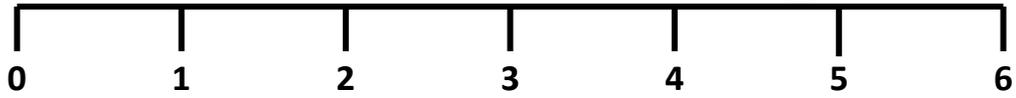
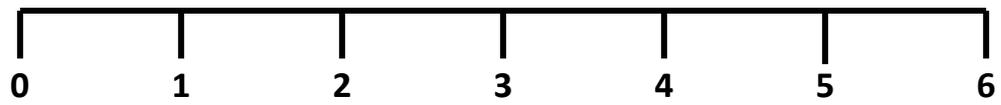


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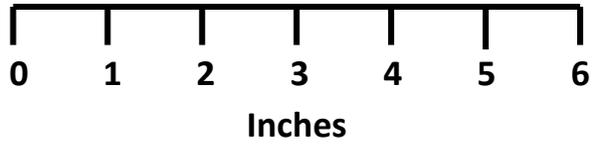
Inches

2

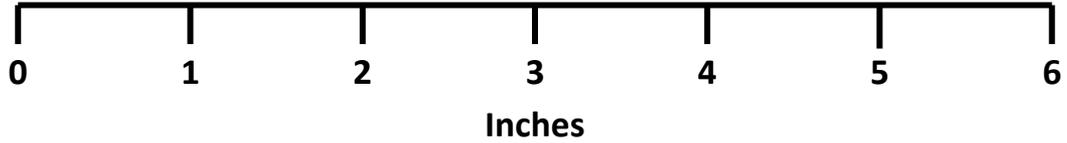


Inches

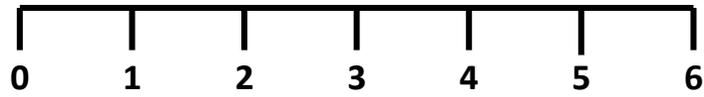
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4



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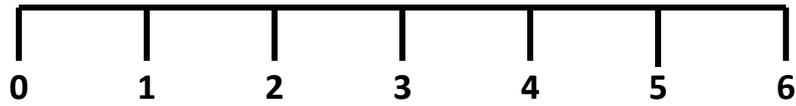
Inches

6



0 1 2 3 4 5 6  
Inches

7



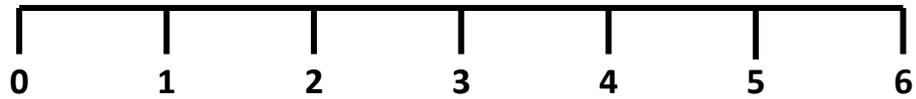
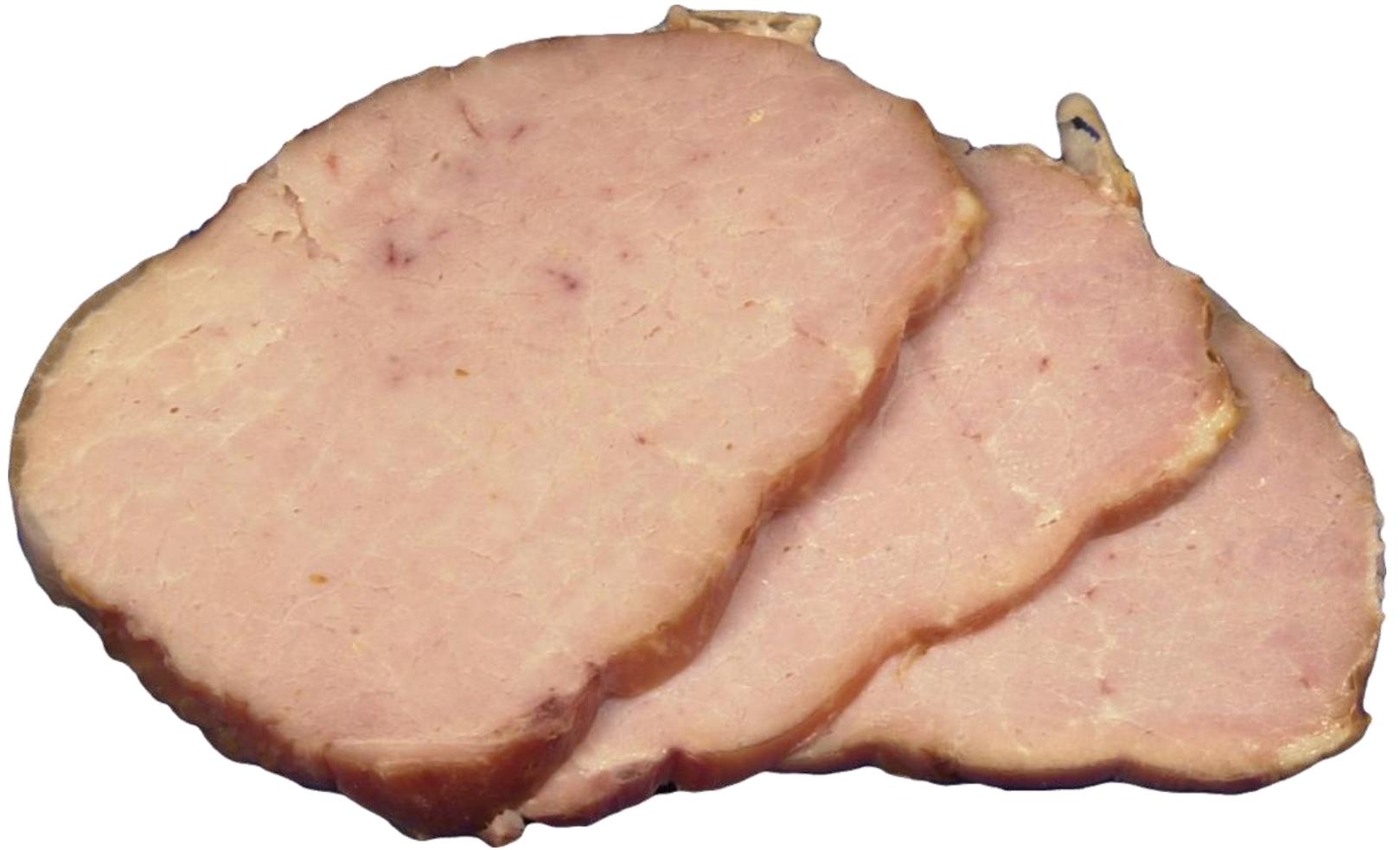
Inches

8



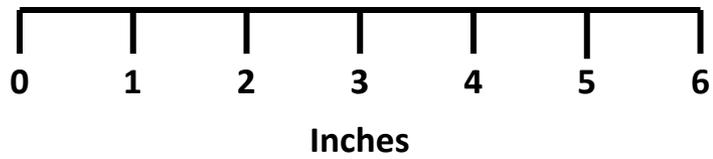
Inches

9



Inches

# 10







1



2



3



4



*Mark Sneed*

5



Brad Hock

6



7



*Mapes*

8



9



10



Name                      **KEY**                      Contestant #                      County                     

## Senior Livestock Breeds Identification-2012

INSTRUCTIONS: For each picture, use the columns on the right to choose the number or letter that indicates your answer for each livestock breed. Use capital letters and write neatly. **Seniors** provide answers for breed name, origin of breed, and important characteristics/traits. Each question is worth 5 points (150 points total for Seniors).

	Breed Name	Origin of Breed	Important Traits
1.	<u>45</u>	<u>F</u>	<u>S</u>
2.	<u>46</u>	<u>G</u>	<u>R</u>
3.	<u>42</u>	<u>P</u>	<u>Q</u>
4.	<u>15</u>	<u>I</u>	<u>D</u>
5.	<u>5</u>	<u>C</u>	<u>F</u>
6.	<u>49</u>	<u>S</u>	<u>X</u>
7.	<u>47</u>	<u>Q</u>	<u>Y</u>
8.	<u>57</u>	<u>B</u>	<u>U</u>
9.	<u>21</u>	<u>M</u>	<u>I</u>
10.	<u>27</u>	<u>J</u>	<u>G</u>

Breed Names – to be used in answer column 1 by <b>Clovers, Intermediates, and Seniors</b>			
Beef Breeds	Goat Breeds	Sheep Breeds	Swine Breeds
1. Angus	17. Alpine	30. Cheviot	47. Berkshire
2. Brahman	18. American Cashmere	31. Columbia	48. Chester White
3. Brangus	19. Angora	32. Corriedale	49. Duroc
4. Charolais	20. Boer	33. Dorper	50. Hampshire
5. Chianina	21. Kiko	34. Dorset	51. Hereford
6. Gelbvieh	22. Lamancha	35. Finnsheep	52. Landrace
7. Hereford	23. Nubian	36. Hampshire	53. Pietrain
8. Limousin	24. Oberhasli	37. Katahdin	54. Poland China
9. Maine Anjou	25. Pygmy	38. Merino	55. Spotted
10. Polled Hereford	26. Saanen	39. Montadale	56. Tamworth
11. Red Angus	27. Spanish	40. Oxford	57. Yorkshire
12. Red Poll	28. Tennessee Fainting	41. Polled Dorset	
13. Santa Gertrudis	29. Toggenburg	42. Rambouillet	
14. Shorthorn		43. Romney	
15. Simmental		44. Southdown	
16. Tarentaise		45. Suffolk	
		46. White Dorper	

Origins of Breeds – to be used in answer column 2 by <b>Intermediates and Seniors</b>		
A. United States (Louisiana)	G. South Africa	N. Denmark
B. Yorkshire County, England	H. Iowa and Nebraska (U.S.A.)	O. North Carolina State Univ.
C. Italy	I. Simme Valley of Switzerland	P. France
D. Scotland	J. Descendents of Spanish stock	Q. Berkshire County, England
E. District of Angora in Asia Minor	K. Shropshire, England	R. Putnam and Hendricks County, Indiana
F. Suffolk, England	L. Kent, England	S. United States (New York/New Jersey)
	M. New Zealand	

### Important Characteristics/Traits Origins of Breeds – to be used in answer column 3 by **and Seniors**

#### Beef Cattle Characteristics/Traits

- A. Heat and tick resistance, hardiness, and maternal instincts
- B. Growth rate, muscling, early puberty, calving ease, and mothering ability
- C. Foraging ability, docile, and good fertility.
- D. Heavily muscled, high carcass yield, growth rate, feed efficiency, and milk production.
- E. Early maturity, reproductive performance, mothering ability, disposition, and hardiness.
- F. Originally was extremely large framed and a white to steel gray color, but today the breed is mostly black hided and popular for crossbreeding and in the “Club Calf” Industry

#### Goats Characteristics/Traits

- G. Meat Yield, tough, agile, and hardy, also good browsing ability
- H. Meat production mohair production, browsing ability, and not as prolific as other goats.
- I. Meat yield, growth rate, constitution, and twinning rate
- J. High butterfat content extended breeding season, best suited for hot conditions, and multi-purpose use (milk, meat, and hide).
- K. Heavy milkers, rugged bone, and vigor. Saanens are sensitive to excessive sunlight and perform best in cooler conditions.
- L. Meat yield, growth rate, high milk production

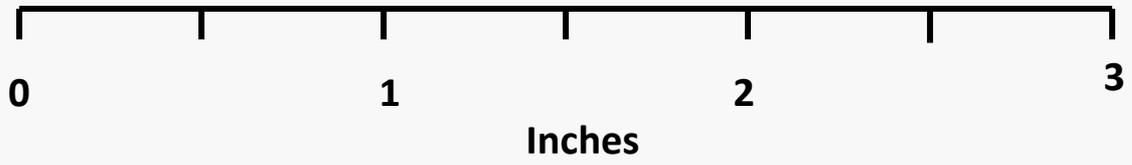
#### Sheep Characteristics/Traits

- M. Carcass conformation will breed “out-of-season”, and milking ability
- N. Prolificacy, mothering ability, and wool production.
- O. Carcass conformation, growth rate, lambing percentage, and wool production
- P. Carcass conformation, heavy fleece, and lambing percentage.
- Q. Herding instinct and wool production.
- R. Extremely hardy, fast growing, fertile, can survive and thrive under harsh conditions
- S. Muscling, leanness, growth rate, and fertility

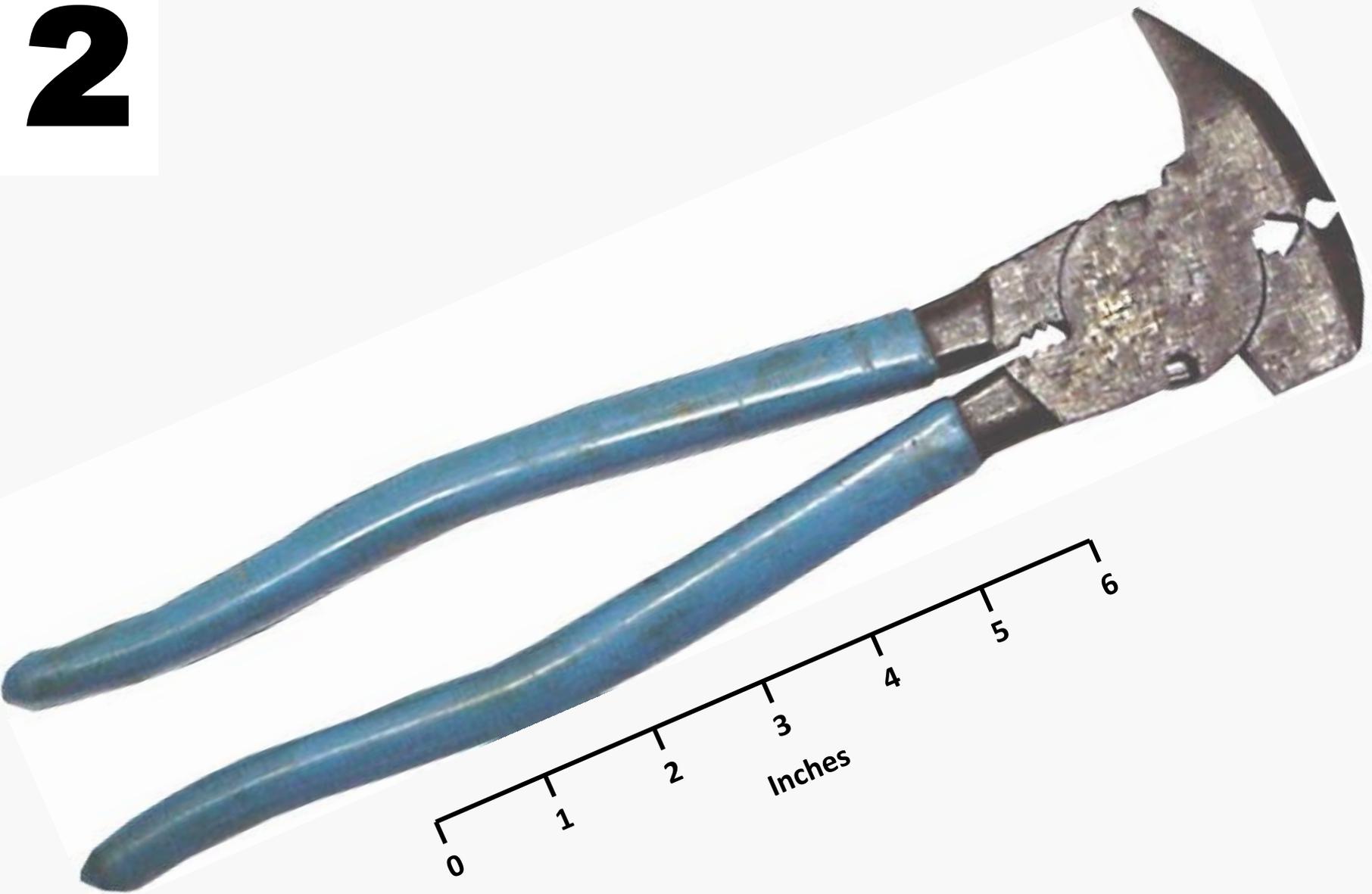
#### Swine Characteristics/Traits

- T. Aggressive breeder and high growth rate.
- U. Prolificacy (litter size), milking ability, mothering ability.
- V. Extreme muscling and leanness.
- W. Carcass quality (intramuscular fat) and litter size
- X. Excellent rate of gain and feed efficiency.
- Y. Conception rate and meat quality (intramuscular fat)

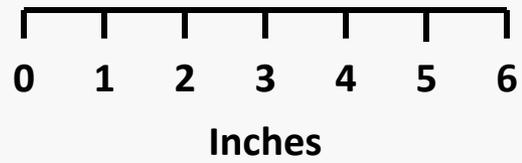
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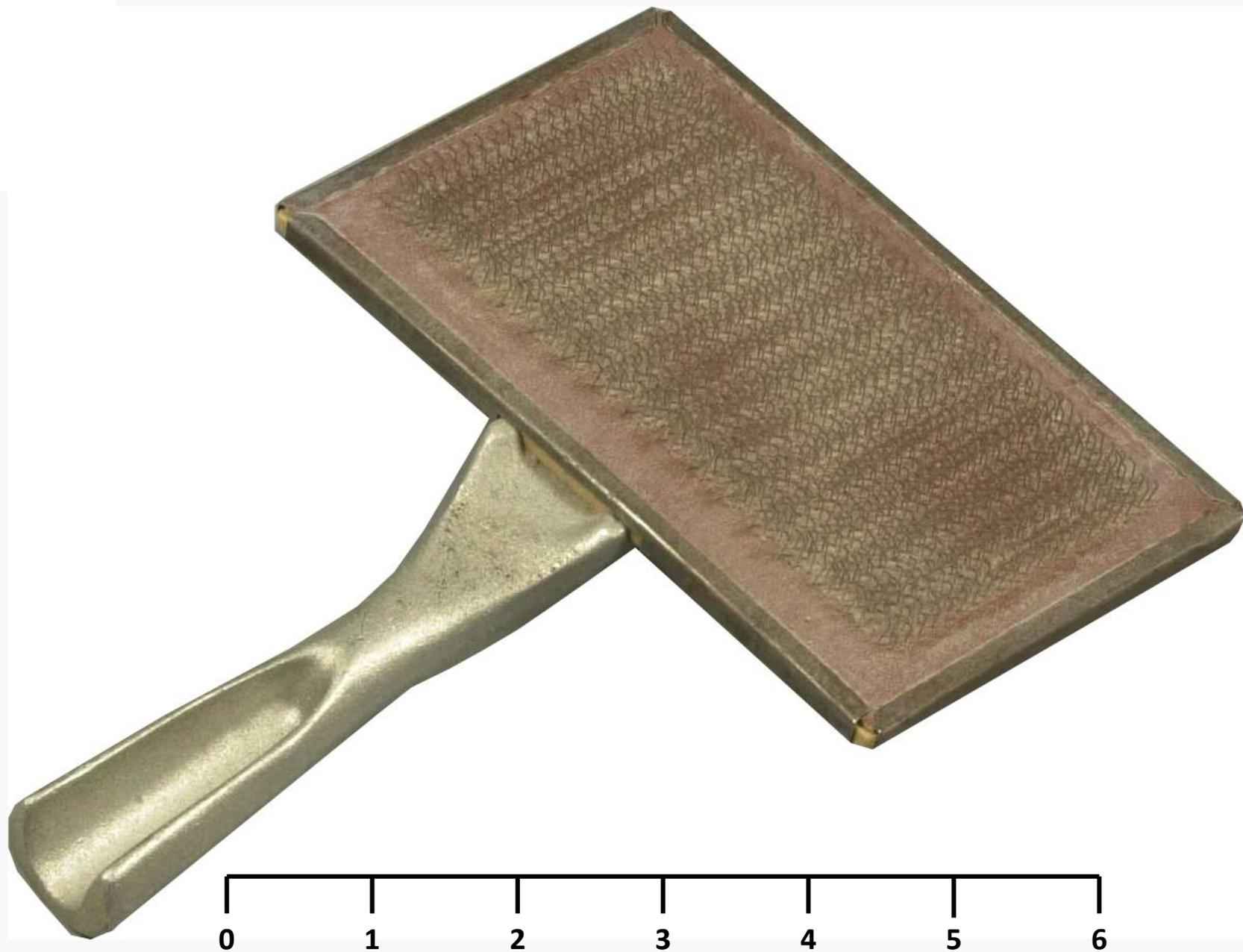
2



3



4



Inches

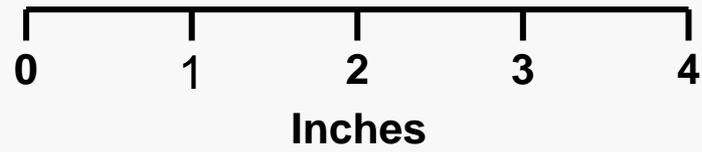
5



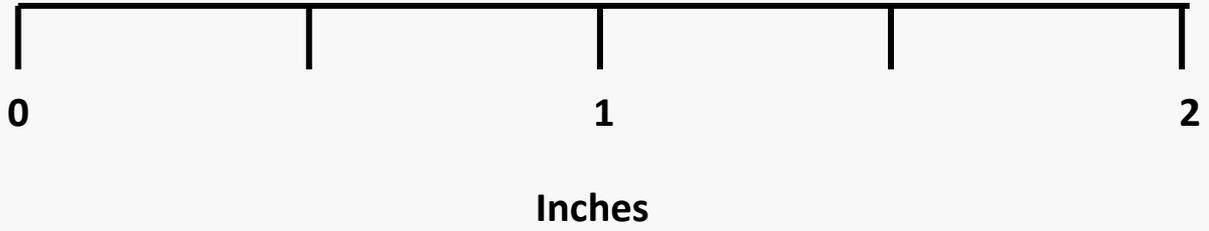
0 1 2 3 4 5 6

Inches

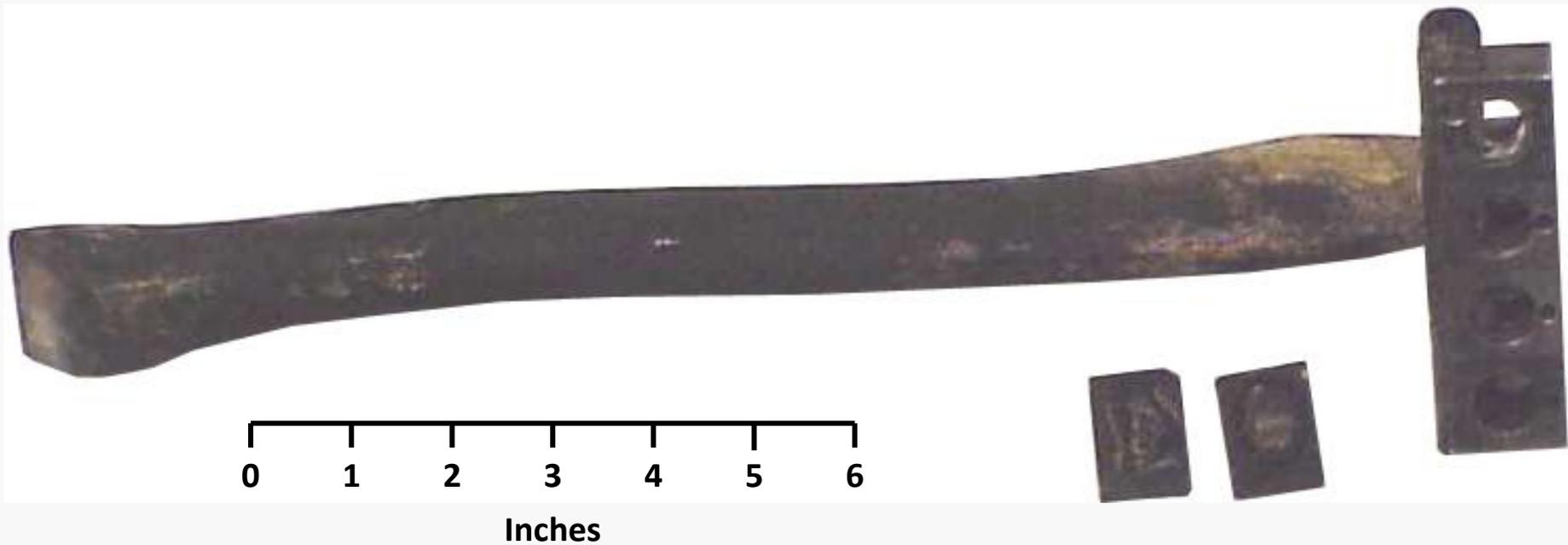
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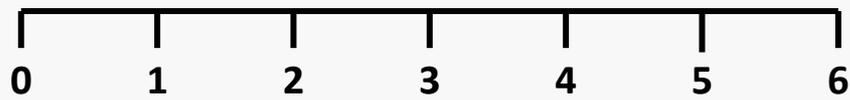
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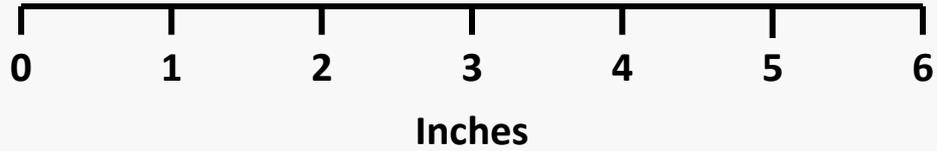


9



Inches

# 10



## Senior Livestock/Meat Equipment Identification-2012

INSTRUCTIONS: For each picture, use the columns on the right to choose the number or letter that indicates your answer for each piece of equipment. Use capital letters and write neatly. **Intermediates** and **Seniors** provide answers for livestock/meat equipment names and equipment use. Each question is worth 5 points (100 points total for Intermediates and Seniors).

	Equipment Name	Equipment Use
1.	<u>12</u>	<u>N</u>
2.	<u>21</u>	<u>O</u>
3.	<u>32</u>	<u>Q</u>
4.	<u>42</u>	<u>S</u>
5.	<u>70</u>	<u>A</u>
6.	<u>46</u>	<u>D</u>
7.	<u>38</u>	<u>H</u>
8.	<u>37</u>	<u>T</u>
9.	<u>39</u>	<u>I</u>
10.	<u>13</u>	<u>C</u>

Equipment Names – to be used in answer column 1 by <b>Clovers, Intermediates, and Seniors</b>		
	Livestock Equipment	Meat Equipment
1.	All-in-one castrator/docker	43. Backfat ruler
2.	Artificial insemination pipettes (Swine)	44. Band saw
3.	Bowl waterer	45. Bone dust scraper
4.	Balling gun	46. Boning knife
5.	Barnes dehorner	47. Bowl chopper
6.	Cattle clippers	48. Dehairing machine
7.	Clipper comb	49. Electrical stunner
8.	Clipper cutter	50. Emulsifier
9.	Currycomb	51. Ham net
10.	Disposable syringes	52. Hand saw
11.	Drench gun	53. Hard hat
12.	Ear notchers	54. Loin eye area grid
13.	Ear tag	55. Meat grinder
14.	Elastrator	56. Meat grinder auger
15.	Electric branding iron	57. Meat grinder knife
16.	Electric dehorner	58. Meat grinder plate
17.	Electric docker	59. Meat grinder stuffing rod
18.	Emasculator (Burdizzo)	60. Meat hook
19.	Emasculator	61. Meat tenderizer
20.	Ewe prolapse retainer	62. Meat trolley
21.	Fencing pliers	63. Metal knife scabbard
22.	Foot rot shears	64. Rubber apron
23.	Freeze branding iron	65. Sharpening steel
24.	Hanging Scale	66. Smoke house
25.	Hog holder (snare)	67. Thermometer
26.	Lamb tube feeder	68. Tumbler
27.	Needle teeth nippers	69. Vacuum sausage stuffer
28.	Nipple waterer	70. Whale saw
29.	Nose ring	
30.	Nose ring pliers	
31.	Obstetrical (O.B.) chain	
32.	Plastic Sleeve	
33.	Ralgro implant cartridge	
34.	Ram marking harness	
35.	Rumen magnate	
36.	Scalpel	
37.	Slap tattoo	
38.	SYNOVEX Implant cartridge	
39.	SYNOVEX Implant gun	
40.	Syringe Needles	
41.	Tattoo pliers	
42.	Wool card	

### Equipment Uses – to be used in answer column 2 by **Intermediates and Seniors**

- |  |  |
|--|--|
| A. Used to split animal carcasses after slaughter.   | J. An automatic waterer used to provide clean, fresh water to pigs.  |
| B. A device placed on rams that shows when a ewe has been serviced.  | K. Used to remove dirt and loose hair from cattle when grooming  |
| C. Placed in an animal's ear to provide an easy to read form of individual identification.   | L. A non-rusting, round post electric fence insulator. Will work on round posts up to about 1/2-inch diameter.   |
| D. Used to cut up meat carcasses   | M. Used by shearers to quickly replace the clipper comb and clipper cutter on cattle clippers.   |
| E. Used to clean bone fragments from meat cuts that result from cutting meat with saws during processing.  | N. Used to clip small notches in a pig's ear to provide a form of permanent, individual pig identification.  |
| F. Used to weigh young animals, feed ingredients to include in a diet, or the amount of feed to feed to an animal.   | O. Used when building fences. These pliers will cut, splice, and stretch wire, and drive and pull staples.   |
| G. An instrument used to control vaginal prolapse in ewes.   | P. Used to pick up meat pieces during carcass fabrication  |
| H. The cartridge containing the SYNOVEX implant (for growth promotion) that is placed in the SYNOVEX Implant Gun for placing the implants in beef calves ears. | Q. Placed over the hand and arm when artificially breeding cattle or when pulling newborn animals during difficult births (dystocia).  |
| I. Used to insert a SYNOVEX implant (for growth promotion) under the loose skin and above the cartilage on the back side of a beef calf's ear.                 | R. Used by veterinarians for various surgical procedures, and by farmers for various health related and management practices (such as castration).   |
|  | S. Used to card (comb or rake) the wool on sheep prior to shearing.  |
|  | T. Used to place tattoo numbers on pigs (typically on the side or on the side of the shoulder) as a form of permanent identification that will remain on the carcass after the pig is slaughtered. |

# Senior Retail Meat Judging - 1 (2012)

Name \_\_\_\_\_ Contestant # \_\_\_\_\_ County \_\_\_\_\_

## Pork Bone-in Loin Chops 1-3-2-4 Cuts 3-5-3

Contestant Number \_\_\_\_\_

Placing Score \_\_\_\_\_

*University of Kentucky  
College of Agriculture  
Animal Sciences Department*

Contestant's Name

\_\_\_\_\_  
\_\_\_\_\_

Address

\_\_\_\_\_  
\_\_\_\_\_

County

\_\_\_\_\_

Class

\_\_Retail Meat Judging 1\_\_

A	1 2 3 4	45
B	1 2 4 3	37
C	1 3 2 4	50
D	1 3 4 2	47
E	1 4 2 3	34
F	1 4 3 2	39
G	2 1 3 4	37
H	2 1 4 3	29
I	2 3 1 4	34
J	2 3 4 1	23
K	2 4 1 3	18
L	2 4 3 1	15
M	3 1 2 4	47
N	3 1 4 2	44
O	3 2 1 4	39
P	3 2 4 1	28
Q	3 4 1 2	33
R	3 4 2 1	25
S	4 1 2 3	23
T	4 1 3 2	28
U	4 2 1 3	15
V	4 2 3 1	12
W	4 3 1 2	25
X	4 3 2 1	17

[Questions on back]

## Questions

- 1.) Which chop does not have a tenderloin? 4
- 2.) Which chop contains the most marbling? 3
- 3.) Between 2 and 3, which chop has the least amount of bone? 2
- 4.) Which chop has the smallest loineye? 4
- 5.) Which chop has the most fat over the tenderloin? 2

# Senior Retail Meat Judging - 2 (2012)

Name \_\_\_\_\_ Contestant # \_\_\_\_\_ County \_\_\_\_\_

## Beef Ribeye Steaks 1-4-2-3 Cuts 3-2-3

Contestant Number \_\_\_\_\_

Placing Score \_\_\_\_\_

*University of Kentucky  
College of Agriculture  
Animal Sciences Department*

Contestant's Name

\_\_\_\_\_  
\_\_\_\_\_

Address

\_\_\_\_\_  
\_\_\_\_\_

County

\_\_\_\_\_

Class

\_\_Retail Meat Judging 2\_\_

A	1 2 3 4	43
B	1 2 4 3	48
C	1 3 2 4	40
D	1 3 4 2	42
E	1 4 2 3	50
F	1 4 3 2	47
G	2 1 3 4	38
H	2 1 4 3	43
I	2 3 1 4	30
J	2 3 4 1	27
K	2 4 1 3	40
L	2 4 3 1	32
M	3 1 2 4	32
N	3 1 4 2	34
O	3 2 1 4	27
P	3 2 4 1	24
Q	3 4 1 2	31
R	3 4 2 1	26
S	4 1 2 3	47
T	4 1 3 2	44
U	4 2 1 3	42
V	4 2 3 1	34
W	4 3 1 2	36
X	4 3 2 1	31

# Senior Hay Judging-2012

Name \_\_\_\_\_ Contestant # \_\_\_\_\_ County \_\_\_\_\_

**3-2-4-1**  
**Cuts of 2-4-7**

<b>Contestant Number</b> _____	<table border="1"><tr><td>A</td><td>1 2 3 4</td><td><b>17</b></td></tr><tr><td>B</td><td>1 2 4 3</td><td><b>11</b></td></tr><tr><td>C</td><td>1 3 2 4</td><td><b>19</b></td></tr><tr><td>D</td><td>1 3 4 2</td><td><b>15</b></td></tr><tr><td>E</td><td>1 4 2 3</td><td><b>7</b></td></tr><tr><td>F</td><td>1 4 3 2</td><td><b>9</b></td></tr><tr><td>G</td><td>2 1 3 4</td><td><b>28</b></td></tr><tr><td>H</td><td>2 1 4 3</td><td><b>22</b></td></tr><tr><td>I</td><td>2 3 1 4</td><td><b>41</b></td></tr><tr><td>J</td><td>2 3 4 1</td><td><b>48</b></td></tr><tr><td>K</td><td>2 4 1 3</td><td><b>29</b></td></tr><tr><td>L</td><td>2 4 3 1</td><td><b>42</b></td></tr><tr><td>M</td><td>3 1 2 4</td><td><b>32</b></td></tr><tr><td>N</td><td>3 1 4 2</td><td><b>28</b></td></tr><tr><td>O</td><td>3 2 1 4</td><td><b>43</b></td></tr><tr><td>P</td><td>3 2 4 1</td><td><b>50</b></td></tr><tr><td>Q</td><td>3 4 1 2</td><td><b>35</b></td></tr><tr><td>R</td><td>3 4 2 1</td><td><b>46</b></td></tr><tr><td>S</td><td>4 1 2 3</td><td><b>14</b></td></tr><tr><td>T</td><td>4 1 3 2</td><td><b>16</b></td></tr><tr><td>U</td><td>4 2 1 3</td><td><b>25</b></td></tr><tr><td>V</td><td>4 2 3 1</td><td><b>38</b></td></tr><tr><td>W</td><td>4 3 1 2</td><td><b>29</b></td></tr><tr><td>X</td><td>4 3 2 1</td><td><b>40</b></td></tr></table>	A	1 2 3 4	<b>17</b>	B	1 2 4 3	<b>11</b>	C	1 3 2 4	<b>19</b>	D	1 3 4 2	<b>15</b>	E	1 4 2 3	<b>7</b>	F	1 4 3 2	<b>9</b>	G	2 1 3 4	<b>28</b>	H	2 1 4 3	<b>22</b>	I	2 3 1 4	<b>41</b>	J	2 3 4 1	<b>48</b>	K	2 4 1 3	<b>29</b>	L	2 4 3 1	<b>42</b>	M	3 1 2 4	<b>32</b>	N	3 1 4 2	<b>28</b>	O	3 2 1 4	<b>43</b>	P	3 2 4 1	<b>50</b>	Q	3 4 1 2	<b>35</b>	R	3 4 2 1	<b>46</b>	S	4 1 2 3	<b>14</b>	T	4 1 3 2	<b>16</b>	U	4 2 1 3	<b>25</b>	V	4 2 3 1	<b>38</b>	W	4 3 1 2	<b>29</b>	X	4 3 2 1	<b>40</b>
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<b>County</b> _____																																																																									
<b>Class</b> <b>Hay Judging</b> _____																																																																									

**[TURN OVER for Scenario and Forage Analysis Information]**

# Senior Hay Judging-2012

## Scenario:

You are backgrounding a load of feeder heifers with an average weight of 400 pounds. The calves have been purchased from a local stockyard and have not been vaccinated or weaned. Rank the four hay samples in the order that you would utilize them as the most cost effective source of forage for these feeder heifers. A commercial preconditioning feed will be feed for the first 3 weeks of the backgrounding period in addition to the hay that you choose. Ultimately the hay you choose will be the main source of feed until spring grass arrives.

## Nutrient Requirements for 400 pound, feeder heifers to gain 1.5 pounds per day.

Dry Matter: 10.7 pounds per day  
 Crude Protein: 12.1%  
 Total Digestible Nutrients 64%

## Forage Analysis

	<u>Hay #1</u> Mixed Grass	<u>Hay #2</u> 1 <sup>st</sup> cutting Orchardgrass	<u>Hay #3</u> 2 <sup>nd</sup> cutting Orchardgrass	<u>Hay #4</u> Grass/Legume Mixed
Dry Matter	<b>88.9%</b>	<b>87.9%</b>	<b>88.6%</b>	<b>88.6%</b>
Crude Protein	<b>7.4%</b>	<b>12.7%</b>	<b>13.5%</b>	<b>15.2%</b>
Acid Detergent Fiber	<b>49.9%</b>	<b>44.8%</b>	<b>44.2%</b>	<b>41.5%</b>
Neutral Detergent Fiber	<b>69.2%</b>	<b>67.5%</b>	<b>67.2%</b>	<b>61.4%</b>
Total Digestible Nutrients	<b>50.0%</b>	<b>64.6%</b>	<b>65.5%</b>	<b>66.5%</b>
Price per Ton	<b>\$80</b>	<b>\$100</b>	<b>\$110</b>	<b>\$145</b>

# Micotil® 300 Injection\*

Tilmicosin Injection, USP

**Caution:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

**Description:** Micotil® is a solution of the antibiotic tilmicosin. Each mL contains 300 mg of tilmicosin, USP as tilmicosin hydrochloride in 25% propylene glycol, phosphoric acid as needed to adjust pH and water for injection, Q.S. Tilmicosin, USP is produced semi-synthetically and is in the macrocyclic class of antibiotics.

**Indications:** Micotil is indicated for the treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica*, *Pasteurella multocida* and *Histophilus somni* and for the treatment of ovine respiratory disease (ORD) associated with *Mannheimia haemolytica*. Micotil is indicated for the control of respiratory disease in cattle at high risk of developing BRD associated with *Mannheimia haemolytica*.

**Dosage and Administration: Inject Subcutaneously in Cattle and Sheep Only.** In cattle, administer a single subcutaneous dose of 10 to 20 mg/kg of body weight (1 to 2 mL/30 kg or 1.5 to 3 mL per 100 lbs). In sheep greater than 15 kg, administer a single subcutaneous dose of 10 mg/kg of body weight (1 mL/30 kg or 1.5 mL per 100 lbs). Do not inject more than 10 mL per injection site.

If no improvement is noted within 48-hours, the diagnosis should be reevaluated.

For cattle and sheep, injection under the skin in the neck is suggested. If not accessible, inject under the skin behind the shoulders and over the ribs.

**Note:** Swelling at the subcutaneous site of injection may be observed.

**Contraindications:** Do not use in automatically powered syringes. Do not administer intravenously to cattle or sheep. Intravenous injection in cattle or sheep will be fatal. Do not use in lambs less than 15 kg body weight. Do not administer to animals other than cattle or sheep. Injection of this antibiotic has been shown to be fatal in swine and non-human primates, and it may be fatal in horses and goats.

**Warnings:**

**Human Warnings:** Not for human use. Injection of this drug in humans has been associated with fatalities. Keep out of reach of children. Do not use in automatically powered syringes. Exercise extreme caution to avoid accidental self-injection. In case of human injection, consult a physician immediately and apply ice or cold pack to injection site while avoiding direct contact with the skin. Emergency medical telephone numbers are 1-800-722-0987 or 1-800-428-4441. Avoid contact with eyes.

**Note To The Physician:** The cardiovascular system is the target of toxicity and should be monitored closely. Cardiovascular toxicity may be due to calcium channel blockade. In dogs, administration of intravenous calcium offset Micotil-induced tachycardia and negative inotropy (decreased contractility). Dobutamine partially offset the negative inotropic effects induced by Micotil in dogs.  $\beta$ -adrenergic antagonists, such as propranolol, exacerbated the negative inotropy of Micotil in dogs. Epinephrine potentiated lethality of Micotil in pigs. This antibiotic persists in tissues for several days.

**Advertencias Para El Ser Humano:** Este producto no es para uso humano. La inyección de este medicamento al ser humano se ha asociado con muertes. Mantenga fuera del alcance de los niños. No use en jeringas operadas automáticamente. Proceda con extrema cautela para evitar la autoinyección accidental. En caso de inyección a un ser humano, consulte a un médico inmediatamente y aplique hielo o una bolsa de hielo sobre el sitio de la inyección, evitando el contacto directo con la piel. Los números de teléfono para emergencias médicas son 1-800-722-0987 ó 1-800-428-4441. Evite el contacto con los ojos.

**Nota Para El Médico:** El sistema cardiovascular es el blanco de la toxicidad y debe vigilarse estrechamente. La toxicidad cardiovascular puede deberse al bloqueo de los canales de calcio. En los perros, la administración intravenosa de calcio compensó la taquicardia y los efectos inotrópicos negativos (reducción de la contractilidad) inducidos por Micotil. La dobutamina compensó parcialmente los efectos inotrópicos negativos inducidos por Micotil en perros. Los antagonistas  $\beta$ -adrenérgicos, como propranolol, exacerbaron el inotropismo negativo de Micotil en los perros. La epinefrina potenció la letalidad de Micotil en cerdos. Este antibiótico persiste en los tejidos por varios días.

**Residue Warnings:** Animals intended for human consumption must not be slaughtered within 42 days of the last treatment. Not for use in lactating dairy cattle 20 months of age or older. Use of tilmicosin in this class of cattle may cause milk residues. Not for use in lactating ewes producing milk for human consumption.

For Subcutaneous Use in Cattle and Sheep Only. Do Not Use in Automatically Powered Syringes. Solo Para Uso Subcutáneo en Bovinos y Ovinos. No Administrar con Jeringas Accionadas Automáticamente.

**Precautions:** Read accompanying literature fully before use. Intramuscular injection will cause a local reaction which may result in trim loss of edible tissue at slaughter. The effects of tilmicosin on bovine and ovine reproductive performance, pregnancy and lactation have not been determined.

**Adverse Reactions:** The following adverse reactions have been reported post-approval: In cattle: injection site swelling and inflammation, lameness, collapse, anaphylaxis/anaphylactoid reactions, decreased food and water consumption, and death. In sheep: dyspnea and death.

For a complete listing of adverse reactions for tilmicosin phosphate reported to the CVM see <http://www.fda.gov/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/ucm055394.htm>

**Clinical Pharmacology:** A single subcutaneous injection of Micotil at 10 mg/kg body weight dose in cattle resulted in peak tilmicosin levels within one hour and detectable levels (0.07 µg/mL) in serum beyond 3 days. However, lung concentrations of tilmicosin remained above the tilmicosin MIC 95% of 3.12 µg/mL for *Mannheimia haemolytica* for at least 3 days following the single injection. Serum tilmicosin levels are a poor indicator of total body tilmicosin. The lung:serum tilmicosin ratio in favor of lung tissue appeared to equilibrate by 3 days post-injection at approximately 60. In a study with radioactive tilmicosin, 24% and 68% of the dose was recovered from urine and feces respectively over 21 days. After a single subcutaneous injection of Micotil at 10mg/kg of body weight, tilmicosin concentrations in excess of 4 µg/mL were maintained in the alveolar macrophages and neutrophils of most cattle for at least 10 days. The clinical relevance of these findings has not been determined.

**Microbiology:** Tilmicosin has an *in vitro* antibacterial spectrum that is predominantly Gram-positive with activity against certain Gram-negative microorganisms. *In vivo* activity against several *Mycoplasma* species has also been observed.

**Effectiveness:** In a multi-location field study, 1508 calves with naturally occurring BRD were treated with Micotil. Responses to treatment were compared to saline-treated controls. A cure was defined as a calf with normal attitude and activity, normal respiration, and a rectal temperature of <104°F on Day 13. The cure rate was significantly higher (P=<0.04) in Micotil-treated calves (63.1%) compared to saline-treated calves (29.2%). During the treatment phase of the study, there were 10 BRD-related deaths in the Micotil-treated calves compared to 47 in the saline-treated calves.

**Animal Safety:** A safety study was conducted in feeder calves receiving subcutaneous doses of 20, 30, 40, or 60 mg/kg of body weight, injected 3 times at 72-hour intervals. Death was not seen in any of the treatment groups. Injection site swelling and mild hemorrhage at the injection site were seen in animals in all dosage groups. Lesions were described as being generally more severe and occurred at higher frequency rates in the animals treated with higher doses of tilmicosin. Lameness associated with the injection site was noted in two of twenty-four animals (one animal in the 30 mg/kg body weight treatment group and one animal in the 60 mg/kg treatment group). No other drug related lesions were observed macroscopically or microscopically. Decreases in food and water consumption were noted in all treatment groups compared to the control group.

A separate safety study conducted in feeder calves, subcutaneous doses of 10, 30, or 50 mg/kg of body weight, injected 3 times at 72-hour intervals did not cause any deaths. Edema at the site of injection was noted. The only lesion observed at necropsy was minimal myocardial necrosis in some animals dosed at 50 mg/kg.

In an additional safety study, subcutaneous doses of 150 mg/kg body weight injected at 72-hour intervals resulted in death of two of the four treated animals. Edema was marked at the site of injection. Minimal myocardial necrosis was the only lesion observed at necropsy. Deaths of cattle have been observed with a single intravenous dose of 5 mg/kg of body weight.

In sheep, single subcutaneous injections of 10 mg/kg body weight did not cause any deaths and no adverse effects of tilmicosin were observed on blood pressure, heart rate, or respiratory rate.

**Toxicology:** The heart is the target of toxicity in laboratory and domestic animals given Micotil by oral or parenteral routes. The primary cardiac effects are increased heart rate (tachycardia) and decreased contractility (negative inotropy). Cardiovascular toxicity may be due to calcium channel blockade.

Upon subcutaneous injection, the acute median lethal dose of tilmicosin in mice is 97 mg/kg, and in rats is 185 mg/kg of body weight. Given orally, the median lethal dose is 800 mg/kg and 2250 mg/kg body weight in fasted and nonfasted rats, respectively. No compound-related lesions were found at necropsy.

In dogs, intravenous calcium offset Micotil-induced tachycardia and negative inotropy, restoring arterial pulse pressure. Dobutamine partially offset the negative inotropic effects induced by Micotil in dogs.  $\beta$ -adrenergic antagonists, such as propranolol, exacerbated the negative inotropy of Micotil in dogs.

In monkeys, a single intramuscular dose of 10 mg/kg body weight caused no signs of toxicity. A single dose of 20 mg/kg body weight caused vomiting and 30 mg/kg body weight caused the death of the only monkey tested.

In swine, intramuscular injection of 10 mg/kg body weight caused increased respiration, emesis, and a convulsion. 20 mg/kg body weight resulted in mortality in 3 of 4 pigs, and 30 mg/kg caused the death of 4 of 4 pigs tested. Injection of 4.5 and 5.6 mg/kg body weight intravenously followed by epinephrine, 1 mL (1:1000) intravenously 2 to 6 times, resulted in death of all pigs injected. Pigs given 4.5 mg/kg and 5.6 mg/kg body weight intravenously with no epinephrine all survived. These results suggest intravenous epinephrine may be contraindicated.

Results of genetic toxicology studies were all negative. Results of teratology and reproduction studies in rats were negative. The no effect level in dogs after daily oral doses for up to one year is 4 mg/kg of body weight.

**Storage Conditions:** Store at or below 86°F (30°C). Protect from direct sunlight. Conservar a 86°F (30°C). Proteger de la luz solar directa.

**How Supplied:** Micotil is supplied in 100 mL and 250 mL multi-dose amber glass bottles.

Manufactured for:  
Elanco Animal Health • A Division of Eli Lilly and Company • Indianapolis, IN 46285, USA  
Revised January 2010

\*Micotil® is a trademark of Eli Lilly and Company.

Name **KEY** \_\_\_\_\_ Contestant # \_\_\_\_\_ County \_\_\_\_\_

## **Quality Assurance-Individual-Senior-2012**

You are the manager of a large stocker cattle operation that backgrounds over 5,000 head of feeder steers and heifers each year. Use the **Micotil 300** label to answer the **10 questions** below relating to stocker cattle management.

1.) How should **Micotil** be administered?

- A.) Mixed in the feed ration                      C.) Injected intramuscularly  
B.) Injected intravenously                      D.) **Injected subcutaneously**

2.) How may **Micotil** be used and/or purchased?

- A.) **Only by prescription and on order or by your licensed veterinarian**  
B.) Over the counter at the local farm supply store  
C.) Through mail order from any animal health company  
D.) From your consulting nutritionist that has a PhD in Animal Sciences

3.) If you need to treat a 500 pound feeder steer using the highest labeled dose, how many ml of **Micotil** would you use and how many injection sites?

- A.) **15 ml / 2 injection sites**                      C.) 15 ml / 1 injection site  
B.) 7.5 ml / 1 injection site                      D.) 10 ml / 1 injection sites

4.) How should **Micotil** be stored?

- A.) Stored in a refrigerator at around 40° Fahrenheit                      C.) Frozen until 1 hour before use  
B.) **Stored at or below 30° Celsius out of direct sunlight**                      D.) Stored on a truck dashboard

5.) **Micotil** is labeled to treat which one of the following diseases/disease causing organisms?

- A.) Bovine Respiratory Disease                      C.) *Mannheimia haemolytica*  
B.) *Pasteurella multocida*                      D.) **All of these**

[OVER]

6.) Micotil is what type or class of animal health product?

- A.) **Antibiotic**
- B.) Probiotic
- C.) Vaccine
- D.) Anthelmintic

7.) Which one of the following situations would Micotil be the most likely to treat?

- A.) **You receive a load of comingled, “bawling” calves showing signs of BRD. The calves have not been weaned or preconditioned (castrated, dehorned, or vaccinated)**
- B.) You receive a trailer-load-lot of weaned and preconditioned calves all from one source and your wanting to increase feed efficiency
- C.) You receive a load of stocker calves that needs treatment for foot rot
- D.) You receive a load of stocker calves that have an infestation of internal parasites

8.) Micotil is a trademark of \_\_\_\_\_?

- A.) Elanco Animal Health
- B.) **Eli Lilly and Company**
- C.) Pfizer Animal Health
- D.) Fort Dodge Animal Health

9.) Animals intended for human consumption must not be slaughtered within \_\_\_\_\_ of the last treatment of Micotil?

- A.) 1 month
- B.) 18 days
- C.) **42 days**
- D.) 21 days

10.) If you give an ejection of Micotil today (Saturday, Feb 18<sup>th</sup>) and the calf does not respond to the treatment (no improvement of symptoms), what should you do?

- A.) Give an injection at 2X the labeled dose in one week
- B.) Give another injection on Monday, February 20<sup>th</sup>
- C.) **Reevaluate the diagnosis with your veterinarian on Monday, February 20<sup>th</sup>**
- D.) Sell the calf at the local sale barn before it dies



- 6.) Which bull would be the best choice to breed to a herd of commercial Angus cows to increase calf weaning weights and also sire replacement heifers with increased hybrid vigor?
- An Angus bull with an above average weaning weight EPD
  - An Angus bull that had a ratio of 105 for weaning weight in his contemporary group
  - An Angus bull that had an actual weaning weight of 975 pounds
  - A Hereford bull with an above average weaning weight EPD**
- 7.) Which is the best management practice to prevent urinary calculi in sheep and goats?
- Add ammonium chloride to the feed**
  - Add chlortetracycline to the feed
  - Add Monensin to the feed
  - None of the above
- 8.) \_\_\_\_\_ is when cartilage turns from soft tissue to a hard, bone-like structure.
- Dressing percentage
  - Ossification**
  - Carcass breakdown
  - Carcass maturation
- 9.) Which sheep would you expect to shear the finest, highest quality fleece?
- A Suffolk ewe
  - A Rambouillet ewe**
  - A Dorper ewe
  - A Katahdin ewe
- 10.) What do the letters TGE stand for when discussing swine diseases?
- Transverse Glasser's Ecoli
  - Transmissible Gastroenteritis**
  - Trans dermal Gas Exchange
  - None of the above
- 11.) Which one of the following hormones is responsible for the secondary sexual characteristics of a Duroc Boar?
- Estrogen
  - Progesterone
  - Prostaglandin
  - Testosterone**
- 12.) Which one of the following is not a recognized USDA Quality Grade for a lamb carcass?
- Prime
  - Choice
  - Select**
  - Good

- 13.) The process of weaning, vaccinating, and teaching calves to eat from a feed bunk and drink from a water trough to increase their value is \_\_\_\_\_?
- a. Fitting
  - b. **Preconditioning**
  - c. Flushing
  - d. Synchronizing
- 14.) Which of the following would likely not be an ingredient in a beef cow mineral supplement?
- a. Zinc methionine
  - b. Calcium
  - c. Phosphorus
  - d. **Feed grade fat**
- 15.) Which city hosted the International Livestock Exposition from 1900-1975?
- a. **Chicago**
  - b. Omaha
  - c. Denver
  - d. Oklahoma City
- 16.) Which of the following is not a protein feed?
- a. Fish meal
  - b. Sunflower meal
  - c. **Steam flaked corn**
  - d. Soybean meal
- 17.) Which of the following would be a management technique used in processing a litter of baby pigs?
- a. Giving an iron injection
  - b. Clipping needle teeth
  - c. Docking tails
  - d. **All of the above**
- 18.) Which boar would be the best terminal sire for use on Yorkshire X Landrace sows?
- a. **Duroc with a TSI of 119**
  - b. Duroc with an actual backfat of 1.2 inches and an actual loin eye area of 5.5 square inches
  - c. Landrace with a MLI of 119
  - d. Yorkshire with a MLI of 119

[OVER]

19.) If a Suffolk ram had the following genotype: QQNS, which of the following would best describe him?

- a. Due to his genotype he should be an outstanding sire of replacement ewes
- b. He is homozygous for Scrapie susceptibility and heterozygous for the “Spider” Syndrome
- c. He is heterozygous for both Scrapie susceptibility and for the “Spider” Syndrome
- d. He is homozygous for both Scrapie susceptibility and for the “Spider” Syndrome

20.) Which pigs should be fed the highest level of crude protein?

- a. 50 pound pigs
- b. 200 pound pigs
- c. 500 pound mature breeding boars
- d. 500 pound gestating sows

21.) Why would you use a captive bolt gun on a beef animal?

- a. To inject a tranquilizer
- b. To inject a vaccine
- c. To stun the animal in processing
- d. To capture an unruly or escaped animal

22.) Which of the following is a legume forage plant?

- a. Tall fescue
- b. Timothy
- c. Red clover
- d. Both a and b

23.) Which wholesale cuts make up the hindsaddle on a market lamb?

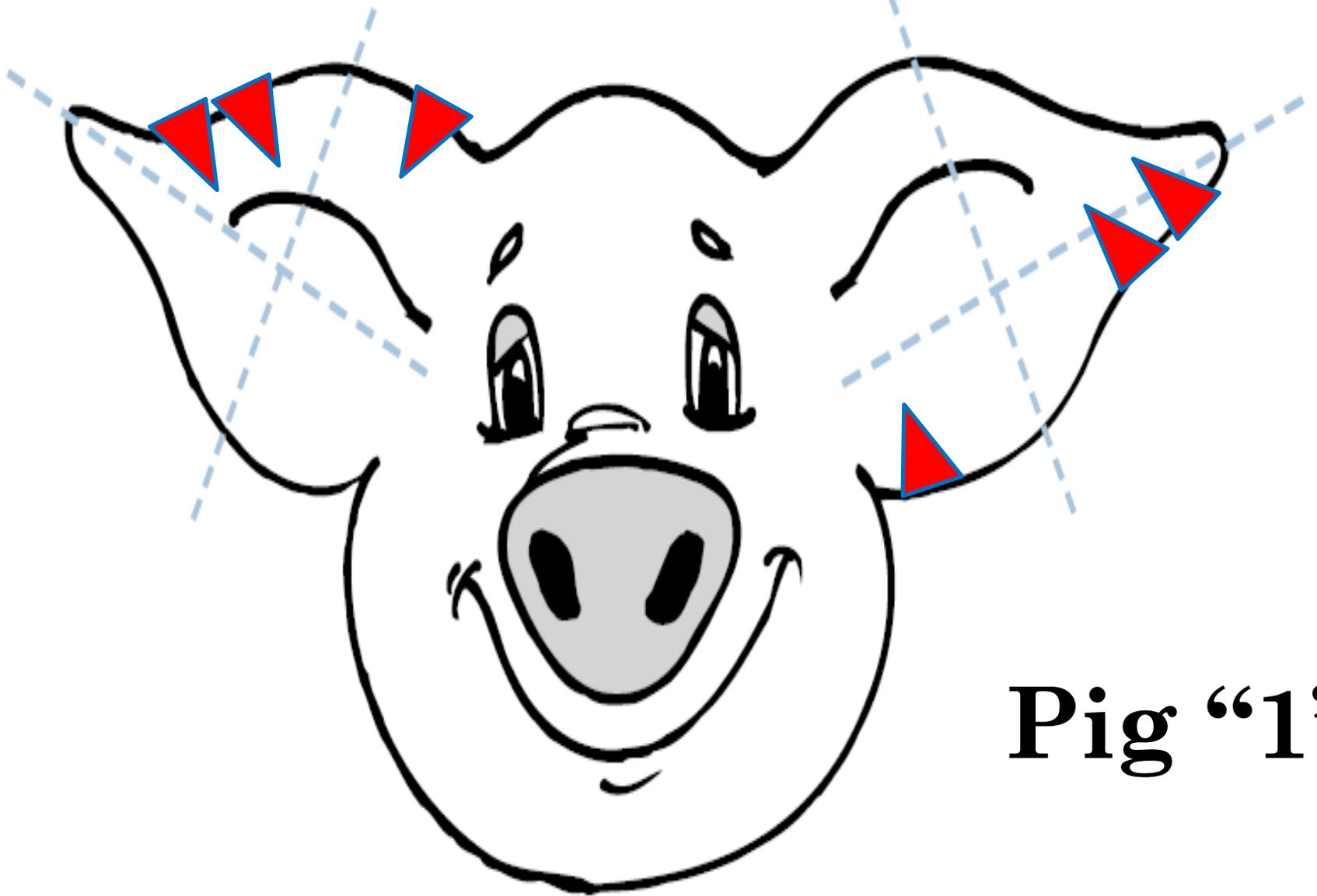
- a. The rack and loin
- b. The loin and leg
- c. The rack and breast
- d. The loin and breast

24.) The period of time from calving to first heat is called\_\_\_\_\_?

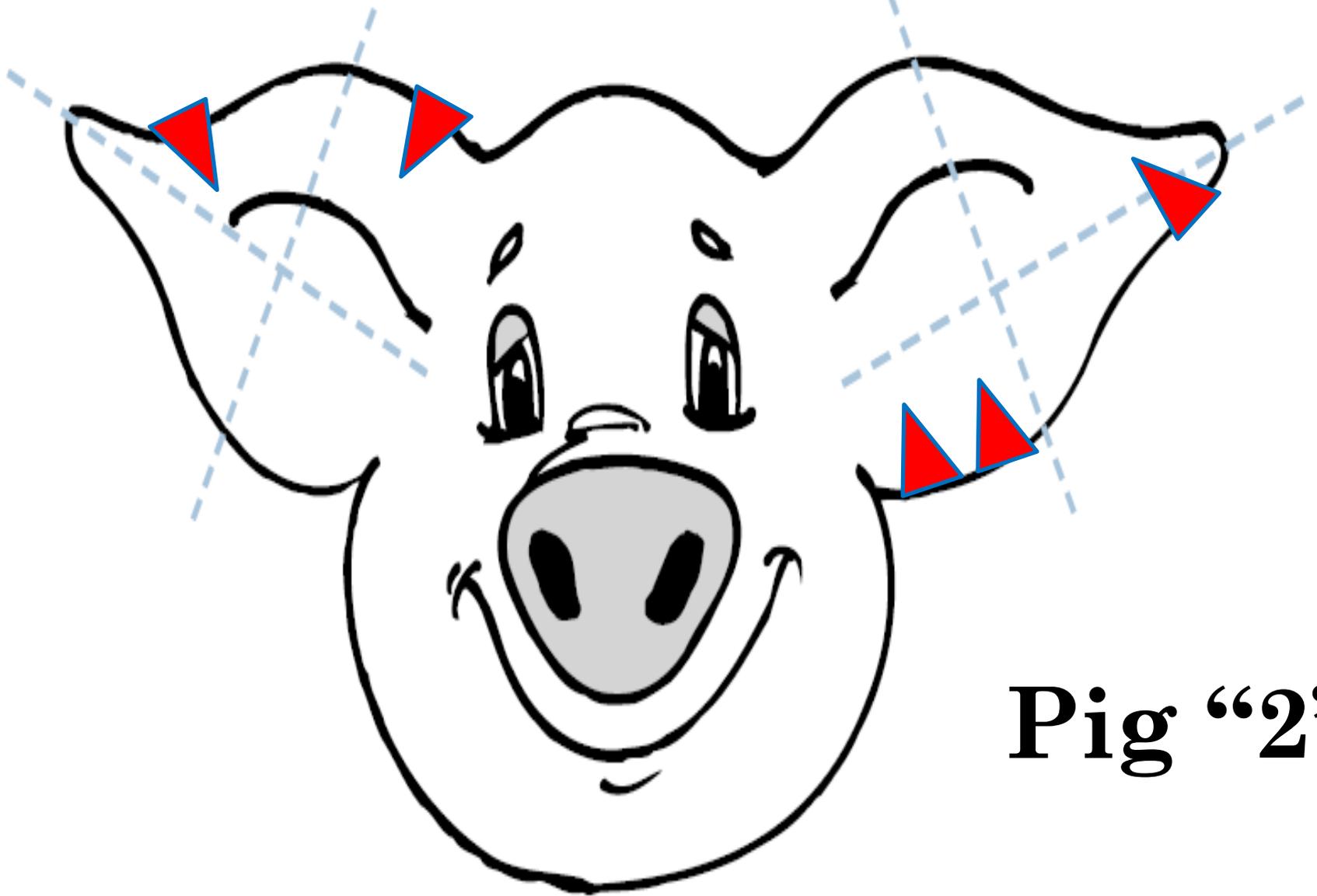
- a. Gestation
- b. Lactation
- c. Generation interval
- d. Postpartum interval

25.) Which of the following swine diseases may cause the snout of a pig to be crooked or twisted?

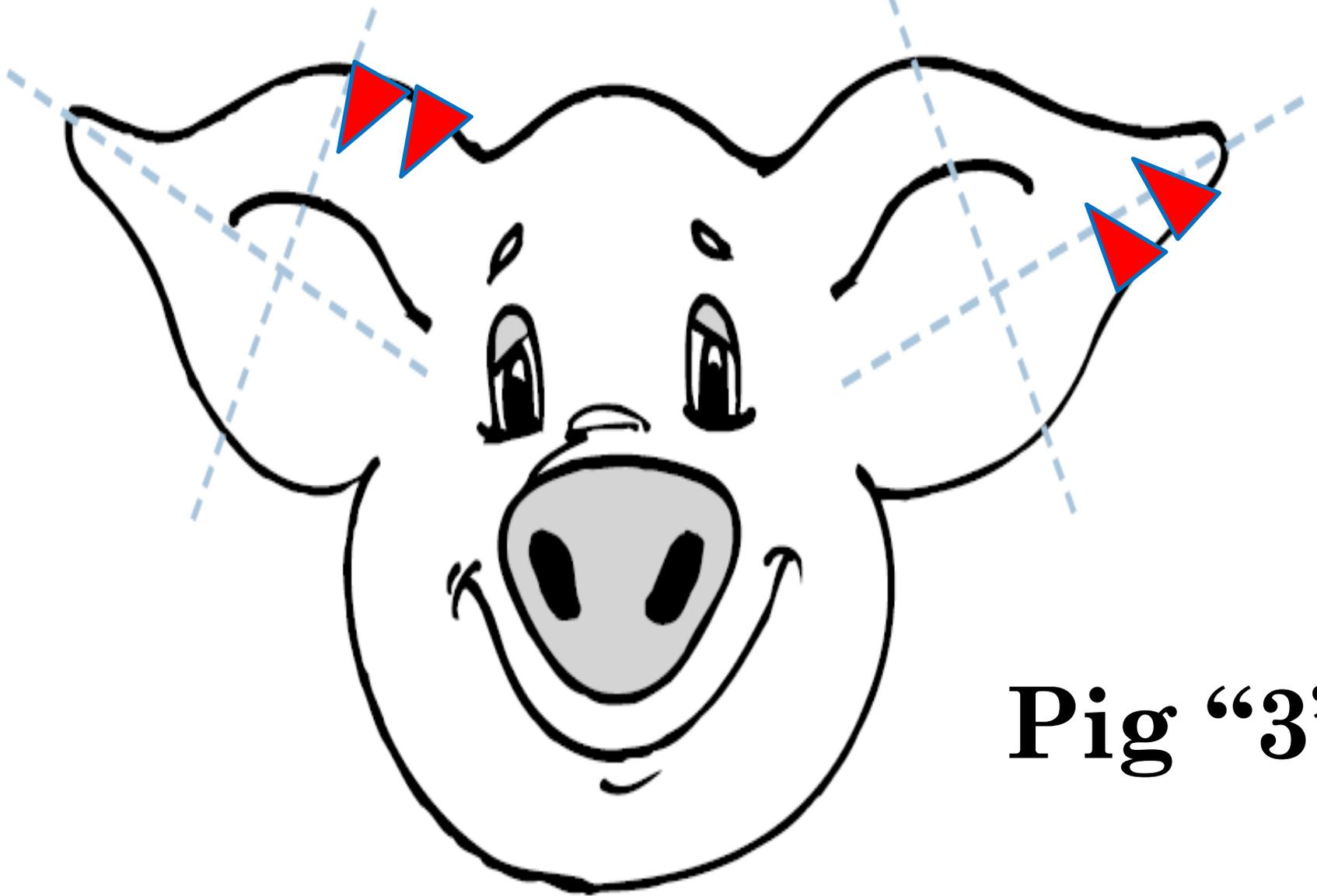
- a. PRRS
- b. Atrophic rhinitis
- c. Erysipelas
- d. Ileitis



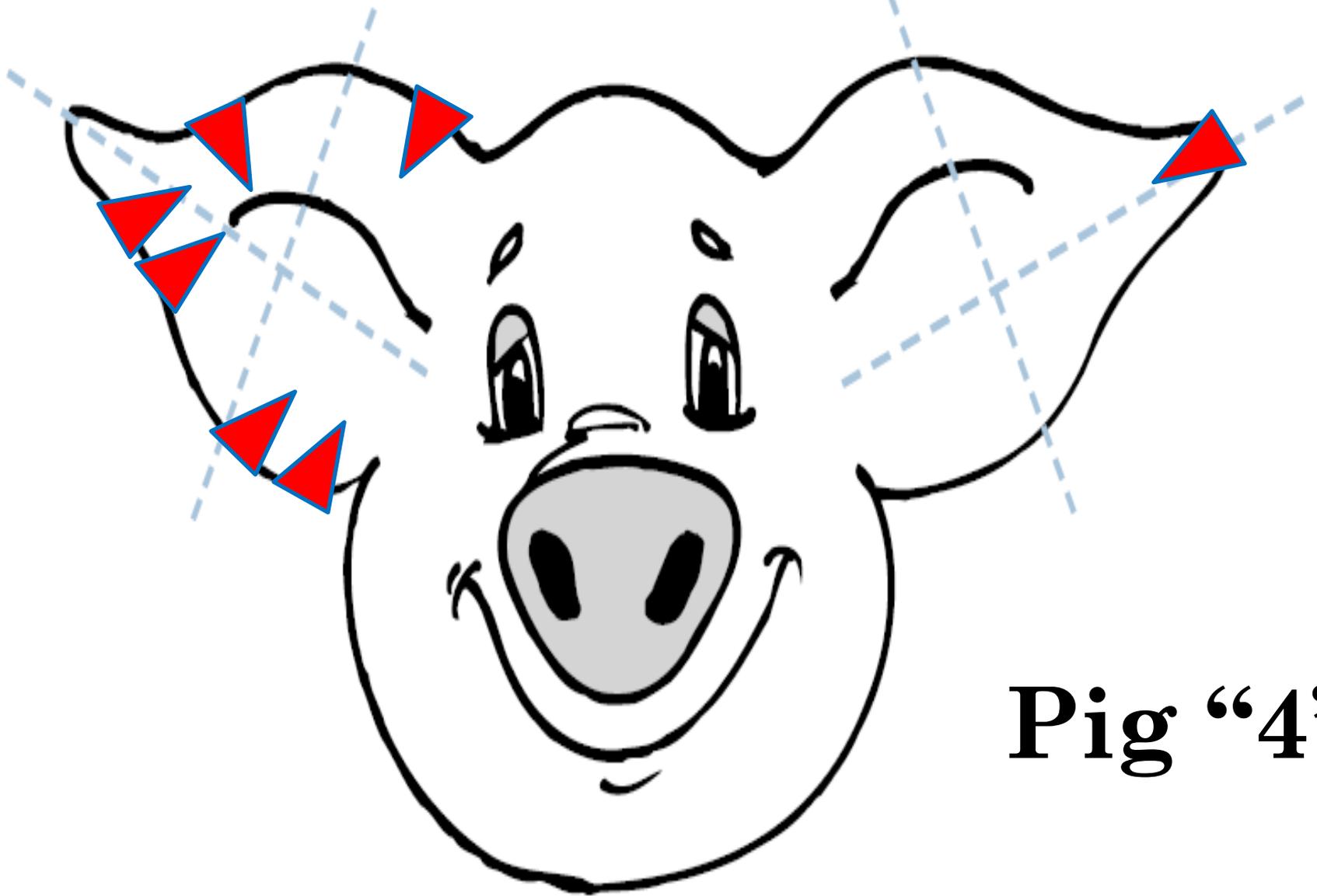
**Pig “1”**



**Pig “2”**



**Pig “3”**



**Pig “4”**

# Draxxin<sup>®</sup>

(tulathromycin)  
Injectable Solution

## Antibiotic 100 mg of tulathromycin/mL

For subcutaneous injection in beef and non-lactating dairy cattle and intramuscular injection in swine only. Not for use in female dairy cattle 20 months of age or older or in calves to be processed for veal.

### CAUTION

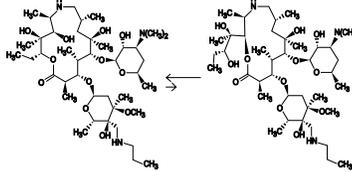
Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

### DESCRIPTION

DRAXXIN Injectable Solution is a ready-to-use sterile parenteral preparation containing tulathromycin, a semi-synthetic macrolide antibiotic of the subclass trimolide. Each mL of DRAXXIN contains 100 mg of tulathromycin as the free base in a 50% propylene glycol vehicle, monohydroxyol (5 mg/mL), with citric and hydrochloric acids added to adjust pH.

DRAXXIN consists of an equilibrated mixture of two isomeric forms of tulathromycin in a 9:1 ratio. Structures of the isomers are shown below.

### Figure 1.



The chemical names of the isomers are [2R,3S,4R,5R,6R,10R,11R,12S,13S,14R]-13-[[2,6-dideoxy-3-C-methyl-3-O-methyl-4-C-[[propylamino)methyl]-α-L-ribo-hexopyranosyl]oxy]-2-ethyl]-3,4,10-trihydroxy-3,5,8,10,12,14-hexamethyl-11-[[3,4,6-trideoxy-3-(dimethylamino)-β-D-xylo-hexopyranosyl]oxy]-1-oxa-6-azacyclopentadecan-15-one and [2S,3S,4R,5R,6R,10S,11S,12R]-11-[[2,6-dideoxy-3-C-methyl-3-O-methyl-4-C-[[propylamino)methyl]-α-L-ribo-hexopyranosyl]oxy]-2-[[1R,2R]-1,2-dihydroxy-1-methylbutyl]-8-hydroxy-3,6,8,10,12-pentamethyl-9-[[3,4,6-trideoxy-3-(dimethylamino)-β-D-xylo-hexopyranosyl]oxy]-1-oxa-4-azacyclopentadecan-13-one, respectively.

### INDICATIONS

#### Beef and Non-lactating Dairy Cattle

**BRD** – DRAXXIN Injectable Solution is indicated for the treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni*, and *Mycoplasma bovis*; and for the control of respiratory disease in cattle at high risk of developing BRD associated with *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni*, and *Mycoplasma bovis*.

**IBK** – DRAXXIN Injectable Solution is indicated for the treatment of infectious bovine keratoconjunctivitis (IBK) associated with *Moraxella bovis*.

**Foot Rot** – DRAXXIN Injectable Solution is indicated for the treatment of bovine foot rot (interdigital necrobacillosis) associated with *Fusobacterium necrophorum* and *Porphyromonas levis*.

#### Swine

DRAXXIN Injectable Solution is indicated for the treatment of swine respiratory disease (SRD) associated with *Actinobacillus pleuropneumoniae*, *Pasteurella multocida*, *Bordetella bronchiseptica*, *Haemophilus parasuis*, and *Mycoplasma hyopneumoniae*; and for the control of SRD associated with *Actinobacillus pleuropneumoniae*, *Pasteurella multocida*, and *Mycoplasma hyopneumoniae* in groups of pigs where SRD has been diagnosed.

### DOSEAGE AND ADMINISTRATION

#### Cattle

Inject subcutaneously as a single dose in the neck at a dosage of 2.5 mg/kg (1.1 mL/100 lb) body weight (BW). Do not inject more than 10 mL per injection site.

Table 1. DRAXXIN Cattle Dosing Guide

Animal Weight (Pounds)	Dose Volume (mL)
100	1.1
200	2.3
300	3.4
400	4.5
500	5.7
600	6.8
700	8.0
800	9.1
900	10.2
1000	11.4

#### Swine

Inject intramuscularly as a single dose in the neck at a dosage of 2.5 mg/kg (0.25 mL/22 lb) BW. Do not inject more than 2.5 mL per injection site.

Table 2. DRAXXIN Swine Dosing Guide

Animal Weight (Pounds)	Dose Volume (mL)
15	0.2
30	0.3
50	0.4
70	0.6
90	1.0
110	1.3
130	1.5
150	1.7
170	1.9
190	2.2
210	2.4
230	2.6
250	2.8
270	3.1
290	3.3

### CONTRAINDICATIONS

The use of DRAXXIN Injectable Solution is contraindicated in animals previously found to be hypersensitive to the drug.

### WARNINGS

#### FOR USE IN ANIMALS ONLY.

#### NOT FOR HUMAN USE.

#### KEEP OUT OF REACH OF CHILDREN.

#### NOT FOR USE IN CHICKENS OR TURKEYS.

### RESIDUE WARNINGS

#### Cattle

Cattle intended for human consumption must not be slaughtered within 18 days from the last treatment. Do not use in female dairy cattle 20 months of age or older. A withdrawal period has not been established for this product in pre-rematuring calves. Do not use in calves to be processed for veal.

#### Swine

Swine intended for human consumption must not be slaughtered within 5 days from the last treatment.

### PRECAUTIONS

#### Cattle

The effects of DRAXXIN on bovine reproductive performance, pregnancy, and lactation have not been determined. Subcutaneous injection can cause a transient local tissue reaction that may result in trim loss of edible tissue at slaughter.

#### Swine

The effects of DRAXXIN on porcine reproductive performance, pregnancy, and lactation have not been determined. Intramuscular injection can cause a transient local tissue reaction that may result in trim loss of edible tissue at slaughter.

### ADVERSE REACTIONS

#### Cattle

In one field study, two calves treated with DRAXXIN at 2.5 mg/kg BW exhibited transient hypersalivation. One of these calves also exhibited transient dyspnea, which may have been related to pneumonia.

#### Swine

In one field study, one out of 40 pigs treated with DRAXXIN at 2.5 mg/kg BW exhibited mild salivation that resolved in less than four hours.

### CLINICAL PHARMACOLOGY

At physiological pH, tulathromycin (a weak base) is approximately 50 times more soluble in hydrophilic than hydrophobic media. This solubility profile is consistent with the extracellular pathogen activity typically associated with the macrolides. Markedly higher tulathromycin concentrations are observed in the lungs as compared to the plasma. The extent to which lung concentrations represent free (active) drug was not examined. Therefore, the clinical relevance of these elevated lung concentrations is undetermined.

Although the relationship between tulathromycin and the characteristics of its antimicrobial effects has not been characterized, as a class, macrolides tend to be primarily bacteriostatic, but may be bactericidal against some pathogens. They also tend to exhibit concentration independent killing; the rate of bacterial eradication does not change once serum drug concentrations reach 2 to 3 times the minimum inhibitory concentration (MIC) of the targeted pathogen. Under these conditions, the time that serum concentrations remain above the MIC becomes the major determinant of antimicrobial activity. Macrolides also exhibit a post-antibiotic effect (PAE), the duration of which tends to be both drug and pathogen dependent. In general, by increasing the macrolide concentration and the exposure time, the PAE will increase to some maximal duration. Of the two variables, concentration and exposure time, drug concentration tends to be the most powerful determinant of the duration of PAE.

Tulathromycin is eliminated from the body primarily unchanged via biliary excretion.

<sup>1</sup> Carbon C. Pharmacodynamics of macrolides, azalides, and streptogramins: effect on extracellular pathogens. *Clin Infect Dis* 1999;27:26-32.

<sup>2</sup> Nightingale CJ. Pharmacokinetics and pharmacodynamics of newer macrolides. *Pediatr Infect Dis J* 1997;16:438-443.

#### Cattle

Following subcutaneous administration into the neck of feeder calves at a dosage of 2.5 mg/kg BW, tulathromycin is rapidly and nearly completely absorbed. Peak plasma concentrations generally occur within 15 minutes after dosing and product relative bioavailability exceeds 90%. Total systemic clearance is approximately 170 mL/hr/kg. Tulathromycin distributes extensively into body tissues, as evidenced by volume of distribution values of approximately 11 L/kg in healthy ruminating calves. This extensive volume of distribution is largely responsible for the long elimination half-life of this compound [approximately 2.75 days in the plasma (based on quantifiable terminal plasma drug concentrations) versus 8.75 days for total lung concentrations (based on data from healthy animals)]. Linear pharmacokinetics are observed with subcutaneous doses ranging from 1.27 mg/kg BW to 5.0 mg/kg BW. No pharmacokinetic differences are observed in castrated male versus female calves.

<sup>3</sup> Clearance and volume estimates are based on intersubject comparisons of 2.5 mg/kg BW administered by either subcutaneous or intravenous injection.

#### Swine

Following intramuscular administration to feeder pigs at a dosage of 2.5 mg/kg BW, tulathromycin is completely and rapidly absorbed ( $T_{max}$  ~0.25 hour). Subsequently, the drug rapidly distributes into body tissues, achieving a volume of distribution exceeding 15 L/kg. The free drug is rapidly cleared from the systemic circulation ( $Cl_{systemic}$  = 187 mL/hr/kg). However, it has a long terminal elimination half-life (60 to 90 hours) owing to its extensive volume of distribution. Although pulmonary tulathromycin concentrations are substantially higher than concentrations observed in the plasma, the clinical significance of these findings is undetermined. There are no gender differences in swine tulathromycin pharmacokinetics.

### MICROBIOLOGY

#### Cattle

Tulathromycin has demonstrated *in vitro* activity against *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni*, and *Mycoplasma bovis*, four pathogens associated with BRD; for *Moraxella bovis* associated with IBK; and against *Fusobacterium necrophorum* and *Porphyromonas levis* associated with bovine foot rot.

The MICs of tulathromycin against indicated BRD and IBK pathogens were determined using methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M31-A2). The MICs against foot rot pathogens were also determined using methods recommended by the CLSI (M11-A6). All MIC values were determined using the 9:1 isomer ratio of this compound.

**BRD** – The MICs of tulathromycin were determined for BRD isolates obtained from calves enrolled in therapeutic and at-risk field studies in the U.S. in 2004. In the therapeutic studies, isolates were obtained from pre-treatment nasopharyngeal swabs from all study calves and from lung swabs or lung tissue of saline-treated calves that died. In the at-risk studies, isolates were obtained from nasopharyngeal swabs of saline-treated non-responders and from lung swabs or lung tissue of saline-treated calves that died. The results are shown in Table 3.

**IBK** – The MICs of tulathromycin were determined for *Moraxella bovis* isolates obtained from calves enrolled in IBK field studies in the U.S. in 2004. Isolates were obtained from pre-treatment conjunctival swabs of calves with clinical signs of IBK enrolled in the DRAXXIN and saline-treated groups. The results are shown in Table 3.

**Foot Rot** – The MICs of tulathromycin were determined for *Fusobacterium necrophorum* and *Porphyromonas levis* obtained from cattle enrolled in foot rot field studies in the U.S. and Canada in 2007. Isolates were obtained from pretreatment interdigital biopsies and swabs of cattle with clinical signs of foot rot enrolled in the DRAXXIN and saline-treated groups. The results are shown in Table 3.

Table 3. Tulathromycin minimum inhibitory concentration (MIC) values\* for indicated pathogens isolated from field studies evaluating BRD and IBK in the U.S. and from foot rot field studies in the U.S. and Canada.

Indicated pathogen	Date isolated	No. of isolates	MIC <sub>90</sub> ** (µg/mL)	MIC <sub>95</sub> ** (µg/mL)	MIC range (µg/mL)
<i>Mannheimia haemolytica</i>	1999	642	2	2	0.5 to 64
<i>Pasteurella multocida</i>	1999	221	0.5	1	0.25 to 64
<i>Histophilus somni</i>	1999	36	4	4	1 to 4
<i>Mycoplasma bovis</i>	1999	43	0.125	1	≤0.063 to >64
<i>Moraxella bovis</i>	2004	55	0.5	0.5	0.25 to 1
<i>Fusobacterium necrophorum</i>	2007	116	2	64	≤0.25 to >128
<i>Porphyromonas levis</i>	2007	103	8	128	≤0.25 to >128

\* The correlation between *in vitro* susceptibility data and clinical effectiveness is unknown.

\*\* The lowest MIC to encompass 50% and 90% of the isolates, respectively.

#### Swine

*In vitro* activity of tulathromycin has been demonstrated against *Actinobacillus pleuropneumoniae*, *Pasteurella multocida*, *Bordetella bronchiseptica*, *Haemophilus parasuis*, and *Mycoplasma hyopneumoniae*.

The MICs of tulathromycin against indicated SRD pathogens were determined using methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M31-A and M31-A2). MICs for *Haemophilus parasuis* were determined using Veterinary Fastidious Medium and were incubated up to 48 hours at 35 to 37 °C in a CO<sub>2</sub>-enriched atmosphere. All MIC values were determined using the 9:1 isomer ratio of this compound. Isolates obtained in 2000 and 2002 were from lung samples from saline-treated pigs and non-treated sentinel pigs enrolled in Treatment of SRD field studies in the U.S. and Canada. Isolates obtained in 2007 and 2008 were from lung samples from saline-treated and DRAXXIN-treated pigs enrolled in the Control of SRD field study in the U.S. and Canada. The results are shown in Table 4.

Table 4. Tulathromycin minimum inhibitory concentration (MIC) values\* for indicated pathogens isolated from field studies evaluating SRD in the U.S. and Canada.

Indicated pathogen	Date isolated	No. of isolates	MIC <sub>90</sub> ** (µg/mL)	MIC <sub>95</sub> ** (µg/mL)	MIC range (µg/mL)
<i>Actinobacillus pleuropneumoniae</i>	2000-2002	135	16	32	16 to 32
	2007-2008	88	16	16	4 to 32
<i>Haemophilus parasuis</i>	2000-2002	31	1	2	0.25 to >64
<i>Pasteurella multocida</i>	2000-2002	55	1	2	0.5 to >64
	2007-2008	40	1	2	≤0.03 to 2
<i>Bordetella bronchiseptica</i>	2000-2002	42	4	8	2 to 8

\* The correlation between *in vitro* susceptibility data and clinical effectiveness is unknown.

\*\* The lowest MIC to encompass 50% and 90% of the most susceptible isolates, respectively.

### EFFECTIVENESS

#### Cattle

**BRD** – In a multi-location field study, 314 calves with naturally occurring BRD were treated with DRAXXIN. Responses to treatment were compared to saline-treated controls. A cure was defined as a calf with normal attitude/activity, normal respiration, and a rectal temperature of ≤104°F on Day 14. The cure rate was significantly higher (P<0.05) in DRAXXIN-treated calves (78%) compared to saline-treated calves (24%). There were two BRD-related deaths in the DRAXXIN-treated calves compared to nine BRD-related deaths in the saline-treated calves.

Fifty-two DRAXXIN-treated calves and 27 saline-treated calves from the multi-location field BRD treatment study had *Mycoplasma bovis* identified in cultures from pre-treatment nasopharyngeal swabs. Of the 52 DRAXXIN-treated calves, 37 (71.2%) calves were categorized as cures and 15 (28.8%) calves were categorized as treatment failures. Of the 27 saline-treated calves, 4 (14.8%) calves were categorized as cures and 23 (85.2%) calves were treatment failures.

In another multi-location field study with 399 calves at high risk of developing BRD, administration of DRAXXIN resulted in a significantly reduced incidence of BRD (11%) compared to saline-treated calves (59%). Effectiveness evaluation was based on scored clinical signs of normal attitude/activity, normal respiration, and a rectal temperature of ≤104°F on Day 14. There were no BRD-related deaths in the DRAXXIN-treated calves compared to two BRD-related deaths in the saline-treated calves. Fifty saline-treated calves classified as non-responders in this study had *Mycoplasma bovis* identified in cultures of post-treatment nasopharyngeal swabs or lung tissue.

Two induced infection model studies were conducted to confirm the effectiveness of DRAXXIN against *Mycoplasma bovis*. A total of 166 calves were inoculated intratracheally with field strains of *Mycoplasma bovis*. When calves became pyrexia and had abnormal respiration scores, they were treated with either DRAXXIN (2.5 mg/kg BW) subcutaneously or an equivalent volume of saline. Calves were observed for signs of BRD for 14 days post-treatment. Then they were euthanized and necropsied. In both studies, mean lung lesion percentages were statistically significantly lower in the DRAXXIN-treated calves compared to saline-treated calves (11.3% vs. 28.9%, P=0.0001 and 15.0% vs. 30.7%, P<0.0001).

**IBK** – Two field studies were conducted evaluating DRAXXIN for the treatment of IBK associated with *Moraxella bovis* in 200 natural-infected calves. The primary clinical endpoint of these studies was cure, defined as a calf with no clinical signs of IBK and no corneal ulcer, assessed on Days 5, 9, 13, 17, and 21. Time to improvement, defined as the first day on which a calf had no clinical signs of IBK for both eyes, provided that those scores were maintained at the next day of observation, was assessed as a secondary variable. At all time points, in both studies, the cure rate was significantly higher (P<0.05) for DRAXXIN-treated calves compared to saline-treated calves. Additionally, time to improvement was significantly less (P<0.0001) in both studies for DRAXXIN-treated calves compared to saline-treated calves.

**Foot Rot** – The effectiveness of DRAXXIN for the treatment of bovine foot rot was evaluated in 170 cattle in two field studies. Cattle diagnosed with bovine foot rot were enrolled and treated with a single subcutaneous dose of DRAXXIN (2.5 mg/kg BW) or an equivalent volume of saline. Cattle were clinically evaluated 7 days after treatment for treatment success, which was based on defined decreases in lesion, swelling, and lameness scores. In both studies, the treatment success percentage was statistically significantly higher in DRAXXIN-treated calves compared to saline-treated calves (60% vs. 8%, P<0.0001 and 83.3% vs. 50%, P=0.0088).

#### Swine

In a multi-location field study to evaluate the treatment of naturally occurring SRD, 266 pigs were treated with DRAXXIN. Responses to treatment were compared to saline-treated controls. Success was defined as a pig with a normal attitude, normal respiration, and a rectal temperature of <104°F on Day 7. The treatment success rate was significantly greater (P<0.05) in DRAXXIN-treated pigs (70.5%) compared to saline-treated pigs (46.1%). *M. hyopneumoniae* was isolated from 106 saline-treated and non-treated sentinel pigs in this study.

Two induced infection model studies were conducted to confirm the effectiveness of DRAXXIN against *M. hyopneumoniae*. Ten days after inoculation intranasally and intratracheally with a field strain of *M. hyopneumoniae*, 144 pigs were treated with either DRAXXIN (2.5 mg/kg BW) intramuscularly or an equivalent volume of saline. Pigs were euthanized and necropsied 10 days posttreatment. The mean percentage of gross pneumonic lung lesions was statistically significantly lower (P<0.0001) for DRAXXIN-treated pigs than for saline-treated pigs in both studies (8.52% vs. 23.62% and 11.31% vs. 26.42%).

The effectiveness of DRAXXIN for the control of SRD was evaluated in a multi-location natural infection field study. When at least 15% of the study candidates showed clinical signs of SRD, all pigs were enrolled and treated with DRAXXIN (226 pigs) or saline (227 pigs). Responses to treatment were evaluated on Day 7. Success was defined as a pig with normal attitude, normal respiration, and rectal temperature of < 104 °F. The treatment success rate was significantly greater (P < 0.05) in DRAXXIN-treated pigs compared to saline-treated pigs (69.2% vs. 41.2%).

### ANIMAL SAFETY

#### Cattle

Safety studies were conducted in feeder calves receiving a single subcutaneous dose of 25 mg/kg BW, or 3 weekly subcutaneous doses of 2.5, 7.5, or 12.5 mg/kg BW. In all groups, transient indications of pain after injection were seen, including head shaking and pawing at the ground. Injection site swelling, discoloration of the subcutaneous tissues at the injection site and corresponding histopathologic changes were seen in animals in all dosage groups. These lesions showed signs resolving over time. No other drug-related lesions were observed macroscopically or microscopically.

An exploratory study was conducted in feeder calves receiving a single subcutaneous dose of 10, 12.5, or 15 mg/kg BW. Macroscopically, no lesions were observed. Microscopically, minimal to mild myocardial degeneration was seen in one of six calves administered 12.5 mg/kg BW and two of six calves administered 15 mg/kg BW.

A safety study was conducted in calves 13 to 27 days of age receiving 2.5 mg/kg BW or 7.5 mg/kg BW once subcutaneously. With the exception of minimal to mild injection site reactions, no drug-related clinical signs or other lesions were observed macroscopically or microscopically.

#### Swine

Safety studies were conducted in pigs receiving a single intramuscular dose of 25 mg/kg BW, or 3 weekly intramuscular doses of 2.5, 7.5, or 12.5 mg/kg BW. In all groups, transient indications of pain after injection were seen, including restlessness and excessive vocalization. Tremors occurred briefly in one animal receiving 7.5 mg/kg BW. Discoloration and edema of injection site tissues and corresponding histopathologic changes were seen in animals at all dosages and resolved over time. No other drug-related lesions were observed macroscopically or microscopically.

### STORAGE CONDITIONS

Store at or below 25°C (77°F).

### HOW SUPPLIED

DRAXXIN Injectable Solution is available in the following package sizes:

50 mL vial, 100 mL vial, 250 mL vial, 500 mL vial

U.S. Patents: See US 6,329,345; US 6,420,536; US 6,514,945; US 6,583,274;

US 6,777,393

NADA 141-244, Approved by FDA



To report a suspected adverse reaction call 1-800-366-5288.

To request a material safety data sheet call 1-800-733-5500.

For additional DRAXXIN product information call 1-888-DRAXXIN or go to [www.DRAXXIN.com](http://www.DRAXXIN.com)



MADE IN FRANCE



- 4.) From question 3 above, what is the ear notch of the untreated pig and why is it “unusual”?
- A.) The notch is 44-81 and it is probably not notched according to the Universal Ear Notching System
  - B.) The pig was possibly incorrectly notched and may actually be 44-9 or 44-3
  - C.) The notch is 44-81 and it is probably from a large commercial farm due to the high number
  - D.) **Both A and B could be correct answers**

- 5.) From question 3 above, when can the treated pigs be slaughtered for human consumption?
- A.) At any time, Draxxin has no slaughter withdrawal time
  - B.) **After 5 days from the last day of treatment**
  - C.) After 18 days from the last day of treatment
  - D.) After 21 days from the last day of treatment

II.) Some of your “clean-up” bulls used in the Simmental and SimAngus herd are suffering from foot rot and some of your Dorset rams are also showing signs of foot rot and foot scald

- 6.) To treat a 2000 pound Simmental bull how many ml of Draxxin should be used and how should it be administered?
- A.) **22 ml of Draxxin should be injected subcutaneously in the neck using 3 different injection sites**
  - B.) 22 ml of Draxxin should be injected subcutaneously in the neck using 1 injection site
  - C.) 20 ml of Draxxin should be injected IM in the neck using 2 different injection sites
  - D.) 20 ml of Draxxin should be injected IV

7.) How could **Draxxin** be used to treat one of the Dorset rams with foot rot?

- A.) Sheep are just “small beef cattle”, so follow the same directions as for beef cattle
- B.) **Draxxin is not labeled to treat sheep. You must consult your veterinarian and have a valid vet-client-patient-relationship to use Draxxin for treatment in sheep. This is considered extra-label drug use.**
- C.) **Draxxin** is only labeled to treat ORD in sheep, not foot rot
- D.) **Draxxin** is not labeled to treat mature breeding animals

8.) What is one of the microorganisms that cause foot rot?

- A.) *Pasteurella multocida*
- B.) *Campylobacter fetus*
- C.) ***Fusobacterium necrophorum***
- D.) *Mannheimia haemolytica*

9.) **Draxxin** is what type of drug?

- A.) **Prescription Antibiotic**
- B.) OTC Antibiotic
- C.) OTC Anthelmintic
- D.) Prescription Vaccine

10.) What is the concentration of the active ingredient in **Draxxin**?

- A.) 5mg/ml of monothioglycerol
- B.) 100 mg of propylene glycol/ml
- C.) 50% propylene glycol
- D.) **100 mg of tulathromycin/ml**

# **Bred Gilt - 1 Purebred Hampshire**



# Bred Gilt - 2 Purebred Poland China



# **Bred Gilt - 3 Purebred Yorkshire**

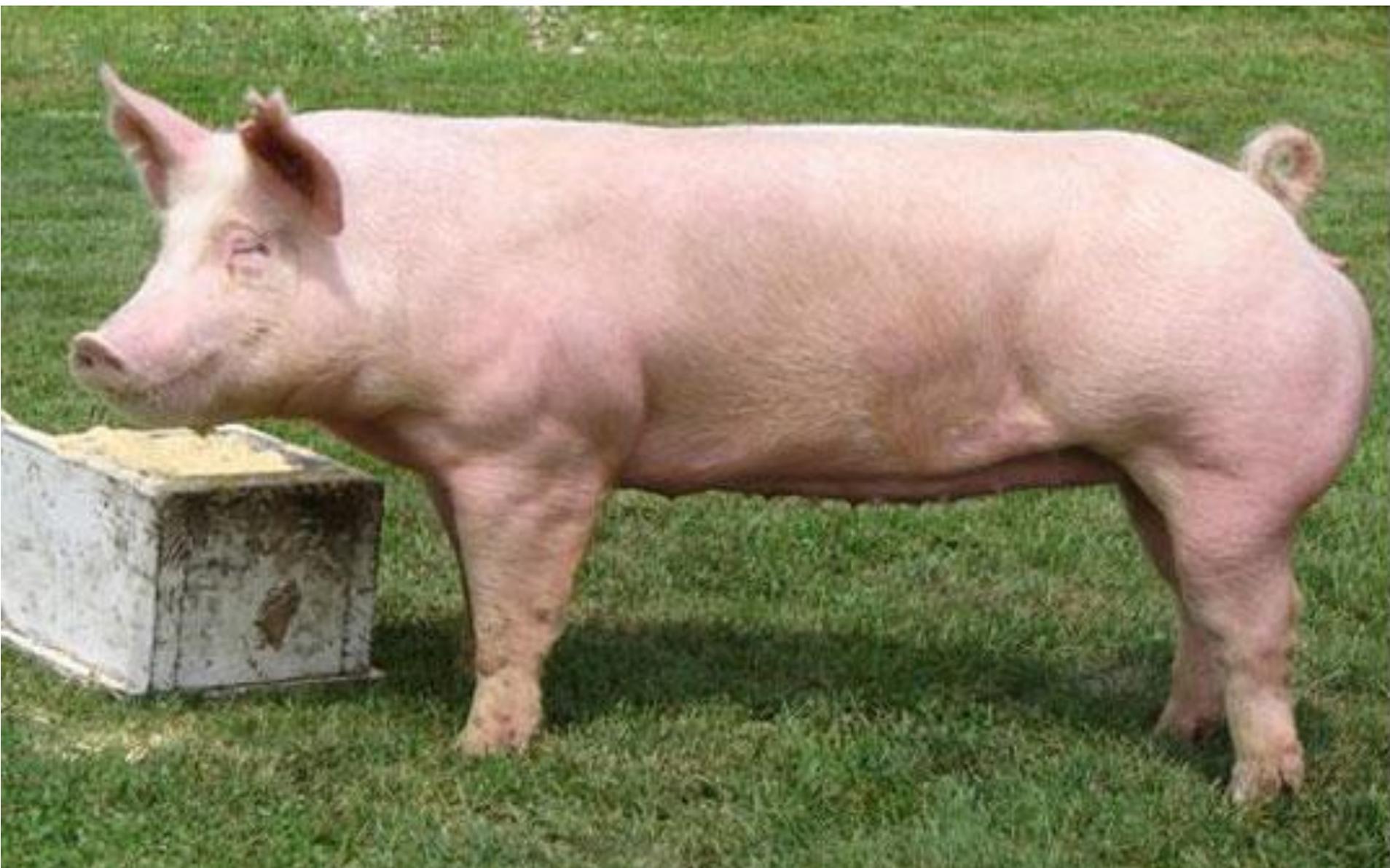


**Bred Gilt - 4**

**Purebred Yorkshire**



# **Bred Gilt – 5 Crossbred**



# **Bred Gilt – 6 Crossbred**



**Bred Gilt – 7 Crossbred**



**Bred Gilt – 8 Crossbred**



# Boar 2 – Exotic Crossbred



# **Boar 1 – Purebred Yorkshire**



# Senior Team Breeding Exercise-2012

County \_\_\_\_\_ **KEY** \_\_\_\_\_

Your 4-H Livestock Club is planning to start a showpig herd at your local 4-H/FFA School Farm. The first goal is to raise showpigs for local 4-H and FFA members to exhibit at KDA District Swine Shows, Kentucky Junior Livestock Expos and the Kentucky State Fair. The long-term goal is to market showpigs around Kentucky to other 4-H and FFA members and ultimately raise competitive showpigs and breeding stock to exhibit at National Shows and Sales.

Your team's assignment is to select from the following eight (8) bred gilts that are available in an on-line bred gilt sale. You have received a total of \$6750 from donations of local business and from the dispersal sale of the small flock of sheep that the School Farm owned from which to buy a total of four (4) bred gilts. After you purchase the four (4) bred gilts the plan is to keep all your own replacement gilts and only buy semen to A.I. breed the gilts, therefore, maternal characteristics are also important. You have eight (8) bred gilts from which to select with four (4) being purebred and four (4) being crossbred. Any of the purebred gilts may be purchased for \$1250 dollars each and any of the crossbred gilts may be purchased for \$750 each. You must purchase at least one (1) each of the purebreds and crossbreds (you **CANNOT** purchase **all** crossbreds or **all** purebreds). After your team has selected the four (4) bred gilts to start your showpig herd, answer the questions, and explain to the contest official why you chose the four (4) bred gilts that you did.

Gilt #	Breed of Gilt	Boar Bred to Gilt	Number Born Alive	21 Day Litter Weight	Dam's Sow Productivity Index	Actual Days to 250 Pounds	Actual Loin Eye Area Adj. to 250 lbs.	Actual Backfat Adj. to 250 lbs.
1	Hampshire	Boar 1 - Yorkshire	10	151	102	162	6.95	.69
2	Poland China	Boar 2 - Exotic Cross	8	142	94	186	6.55	.55
3	Yorkshire	Boar 1 - Yorkshire	14	179	119	154	7.79	.82
4	Yorkshire	Boar 2 - Exotic Cross	12	166	112	156	8.45	.62
5	Crossbred	Boar 1 - Yorkshire	8	141	98	169	7.02	.52
6	Crossbred	Boar 2 - Exotic Cross	10	145	100	169	7.67	.61
7	Crossbred	Boar 1 - Yorkshire	12	169	111	155	7.06	.77
8	Crossbred	Boar 2 - Exotic Cross	11	167	109	160	8.03	.74

[Over for Questions]

**Circle the bred gilt's number or numbers that answers the questions.** (Correctly identifying the 4 foundation gilts are worth 10 points each for a total of 40 points. Each of the answers to the 10 questions is worth 5 points each, some questions have 2 questions/answers so that totals 60 points for a total of 100 points on the written part. The official judge(s) will score the group on their answers as to why they choose the four gilts that they did for a grand total of 200 points possible [100 written points and 100 oral points].)

Which (4) bred gilts did your team choose as the foundation for your School Farm's showpig herd?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

1) Considering only the purebred gilts, which one is the most maternally oriented from both a visual standpoint and according to the data?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

2) Which gilt is the harshest through her rib and should require the most feed resources to maintain adequate body condition?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

3) Of the crossbred gilts, which one is the weakest about her topline and blends the least correct at her ham-loin junction?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

4) Which gilt will have a true F1 litter?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

5) Which gilt would you expect to be the least functional and confinement adaptable based on her lack of structural correctness?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

6) Which breed combinations do you think are in Boar 2-Exotic Cross?

**1) Hampshire and Pietrain**      **2) Hampshire and Duroc**      **3) Landrace and Pietrain**      **4) Hampshire and Spotted**

7) Which gilt (according to the breed of boar she is bred to) should produce the most consistent litter of pigs?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

8) Of the gilts bred to Boar 1-Yorkshire, which two (2) gilts should produce the most desirable replacement gilts based on visual appraisal and the data?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

9) Which two (2) gilts are the most terminally oriented both visually and according to the data?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

10) Which purebred gilt is the frailest featured and least durable in her skeletal makeup?

**1**      **2**      **3**      **4**      **5**      **6**      **7**      **8**

# #1

## Buckeye® Lamb Starter Pellets

# 47450

TYPE OF FEED: Complete

FORM OF FEED: Pellets

PACKAGING: 50 lb paper bag

SPECIES: Lambs

AGES: 2 weeks to 7 weeks old



### FEATURES:

- To be fed with limited amounts of high quality hay from approximately two weeks of age until weaning
- Contains minerals and vitamins to meet nutritional requirements of growing lambs
- Contains ammonium chloride to help alleviate problems associated with urinary calculi

### ACTIVE DRUG INGREDIENT

Lasalocid 30 g/ton

### GUARANTEED ANALYSIS

*Crude Protein, min.	18.00%	Copper, min.	10 ppm
Crude Fat, min.	2.50%	Copper, max.	15 ppm
Crude Fiber, max.	7.00%	Selenium, min.	0.40 ppm
Calcium, min.	0.60%	Vitamin A, min.	2,500 IU/lb
Calcium, max.	1.10%	Vitamin D, min.	400 IU/lb
Phosphorus, min.	0.45%	Vitamin E, min.	10 IU/lb
Salt, min.	0.20%		
Salt, max.	0.70%		

\* This includes not more than 1.0% equivalent protein from non-protein nitrogen

**INGREDIENTS:** Grain Products, Processed Grain By-Products, Plant Protein Products, Forage Products, Roughage Products, Ammonium Chloride, Calcium Carbonate, Calcium Phosphate, Salt, Potassium Sulfate, Magnesium Sulfate, Manganous Oxide, Ferrous Carbonate, Copper Sulfate, Zinc Oxide, Cobalt Carbonate, Ethylenediamine Dihydriodide, Sodium Selenite, Vitamin A Supplement, Vitamin D Supplement, Vitamin E Supplement.

**FEEDING DIRECTIONS:** Offer in a creep to lambs at two weeks of age as the sole ration and continue until the lambs are about 7 weeks of age or approximately one week post weaning. When diluting, mix only whole shelled corn at a rate of not more than 20% of Buckeye® 18% Lamb Starter. Buckeye® 18% Lamb Starter contains ammonium chloride.

At 7 weeks of age the lambs may be changed to a diet consisting of a mixture of whole Shelled Corn and Buckeye® 39% Lamb Concentrate Pellets, Buckeye® 18% Gold'n Lamb Show Feed, or Buckeye® 14% Lamb/Beef Pellets.

# \$16 per Bag

# 2

## Buckeye® 16% Grower – Developer Pellets

# 43150

TYPE OF FEED: Supplement

FORM OF FEED: Pellets

PACKAGING: 50 lb paper bag

SPECIES: Beef cattle (brood cows, bulls, stocker cattle) and Dairy herd replacements

AGES: 5 months (300 lbs) or older



### FEATURES:

- An economical feed for hand feeding to young calves on nurse cows in a creep setting
- Contains excellent levels of protein (low levels of NPN), digestible fiber to reduce the possibility of digestive upset, excellent levels of vitamins and minerals
- An excellent feed for backgrounding cattle, a minimal amount of long stemmed forage (greater than 1% of body weight) should be included in the diet
- An excellent grain supplement or source of nutrients for raising herd replacements
- Medicated with Lasalocid or Bovatec, 6 pounds will supply 150 mg of Lasalocid

### ACTIVE DRUG INGREDIENT

Lasalocid 50 g/ton

### GUARANTEED ANALYSIS

*Crude Protein, min.	16.00%	Potassium, min.	0.80%
Crude Fat, min.	2.00%	Magnesium, min.	0.30%
Crude Fiber, max.	12.00%	Selenium, min.	0.50 ppm
Acid Detergent Fiber, max	16.00%	Vitamin A, min.	5,000 IU/lb
Calcium, min.	1.00%	Vitamin D3, min.	1,800 IU/lb
Calcium, max.	1.50%		
Phosphorus, min.	0.55%		
Salt, min.	0.40%		
Salt, max.	0.90%		

\*This includes not more than 3.6% equivalent protein from non-protein nitrogen

INGREDIENTS: Processed Grain By-Products, Grain Products, Plant Protein Products, Roughage Products, Urea, Calcium Carbonate, Calcium Phosphate, Salt, Potassium Sulfate, Magnesium Sulfate, Magnesium Oxide, Manganese Oxide, Ferrous Carbonate, Copper Sulfate, Zinc Oxide, Ethylenediamine Dihydriodide, Cobalt Carbonate, Sodium Selenite, Vitamin A Supplement, Vitamin D3 Supplement, Vitamin E Supplement.

**WARNING: Contains added copper. Do not feed to sheep.**

FEEDING DIRECTIONS: See Second Page

\$ 13 per Bag

## **Buckeye® 16% Grower – Developer Pellets**

**FEEDING DIRECTIONS:** Buckeye® 16% Grower & Developer Cattle Pellets should be hand fed as a creep to calves weighing 300 lb to weaning, weaned cattle on pasture, and background cattle in feedlot. Put out creep feeders in areas where cows gather such as shaded or watering areas. Buckeye® 16% Grower & Developer Cattle Pellets supply protein, energy, vitamins, and minerals, which the calves require. Creep feeding calves has been shown to increase rate of gain, improve feed efficiency, and encourages increased dry matter consumption. Each pound of Buckeye® 16% Grower & Developer Cattle Pellets will supply 25 mg of lasalocid and 8 pounds will supply 200 mg of lasalocid.

**WARNING:** A withdrawal period has not been established for this product in pre-ruminating cattle. Do not use in calves to be processed for veal.

**CAUTION:** The safety of Lasalocid in unapproved species has not been established; Do not allow horses or other equines access to Lasalocid as ingestion may be fatal.

# #3

## Buckeye® 14% Lamb and Beef

# 41350

TYPE OF FEED Complete

FORM OF FEED: Pellets

PACKAGING: 50 lb Paper Bags

SPECIES: Beef and sheep

AGES: Beef over 4 months of age, lambs over 3 months of age



### FEATURES:

- Contains 14% protein of plant origin, does not include non-protein nitrogen or urea
- Contains all the vitamins and minerals to maintain healthy animals
- Contains added high quality fiber to maintain rumen health
- Contains no medication
- A minimal amount of copper is added to the feed to prevent copper toxicity but enough to prevent copper deficiency which has been shown to cause weak lambs

### GUARANTEED ANALYSIS

Crude Protein, min.	14.00%
Crude Fat, min.	3.00%
Crude Fiber, max.	9.00%
Calcium, min.	0.70%
Calcium, max.	1.20%
Phosphorus, min.	0.45%
Salt, min.	0.20%
Salt, max.	0.70%
Postassium, min.	0.70%
Copper, min.	10.00 ppm
Copper Max.	14.00 ppm
Selenium, min.	0.30 ppm
Vitamin A, min.	2,500 IU/lb
Vitamin D, min.	800/IU/lb
Vitamin E, min.	5 IU/lb

INGREDIENTS: Grain Products, Processed Grain By-Products, Plant Protein Products, Roughage Products, Forage Products, Calcium Carbonate, Calcium Phosphate, Salt, Potassium Sulfate, Magnesium Sulfate, Manganous Oxide, Ferrous Carbonate, Copper Sulfate, Zinc Oxide, Cobalt Carbonate, Ethylenediamine Dihydriodide, Sodium Selenite, Vitamin A Supplement, Vitamin D Supplement, Vitamin E Supplement.

FEEDING DIRECTIONS: See Second Page

# \$11 per Bag

## Buckeye® 14% Lamb and Beef

### **FEEDING DIRECTIONS:**

**SHEEP:** Feed Buckeye® 14% Lamb and Beef Pellets free choice as the sole ration to lambs from 3 months of age to market. Lambs to be kept for flock replacements should receive a minimum of 1.0 lb of hay per 100 lb of body weight daily to maintain normal rumen function, mammary development, and growth. Buckeye® 14% Lamb and Beef Pellets may also be fed to adult ewes to supplement pasture or hay diets. Feed Buckeye® Sheep and Goat Mineral free choice. Maintain a clean, fresh water supply.

Lambs being prepared for show should be fed Buckeye® 18% Gold 'n Show Lamb.

**CATTLE:** Feed Buckeye® 14% Lamb and Beef Pellets as the sole grain ration to cattle weighing over 300 pounds. If the cattle are being fattened for slaughter and maximum rates of gain and feed efficiency are desired, feed between 3 and 5 pounds of hay per day plus all the Buckeye® 14% Lamb and Beef Pellets they will consume. If cattle are being raised as herd replacements, good quality hay should be offered free choice, and the pellets fed in a quantity sufficient to sustain ideal body condition plus growth.

Calves being prepared for show should be fed Buckeye® 14% Gold 'n Grower and Buckeye® 12% Gold 'n Conditioner/Finisher.

# # 4

## Buckeye® 12% All Stock Feed

# 46250

TYPE OF FEED Complete  
FORM OF FEED: Texturized, Sweet  
PACKAGING: 50 lb Paper Bags  
SPECIES: Livestock  
AGES: Adult



### FEATURES:

- Suitable for all livestock, including sheep
- Premium ingredients for maximum performance
- Full traceability of ingredients to ensure your animal's safety

### GUARANTEED ANALYSIS

Crude Protein, min.	12.00%	Potassium, min.	0.80%
Crude Fat, min.	3.00%	Magnesium, max.	0.20%
Crude Fiber, max.	9.00%	Copper, min.	10.0 ppm
Acid Detergent Fiber, max.	13.00%	Copper, max.	15.0 ppm
Calcium, min.	0.60%	Selenium, min.	0.50 ppm
Calcium, max.	1.10%	Vitamin A, min.	4200 IU/lb
Phosphorus, min.	0.45%	Vitamin D-3, min.	200 IU/lb
Salt, min.	0.60%	Vitamin E, min.	30 IU/lb
Salt, max.	1.10%		

INGREDIENTS: Grain Products, Processed Grain By-Products, Plant Protein Products, Roughage Products, Molasses Products, Calcium Carbonate, Calcium Phosphate, Salt, Manganese Oxide, Ferrous Sulfate, Copper Sulfate, Zinc Sulfate, Ethylenediamine Dihydriodide, Calcium Iodate, Cobalt Sulfate, Selenium Yeast, Sodium Selenite, Vegetable Fat Product (Feed Grade), Lecithin, Glycerin, Phosphoric Acid, Propionic Acid, Sodium Benzoate, Sulfuric Acid, Vitamin A Supplement, Vitamin D-3 Supplement, Vitamin E Supplement, Natural and Artificial Flavor.

FEEDING DIRECTIONS: Feed to adult livestock at a rate up to 1% of body weight. Maintain a supply of forage and water available to the animals at all times. Free choice the appropriate Buckeye® Mineral and Salt.

# \$9 per Bag

## Senior Team Feeding Exercise-2012

County\_\_\_\_\_KEY\_\_\_\_\_

Your team is the managing partners of a large progressive commercial cow/calf operation that also has a flock of nationally competitive “wether type” Hampshire sheep that share the pastures with the cowherd. A recent drought has greatly reduced both the pasture and hay available to the livestock. You need to supplement both the cowherd and the sheep flock through the rest of the winter and early spring. Remember that cows and ewes are in the same pastures and are only receiving limited amounts of marginal quality tall fescue hay. A separate free choice mineral supplement is available. Due to limited feed bunk space over half of the feed will need to be fed on the ground without a feed bunk or trough. Review the attached feed tags.

Rank the four feeds according to how you would feed them from first to last to meet the needs of the above scenario. All transportation and storage cost are reflected in the final costs of the feeds. You may consider economics of the feed, quality and physical characteristics of the ingredients contained in the feed, and physiological and digestive considerations of the animals being feed. Finally explain to the contest official why you chose your 1<sup>st</sup> choice.

1<sup>st</sup> \_\_\_\_\_3\_\_\_\_\_ 2<sup>nd</sup> \_\_\_\_\_4\_\_\_\_\_ 3<sup>rd</sup> \_\_\_\_\_1\_\_\_\_\_ 4<sup>th</sup> \_\_\_\_\_2\_\_\_\_\_

Feed #3 is the best choice of meeting requirements of cows/ewes on pasture at a reasonable cost, #3 is more desirable than #4 (even though #4 costs less) due to #4 being a pelleted feed vs. #3 being a texturized/sweet feed which would certainly not be as easily fed on the ground as the pelleted feed. Feed #1 is really too high in protein and too expensive for cows/ewes on pasture. Feed #2 is not to be fed to sheep, so it is easily the least desirable for this scenario.