormer

Oral Suspension for Use in Cattle, Sheep, and Goats for removal and control of liver flukes, tapeworms, stomach worms (including 4th stage inhibited larvae of *Ostertagia ostertagi*), intestinal worms, and lungworms in cattle and sheep and for the treatment of adult liver flukes in nonlactating goats

Active Ingredient:

Albendazole 11.36%
(Equivalent to 113.6 mg/mL)

Indications:

Cattle and sheep: Valbazen is a broad-spectrum anthelmintic effective in the removal and control of liver flukes, tapeworms, stomach worms (including 4th stage inhibited larvae of *Ostertagia ostertagi*), intestinal worms, and lungworms as indicated below.

Goats: For the treatment of adult liver flukes in nonlactating goats.

Parasite	Cattle	Sheep	Goats
Adult Liver Flukes	<i>Fasciola hepatica</i>	<i>Fasciola hepatica, Fascioloides magna</i>	<i>Fasciola hepatica</i>
Heads and Segments of Tapeworms	<i>Moniezia benedeni, M. expansa</i>	Common Tapeworm (<i>Moniezia expansa</i>), Fringed Tapeworm (<i>Thysanosoma actinioides</i>)	
Adult and 4th Stage Larvae of Stomach Worms	Brown Stomach Worm, including 4th stage inhibited larvae (<i>Ostertagia ostertagi</i>), Barber Pole Worm (<i>Haemonchus contortus, H. placei</i>), Small Stomach Worm (<i>Trichostrongylus axei</i>)	Brown Stomach Worm (<i>Ostertagia circumcincta, Marshallagia marshalli</i>), Barber Pole Worm (<i>Haemonchus contortus</i>), Small Stomach Worm (<i>Trichostrongylus axei</i>)	
Adult and 4th Stage Larvae of Intestinal Worms	Thread-necked Intestinal Worm (<i>Nematodirus spathiger, N. helvetianus</i>), Small Intestinal Worm (<i>Cooperia punctata, C. oncophora</i>)	Thread-necked Intestinal Worm (<i>Nematodirus spathiger, N. filicollis</i>), Cooper's Worm (<i>Cooperia oncophora</i>), Bankrupt Worm (<i>Trichostrongylus colubriformis</i>), Nodular Worm (<i>Oesophagostomum columbianum</i>), Large-mouth Bowel Worm (<i>Chabertia ovina</i>)	
Adult Stages of Intestinal Worms	Hookworm (<i>Bunostomum phlebotomum</i>), Bankrupt Worm (<i>Trichostrongylus colubriformis</i>), Nodular Worm (<i>Oesophagostomum radiatum</i>)		
Adult and 4th Stage Larvae of Lungworms	<i>Dictyocaulus viviparus</i>		
Adult and Larval Stages of Lungworms		<i>Dictyocaulus filaria</i>	

Dosage and Administration: Valbazen Suspension should be administered to cattle and goats at the recommended rate of 4 mL/100 lb of body weight (equivalent to 4.54 mg of albendazole/lb, 10 mg/kg) and to sheep at the recommended rate of 0.75 mL/25 lb of body weight (equivalent to 3.4 mg of albendazole/lb, 7.5 mg/kg). The following table indicates recommended dosing schedules.

Cattle		Sheep		Goats	
Body Weight	Dosage	Body Weight	Dosage	Body Weight	Dosage
250 lb	10 mL	25 lb	0.75 mL	25 lb	1 mL
500 lb	20 mL	50 lb	1.5 mL	50 lb	2 mL
750 lb	30 mL	75 lb	2.25 mL	75 lb	3 mL
1000 lb	40 mL	100 lb	3.0 mL	100 lb	4 mL
1250 lb	50 mL	200 lb	6.0 mL	125 lb	5 mL
1500 lb	60 mL	300 lb	9.0 mL	150 lb	6 mL

Cattle: 1 liter of Valbazen 11.36% Suspension will treat 50 animals weighing 500 lb.
Sheep: 1 liter of Valbazen 11.36% Suspension will treat 664 animals weighing 50 lb.
Goats: 1 liter of Valbazen 11.36% Suspension will treat 500 animals weighing 50 lb.
Valbazen 11.36% Suspension should be given orally using any type of standard dosing gun or dose syringe.

Important: Accurate estimates of the weight of the cattle, sheep, and goats to be treated are essential for most effective results with this product. Animals constantly exposed to internal parasites should be retreated as necessary.

Residue Warnings: Cattle must not be slaughtered within 27 days following last treatment. Sheep and Goats must not be slaughtered within 7 days following last treatment. Because a withdrawal time in milk has not been established, do not use in female dairy cattle of breeding age. Do not use in lactating does.

Precaution: Do not administer to female cattle during first 45 days of pregnancy or for 45 days after removal of bulls. Do not administer to ewes or does during the first 30 days of pregnancy or for 30 days after removal of rams or bucks. Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism.

Keep This and All Medication Out of Reach of Children

Shake Well Before Using

For Use in Animals Only

Store at Controlled Room Temperature 20° – 25°C (68° – 77°F)

Protect From Freezing

Not for human use

Restricted Drug (California) - Use only as directed



zoetis

Distributed by:
Zoetis Inc.
Kalamazoo, MI 49007

8784000
13945200



LOT
EXP



FOR ORAL USE IN SHEEP ONLY
Consult your veterinarian for assistance in diagnosis, treatment, and control of parasitism.

DESCRIPTION: Ivermectin Sheep Drench is a ready-to-use, free-flowing solution of ivermectin. It is formulated to deliver the recommended dose rate of 0.2 mg ivermectin per 1 kg body weight given orally at a volume of 3.0 mL per 26 lbs body weight.

INDICATIONS: Ivermectin Sheep Drench provides treatment and control of adult and fourth-stage larvae of the following parasites: Gastrointestinal Roundworms - *Haemonchus contortus*, *Ostertagia circumcincta*, *Trichostrongylus axei*, *T. colubriformis*, *Cooperia curticei*, *Nematodirus spathiger*, *N. battus*, and *Oesophagostomum columbianum*; Lungworms - *Dictyocaulus filaria*; and all the larval stages of Nasal Bot - *Oestrus ovis*. It also provides treatment and control of adult forms only of the following Gastrointestinal Roundworms - *Haemonchus placei*, *Cooperia oncophora*, *Strongyloides papillosus*, *Oesophagostomum venulosum*, *Trichuris ovis*, and *Chabertia ovina*.

DIRECTIONS FOR USE: Ivermectin Sheep Drench may be used in any standard drenching equipment or in any equipment which provides a consistent dose volume. Ivermectin Sheep Drench is administered orally at a dose of 3.0 mL (2.4 mg ivermectin) per 26 lbs body weight or 200 mcg ivermectin per kilogram of body weight. Coughing may be observed in some animals during and for several minutes following drenching.

RESIDUE INFORMATION: Do not treat sheep within 11 days of slaughter. ◀

The Material Safety Data Sheet (MSDS) contains more detailed occupational safety information. To report adverse effects in users, to obtain an MSDS, or for assistance call 1-800-821-5570.

PRECAUTIONS: Ivermectin Sheep Drench has been formulated specifically for use in sheep only. This product should not be used in other animal species as severe adverse reactions, including fatalities in dogs, may result. This product is not to be used parenterally.

KEEP THIS AND ALL DRUGS OUT OF REACH OF CHILDREN.
Refrain from smoking and eating when handling. Avoid contact with eyes. Immediately wash hands and any spills on the skin with plenty of soap and water following use.


STORAGE: Store at controlled room temperature between 15° and 30°C (59°-86°F). Keep tightly closed, protect from light.

ENVIRONMENTAL SAFETY: Studies indicate that when ivermectin comes in contact with the soil, it readily and tightly binds to the soil and becomes inactive over time. Free ivermectin may adversely affect fish and certain water-borne organisms on which they feed. Do not permit water runoff from feedlots to enter lakes, streams or ground water. Do not contaminate water by direct application or by the improper disposal of drug containers. Spills should be contained and soaked up with absorbent towels or into loose soil. Gloves should be worn to prevent skin exposure. All the collected materials (contaminated towels and soil), as well as all empty drug containers should be placed in an impervious film (plastic) bag and disposed of by incineration or in an approved landfill.

Lot No. Exp. Date

Rev. 01-09

Restricted Drug (California) - Use Only as Directed

TAKE TIME  OBSERVE LABEL DIRECTIONS

Manufactured for:
DURVET, INC.
Blue Springs, Missouri 64014



LOT#H90F 07/15
DM040 00615

1. From the products shown, select a dewormer to use on a lamb weighing 125 pounds and calculate the dosage rate.

Valbazen – 3.75mL

100 lb = 3.0mL

25 lb = 0.75mL

$3.0\text{mL} + 0.75\text{mL} = 3.75\text{mL}$

Ivermectin – 14.4 mL

3.0 ml/26 lbs

$125\text{ lb} / 26\text{ lb} = 4.8 * 3\text{mL} = 14.4\text{ mL}$

2. How would you administer the medication?

Valbazen – Orally (drench)

Ivermectin – Orally (drench)

3. What is the earliest possible date this lamb could be slaughtered?

Valbazen – 7 day withdrawal period

Ivermectin – 11 day withdrawal period

4. Catch lamb number _____. Properly set the lamb on its rump as to restrain it for shearing. Demonstrate how to trim hooves.

YouTube video on how to flip a sheep

<https://www.youtube.com/watch?v=Oo841e5BQDk>

Meat & Carcass Evaluation

Team members will measure ribeye area and calculate yield grade from a ribeye provided.

1. Measure the ribeye area.

Resources:

USDA AMS Method for Grid Assessment of Beef Carcass Ribeye Area

<http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5090712>

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

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

2. Figure the Yield Grade.

	PYG	REA	Cwt	KPH	YG
1.					
2.					
3.					

Additional Resources:

South Dakota State University Beef Grading

<https://www.sdstate.edu/ars/students/activities/judging/evaluation/beef-grading.cfm>

Colorado State University Beef Grading

<http://www.beefresearch.org/cmdocs/beefresearch/beef%20grading.pdf>

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>

Evaluation of Performance & Marketing Information

Team members will evaluate a breeding animal scenario and make animal selection decisions based upon performance data to rank breeding animals for use within the situation. The scenario can come from any species of livestock. Example below.

Boar Selection Scenario

The following group of Yorkshire boars were bred by a purebred Yorkshire breeder in Oklahoma. The breeder uses the boars for natural service, but gains a large portion of his revenue from the sale of semen for artificial insemination. Three Arkansas swine families are considering purchasing semen from the breeder to use as the first service for covering their swine herds:

1. The Smith's live in Southwest Arkansas and raise crossbred show pigs and terminal boars. In the past few years, they have noticed a lack of consistency in their litters and are looking to improve this by using a purebred Yorkshire boar to make replacement females.
2. The Jones' reside in the Northeast corner of the state and have typically been known as purebred Hampshire breeders. Recently, they have been struggling to sell Hampshire boars in the quantity they had for the previous two decades. In an attempt to generate more revenue the Jones' have purchased 20 Yorkshire females and are focused on succeeding in the purebred Yorkshire seedstock industry.
3. The Williams' from Northwest Arkansas have prided themselves on producing an array of purebred swine (Duroc, Hampshire, Spot, and Yorkshire). Their successes in purebred shows and sales have led to an increased demand of show pigs for 4-H and FFA exhibitors. They would like to improve the quality of their Yorkshire show pigs without compromising the value of their Yorkshire seedstock.

Boar #	Name	EN	DOB	MLI	TSI	EPD's				
						Dam's SPI	Days to 250lbs	BF	NBA	21d LWT
1	Hurricane	58-3	12/25/13	102.1	113.3	104.2	0.1	-0.07	-0.1	-1.4
2	Moose	2-8	1/3/14	114.8	118.8	107.9	-3.8	-0.01	0.1	1.3
3	Surefoot	6-4	1/8/14	111.3	103.2	112.2	0.2	0.05	0.2	2.6
4	Stilly	61-1	12/31/13	99.2	101.3	99.8	2.3	0.06	-0.2	-2.3
5	Hornback	21-2	2/15/14	106.3	108.2	103.6	-1.1	0.01	0.3	3.4
6	Clyde	2-4	1/3/14	110.2	116.9	107.9	-2.1	-0.03	0.1	1.3
7	Harold	38-1	12/20/13	104.5	109.2	105.4	-1.3	-0.04	0.4	1.7
8	E-2	55-6	12/24/13	98.7	101.1	100.3	2.1	-0.03	-0.2	-1.5

MLI = Maternal Line Index TSI = Terminal Sire Index SPI = Sow Productivity Index

1. Which boar is the most maternal oriented and would be the best choice for the Smith's?
Moose
2. Of the December born boars, which was produced by the most productive sow?
Harold
3. Which boar has the most balanced genetic profile and is the most suitable for the Jones and Williams families?
Moose
4. Which two boars are the oldest?
Harold & E-2
5. Between the boars that have a negative EPD for NBA which would be a more practical choice for all of the families?
Hurricane
6. Which boar should sire the fastest growing offspring?
Moose
7. Between the two boars that are clearly the least valuable in terms of maternal and terminal traits which is younger?
Stilly
8. Of the three boars with the lowest Dam's SPI which should produce the fattest gaining growing offspring?
Hornback
9. Which boar's daughters would you expect to be the heaviest milking?
Hornback
10. Which two boars are littermates?
Moose & Clyde
11. How many boars should increase the cutability of their offspring?
4
12. Does the youngest boar also have the highest litter notch?
No
13. Of the boars with -0.03 for BF which offers more maternal value?
Clyde
14. Offspring from which two boars will potentially require the most days on feed to reach an acceptable market weight?
Stilly & E-2
15. Which two boars have the least promising genetic profiles?
Stilly & E-2

Additional Resources:

Understanding Expected Progeny Differences (EPDs) – Cattle

<http://www.extension.umn.edu/agriculture/beef/components/homestudy/mlesson3.pdf>

EPD and \$Value Definitions – American Angus Association

<http://www.angus.org/Nce/Definitions.aspx>

Swine EPD Terminology

[http://www.thejudgingconnection.com/pdfs/Swine EPD Terminology.pdf](http://www.thejudgingconnection.com/pdfs/Swine_EP_D_Terminology.pdf)

Understanding and Using Performance Data in Swine Judging Classes – Extension

<http://www.extension.org/pages/27319/understanding-and-using-performance-data-in-swine-judging-classes#.VY1mxxtVhBc>

Understanding Sheep Expected Progeny Differences (EPDs) – Virginia Tech

<http://www.apsc.vt.edu/facilities/sheep/flocks/sheep-epds.pdf>

Understanding Sheep Estimated Breeding Values – North Dakota State University

<https://www.ag.ndsu.edu/pubs/ansci/sheep/as1621.pdf>

Goat Reproduction Selection Genetic Animal Evaluation EPDs – Extension

<http://www.extension.org/pages/63284/goat-reproduction-selection-genetic-animal-evaluation-epds#.VY1oKRtVhBc>

EPDs – Kiko EPD Program

<http://www.kikogoats.com/EPDs.pdf>