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

<table>
<thead>
<tr>
<th>Retail Cut Name</th>
<th>Species of Cut</th>
<th>Wholesale Cut of Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
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<td>9.</td>
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<tr>
<td>10.</td>
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<td></td>
</tr>
</tbody>
</table>

**Species of Cut – to be used in answer column 2 by Seniors**

(You may use the letter more than once!!)

- B. Beef
- L. Lamb
- P. Pork

**Wholesale Cut of Origin – to be used in answer column 3 by Seniors**
INSTRUCTIONS: For each picture, use the columns on the right to choose the number or letter that indicates your answer for each retail meat cut. Use capital letters and write neatly. Seniors provide answers for retail cut name, species of cut, and wholesale cut of origin. Each question is worth 5 points (150 points total for Seniors).

### Retail Names – to be used in answer column 1 by Seniors

#### Beef Retail Meat Cuts
1. Beef for stew
2. Brisket, point half
3. Brisket, whole
4. Arm roast
5. Arm roast, boneless
6. Arm steak
7. Arm steak, boneless
8. Blade roast
9. Blade steak
10. 7-bone roast
11. 7-bone steak
12. Blade roast
13. Sirloin steak, flat bone
14. Sirloin steak, pin bone
15. Sirloin steak, round bone
16. Sirloin steak, wedge bone
...

#### Lamb Retail Meat Cuts
48. Breast
49. Breast riblets
50. American style roast
51. Leg Center slice
52. French style roast
53. Leg shank half
...

#### Pork Retail Meat Cuts
66. Fresh ham center slice
67. Fresh ham rump portion
68. Fresh ham shank portion
69. Fresh side pork
70. Blade chop
71. Blade roast
72. Butterfly chop
...

### Species of Cut – to be used in answer column 2 by Seniors

- B. Beef
- L. Lamb
- P. Pork

### Wholesale Cut of Origin – to be used in answer column 3 by Seniors

#### Beef Wholesale Cuts
A. Brisket
B. Chuck
C. Flank
D. Loin
E. Plate
F. Rib
G. Round
H. Shank
I. Variety cut

#### Lamb Wholesale Cuts
J. Breast
K. Leg
L. Loin
M. Rack
N. Shank
O. Shoulder

#### Pork Wholesale Cuts
P. Belly (Side, Bacon)
Q. Boston Butt
R. Ham
S. Jowl
T. Loin
U. Picnic Shoulder
6
INSTRUCTIONS: For each sample, use the columns on the right to choose the number or letter that indicates your answer for each livestock feedstuff. Use capital letters and write neatly. **Seniors** provide answers for feedstuff name, nutrient group, and characteristics/uses of the feedstuff. Each question is worth 5 points (150 points total for Seniors).

<table>
<thead>
<tr>
<th>Feedstuff Name</th>
<th>Nutrient Group</th>
<th>Characteristics/ Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
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<td>2.</td>
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<td>9.</td>
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<td>10.</td>
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</tr>
</tbody>
</table>

**Important Characteristics/Uses of Feedstuffs – to be used in answer column 3 by Seniors**

A. Excellent feedstuff for horses that is high in protein, minerals, and vitamins.
B. Shelled corn that has been passed through a roller mill to break it into smaller particles.
C. Byproduct of wheat flour milling that consists of the fine particles of wheat bran, wheat shorts, wheat germ, wheat flour, and some of the offal from the "tail of the mill".
D. Bulk density = 56 pounds/bushel
E. Bulk density = 32 pounds/bushel
F. Bulk density = 48 pounds/bushel
G. Rarely fed to livestock in the whole, full-fat form, but can be if first heated to destroy anti-nutritional factors (trypsin inhibitor).
H. Produced by grinding the flakes which remain after the oil is extracted from whole flaxseed.
I. Whole barley that is subjected to high-moisture steam for a short period of time (usually 1 to 8 minutes) and then rolled to produce a flat flake.
J. High in protein, and contains active immunoglobulins.
K. Commonly used source of calcium and phosphorus in livestock feeds.
L. Also referred to as bluestone.
M. Dried byproduct of the manufacture of sugar from either sugar beets or, more commonly, sugarcane.
N. Primarily used as a ruminant roughage extender during times when forages are in short supply.
**INSTRUCTIONS:** For each sample, use the columns on the right to choose the number or letter that indicates your answer for each livestock feedstuff. Use capital letters and write neatly. **Seniors** provide answers for feedstuff name, nutrient group, and characteristics/uses of the feedstuff. Each question is worth 5 points (150 points total for Seniors).

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<th>Feedstuff Name</th>
<th>Nutrient Group</th>
<th>Characteristics/Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 21</td>
<td>B or C</td>
<td>M</td>
</tr>
<tr>
<td>2. 37</td>
<td>C</td>
<td>E</td>
</tr>
<tr>
<td>3. 38</td>
<td>B</td>
<td>N</td>
</tr>
<tr>
<td>4. 73</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>5. 33</td>
<td>P</td>
<td>H</td>
</tr>
<tr>
<td>6. 52</td>
<td>P or F</td>
<td>G</td>
</tr>
<tr>
<td>7. 1</td>
<td>P or C</td>
<td>A</td>
</tr>
<tr>
<td>8. 56</td>
<td>C</td>
<td>I</td>
</tr>
<tr>
<td>9. 49</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>10. 15</td>
<td>C</td>
<td>B</td>
</tr>
</tbody>
</table>

**Feeds Nutrient Groups – to be used in answer column 2 by Seniors**

*You may use the letter more than once!!!*

- B. By-product feed
- C. Carbohydrate (energy)
- D. Protein
- E. Fat (energy)
### Senior Livestock Breeds Identification – 2018

**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/trait. Each question is worth 5 points for each part of the question. (150 points total for Seniors).

<table>
<thead>
<tr>
<th>Breed Name</th>
<th>Origin of Breed</th>
<th>Important Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>2.</strong></td>
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<tr>
<td><strong>3.</strong></td>
<td></td>
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<tr>
<td><strong>4.</strong></td>
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<td><strong>5.</strong></td>
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<td><strong>9.</strong></td>
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<td><strong>10.</strong></td>
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</tr>
</tbody>
</table>

#### Breed Names – to be used in answer column 1 by Seniors

<table>
<thead>
<tr>
<th>Breed Names</th>
<th>Goat Breeds</th>
<th>Sheep Breeds</th>
<th>Swine Breeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Santa Gertrudis</td>
<td>29. Toggenburg</td>
<td>42. Rambouillet</td>
<td></td>
</tr>
<tr>
<td>14. Shorthorn</td>
<td></td>
<td>43. Romney</td>
<td></td>
</tr>
<tr>
<td>15. Simmental</td>
<td></td>
<td>44. Southdown</td>
<td></td>
</tr>
<tr>
<td>16. Tarentaise</td>
<td></td>
<td>45. Suffolk</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>46. White Dorper</td>
<td></td>
</tr>
</tbody>
</table>

#### Origins of Breeds – to be used in answer column 2 by Seniors

**Some answers will be used more than once**

<table>
<thead>
<tr>
<th>A. England</th>
<th>E. Finland</th>
<th>H. Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Scotland</td>
<td>F. India / US</td>
<td>I. France</td>
</tr>
<tr>
<td>C. Ohio, US</td>
<td>G. Bavaria, Germany</td>
<td>J. Iowa and Nebraska, US</td>
</tr>
</tbody>
</table>

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

**Some answers will be used more than once**

#### Beef Cattle Characteristics/Traits

- A. Foraging Ability and Docility.
- B. Heavily Muscled, Excellent Growth Rate, Late Maturing.
- C. Mothering Ability, Disease and Heat Resistant.
- D. Excellent Meat Quality (nicely marbled), Calving Ease, and Hardy.
- E. Early Maturity, Reproductive Performance, Mothering Ability, Disposition.

#### Sheep Characteristics/Traits

- I. Lambing Ability, Early Maturity, Vigorous Instinct and Heavy Boned.
- J. Prolificacy, Wool Production and Mothering Ability.
- K. Growth Rate, Muscling and Leanness.

#### Swine Characteristics/Traits

- L. Prolificacy (litter size), milking ability, known as the mother breed.
- M. Meat Quality (Intramuscular Fat).
- N. Excellent rate of gain and feed efficiency.

#### Goats Characteristics/Traits

- F. Hardy, Adaptable Animals that thrive in any climate while maintaining good health.
- G. Meat Yield.
- H. High Butterfat Content, Extended Breeding Season, Multi-Purpose use, (milk, meat and hide).

---
**Key**

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**Senior Livestock Breeds Identification – 2018**

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 for each part of the question. (150 points total for Seniors).

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<tr>
<th>Breed Name</th>
<th>Origin of Breed</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>17 H F</td>
<td></td>
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<tr>
<td>2.</td>
<td>51 J M</td>
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<tr>
<td>3.</td>
<td>7 A A</td>
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</tr>
<tr>
<td>4.</td>
<td>35 E J</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>45 A K</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>2 F C</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>54 C M</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>14 D E</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>23 A H</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>1 B D</td>
<td></td>
</tr>
</tbody>
</table>

### Breed Names – to be used in answer column 1 by Seniors

<table>
<thead>
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<th>Beef Breeds</th>
<th>Goat Breeds</th>
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<td></td>
</tr>
<tr>
<td>15. Simmental</td>
<td>31. Columbia</td>
<td>44. Southdown</td>
<td></td>
</tr>
<tr>
<td>16. Tarentaise</td>
<td>32. Corriedale</td>
<td>45. Suffolk</td>
<td></td>
</tr>
</tbody>
</table>

### Origins of Breeds – to be used in answer column 2 by Seniors

Some answers will be used more than once

| A. England | E. Finland | H. Switzerland |
| B. Scotland | F. India | I. France |
| C. Ohio, US | G. Bavaria, Germany | J. Iowa and Nebraska, US |

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

**Beef Cattle Characteristics/Traits**

A. Foraging Ability and Docility.
B. Heavily Muscled, Excellent Growth Rate, Late Maturing.
C. Mothering Ability, Disease and Heat Resistant.
D. Excellent Meat Quality (nicely marbled), Calving Ease, and Hardy.
E. Early Maturity, Reproductive Performance, Mothering Ability, Disposition.

**Sheep Characteristics/Traits**

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L. Prolificacy (litter size), milking ability, known as the mother breed.
M. Meat Quality (Intramuscular Fat).
N. Excellent rate of gain and feed efficiency.

**Goats Characteristics/Traits**

F. Hardy, Adaptable Animals that thrive in any climate while maintaining good health.
G. Meat Yield.
H. High Butterfat Content, Extended Breeding Season, Multi-Purpose use, (milk, meat and hide).
**Senior Livestock and Meat Equipment Identification – 2018**

**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** provide answers for livestock/meat equipment names and equipment use. Each question is worth 5 points (100 points total for Intermediates).

<table>
<thead>
<tr>
<th>Equipment Name</th>
<th>Equipment Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. __________</td>
<td>__________</td>
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<td>2. __________</td>
<td>__________</td>
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<td>3. __________</td>
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<td>4. __________</td>
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<td>7. __________</td>
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<td>9. __________</td>
<td>__________</td>
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<td>10. __________</td>
<td>__________</td>
</tr>
</tbody>
</table>

**Equipment Names – to be used in answer column 1 by Seniors**

<table>
<thead>
<tr>
<th>Livestock Equipment</th>
<th>Meat Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Weather Paintstik</td>
<td>Backfat ruler</td>
</tr>
<tr>
<td>Artificial insemination pipettes (Swine)</td>
<td>Band saw</td>
</tr>
<tr>
<td>Bowl waterer</td>
<td>Bone dust scraper</td>
</tr>
<tr>
<td>Balling gun</td>
<td>Boning knife</td>
</tr>
<tr>
<td>Barnes dehorner</td>
<td>Bowl chopper</td>
</tr>
<tr>
<td>Cattle clippers</td>
<td>Dehairing machine</td>
</tr>
<tr>
<td>Clipper comb</td>
<td>Electrical stunner</td>
</tr>
<tr>
<td>Clipper cutter</td>
<td>Emulsifier</td>
</tr>
<tr>
<td>Currycomb</td>
<td>Ham net</td>
</tr>
<tr>
<td>Disposable syringes</td>
<td>Hand saw</td>
</tr>
<tr>
<td>Drench gun</td>
<td>Hard hat</td>
</tr>
<tr>
<td>Ear notchers</td>
<td>Loin eye area grid</td>
</tr>
<tr>
<td>Ear tag</td>
<td>Meat grinder</td>
</tr>
<tr>
<td>Elastrator</td>
<td>Meat grinder auger</td>
</tr>
<tr>
<td>Electric branding iron</td>
<td>Meat grinder knife</td>
</tr>
<tr>
<td>Electric docker</td>
<td>Meat grinder plate</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Meat grinder stuffing rod</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Meat hook</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Meat tenderizer</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Meat trolley</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Metal knife scabbard</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Rubber apron</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Sharpening steel</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Smoke house</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Thermometer</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Tumbler</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Vacuum sausage stuffer</td>
</tr>
<tr>
<td>Electric fence wire roller</td>
<td>Whale saw</td>
</tr>
</tbody>
</table>

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

A. A non-rusting, electric fence insulator that fits snugly around the web and flange of T-posts.

B. A device placed on rams that shows when a ewe has been serviced.

C. Used to chop meat for sausages.

D. Used to cut up meat carcases.

E. An instrument used for the bloodless castration (young male calves, lambs, and goats) and docking of tails (young lambs and goats). It is used to place a small rubber ring over the scrotum or tail to shut off circulation.

F. Used to shear and groom the wool from sheep. Blade lengths typically range from 3 to 6-½ inches.

G. An instrument used to control vaginal prolapse in ewes.

H. Used to prevent hogs raised outdoors from rooting holes in the ground.

I. Used for temporary identification of livestock.

J. An automatic waterer used to provide clean, fresh water to pigs.

K. Used to keep water tanks from freezing.

L. An instrument used for the bloodless castration of young male calves, lambs, and goats by severing (crushing) the testicular cord.

M. Used to clip off the 4 pairs of very sharp teeth found in baby pigs.

N. Used to comb (groom) the hair on cattle.

O. Used to dock the tails of lambs and piglets. It cauterizes as it cuts the tail to eliminate excessive bleeding.

P. Used to administer precise amounts of liquid medications to cattle, goats, sheep and horses.
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 provide answers for livestock/meat equipment names and equipment use. Each question is worth 5 points (100 points total for Intermediates).

### Equipment Names – to be used in answer column 1 by Seniors

<table>
<thead>
<tr>
<th>Equipment Name</th>
<th>Equipment Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 29</td>
<td>H</td>
</tr>
<tr>
<td>2. 40</td>
<td>A</td>
</tr>
<tr>
<td>3. 14</td>
<td>E</td>
</tr>
<tr>
<td>4. 25</td>
<td>F</td>
</tr>
<tr>
<td>5. 27</td>
<td>M</td>
</tr>
<tr>
<td>6. 41</td>
<td>K</td>
</tr>
<tr>
<td>7. 1</td>
<td>I</td>
</tr>
<tr>
<td>8. 16</td>
<td>O</td>
</tr>
<tr>
<td>9. 11</td>
<td>P</td>
</tr>
<tr>
<td>10. 19</td>
<td>L</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Equipment Names</th>
<th>Equipment Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All Weather Paintstik.</td>
<td></td>
</tr>
<tr>
<td>2. Artificial insemination pipettes (Swine)</td>
<td></td>
</tr>
<tr>
<td>3. Bowl waterer</td>
<td></td>
</tr>
<tr>
<td>4. Balling gun</td>
<td></td>
</tr>
<tr>
<td>5. Barnes dehorner</td>
<td></td>
</tr>
<tr>
<td>6. Cattle clippers</td>
<td></td>
</tr>
<tr>
<td>7. Clipper comb</td>
<td></td>
</tr>
<tr>
<td>8. Clipper cutter</td>
<td></td>
</tr>
<tr>
<td>9. Currycomb</td>
<td></td>
</tr>
<tr>
<td>10. Disposable syringes</td>
<td></td>
</tr>
<tr>
<td>11. Drench gun</td>
<td></td>
</tr>
<tr>
<td>12. Ear notchers</td>
<td></td>
</tr>
<tr>
<td>13. Ear tag</td>
<td></td>
</tr>
<tr>
<td>14. Elastrator</td>
<td></td>
</tr>
<tr>
<td>15. Electric branding iron</td>
<td></td>
</tr>
<tr>
<td>16. Electric docker</td>
<td></td>
</tr>
<tr>
<td>17. Electric fence wire roller</td>
<td></td>
</tr>
<tr>
<td>18. Electric shears</td>
<td></td>
</tr>
<tr>
<td>19. Emasculatome (Burdizzo)</td>
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<td>20. Ewe prolapse retainer</td>
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<td>21. Fencing pliers</td>
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<td>22. Foot rot shears</td>
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<td>23. Freeze branding iron</td>
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<td>24. Hanging Scale</td>
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<td>25. Hand sheep shears</td>
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<td>26. Lamb tube feeder</td>
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<td>27. Needle teeth nippers</td>
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<td>28. Nipple waterer</td>
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<td>29. Nose ring</td>
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<td>30. Nose ring pliers</td>
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<td>31. Obstetrical (O.B.) chain</td>
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<td>32. Plastic Sleeve</td>
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<td>33. Ralgro pellet injector</td>
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<td>34. Ram marking harness</td>
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<td>35. Rumen magnate</td>
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<td>36. Scotch Comb</td>
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<td>37. Slap tattoo</td>
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<td>38. SYNOVEX Implant cartridge</td>
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<td>39. SYNOVEX Implant gun</td>
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<td>40. T-Post Electric Fence Insulator</td>
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<td>41. Water Heater</td>
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<td>42. Wood post electric fence insulator</td>
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<td>43. Backfat ruler</td>
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<td>44. Band saw</td>
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<td>45. Bone dust scraper</td>
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<td>46. Boning knife</td>
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<td>47. Bowl chopper</td>
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<td>48. Dehairing machine</td>
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<td>49. Electrical stunner</td>
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<td>50. Emulsifier</td>
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<td>51. Ham net</td>
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<td>52. Hand saw</td>
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<td>53. Hard hat</td>
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<td>54. Loin eye area grid</td>
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<td>55. Meat grinder</td>
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<td>56. Meat grinder auger</td>
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<td>57. Meat grinder knife</td>
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<td>58. Meat grinder plate</td>
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<td>59. Meat grinder stuffing rod</td>
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<td>60. Meat hook</td>
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<td>61. Meat tenderizer</td>
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<td>62. Meat trolley</td>
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<td>63. Metal knife scabbard</td>
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<td>64. Rubber apron</td>
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<td>65. Sharpening steel</td>
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<td>66. Smoke house</td>
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<td>67. Thermometer</td>
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<td>68. Tumbler</td>
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<td>69. Vacuum sausage stuffer</td>
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<tr>
<td>70. Whale saw</td>
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</tbody>
</table>

J. An automatic waterer used to provide clean, fresh water to pigs.
K. Used to keep water tanks from freezing.
L. An instrument used for the bloodless castration of young male calves, lambs, and goats by severing (crushing) the testicular cord.
M. Used to clip off the 4 pairs of very sharp teeth found in baby pigs.
N. Used to comb (groom) the hair on cattle.
O. Used to dock the tails of lambs and piglets. It cauterizes as it cuts the tail to eliminate excessive bleeding.
P. Used to administer precise amounts of liquid medications to cattle, goats, sheep and horses.

G. An instrument used to control vaginal prolapse in ewes.
H. Used to prevent hogs raised outdoors from rooting holes in the ground.
I. Used for temporary identification of livestock.

**KEY**

Senior Livestock and Meat Equipment Identification – 2018
2

Inches
0 1 2 3 4 5 6

Inches
You manage a 1000 head feed lot. Your feed sales representative has suggested including a product called Optaflexx in your finishing ration for market heifers. You are unfamiliar with this product and want to do further research before feeding it. Use the Optaflexx trial summary provided and your knowledge of quality assurance management to answer the 10 questions. Circle the best answer. (10 questions worth 5 points per question for 50 total points).

1. What is the active ingredient in Optaflexx?
   A.) monensin  C.) Flexx
   B.) Gamma-cyhalothrin  D.) ractopamine hydrochloride

2. What does the control group represent?
   A.) Cattle fed 100 mg/hd/d  C.) Cattle not fed Optaflexx
   B.) Cattle fed 200 mg/hd/d  D.) Cattle easy to work with

3. What percentage of the heifers in the trial fed 300 mg/hd/d had a USDA quality grade of Choice or Higher?
   A.) 64.8 %  C.) 63.56 %
   B.) 98.76 %  D.) 100 %

4. On average, what happened to the marbling score when dosage of Optaflexx increased?
   A.) Increased  C.) No change
   B.) Decreased  D.) Modest
5. By how many pounds did hot carcass weight increase for cattle fed at 300 mg/hd/d when compared to the control?
   A.) 753.3 pounds  
   B.) 17.8 pounds  
   C.) 0.3 pounds  
   D.) 14.1 pounds

6. What is Optaflexx?
   A.) Beta-antagonist  
   B.) Illegal  
   C.) Beta-agonist  
   D.) Made in China

7. How many total studies met all the selection criteria in this summary?
   A.) 16 studies  
   B.) 28 studies  
   C.) 42 studies  
   D.) 12,342 studies

8. How is Optaflexx used?
   A.) Off-Label  
   B.) On-Label  
   C.) Not Used  
   D.) Both A and B

9. When fed as a top dress, Optaflexx should be fed at a 90% DM basis continuously in a minimum of 1.0 lb/hd/d. What is the appropriate range?
   A.) 90 – 430 mg/hd/d  
   B.) 70 – 400 mg/hd/d  
   C.) 28 - 42 mg/hd/d  
   D.) 8.2 – 24.6 mg/hd/d

10. Your goal is to increase feed efficiency and ribeye area in the cattle you feed based off of previous years cut out data on your cattle. Should you feed Optaflexx?
    A.) No, it does not increase ribeye area  
    B.) No, it is too expensive  
    C.) Yes, feed as much as possible  
    D.) Yes, if used as directed
Senior Individual Quality Assurance – 2018

You manage a 1000 head feed lot. Your feed sales representative has suggested including a product called Optaflexx in your finishing ration for market heifers. You are unfamiliar with this product and want to do further research before feeding it. Use the Optaflexx trial summary provided and your knowledge of quality assurance management to answer the 10 questions. Circle the best answer. (10 questions worth 5 points per question for 50 total points).

1. What is the active ingredient in Optaflexx?
   A.) monensin     C.) Flexx
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2. What does the control group represent?
   A.) Cattle fed 100 mg/hd/d     C.) Cattle not fed Optaflexx
   B.) Cattle fed 200 mg/hd/d
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3. What percentage of the heifers in the trial fed 300 mg/hd/d had a USDA quality grade of Choice or Higher?
   A.) 64.8 %     C.) 63.56 %
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4. On average, what happened to the marbling score when dosage of Optaflexx increased?
   A.) Increased     C.) No change
   B.) Decreased     D.) Modest
5. By how many pounds did hot carcass weight increase for cattle fed at 300 mg/hd/d when compared to the control?

A.) 753.3 pounds  C.) 0.3 pounds
B.) 17.8 pounds     D.) 14.1 pounds

6. What is Optaflexx?

A.) Beta-antagonist  B.) Illegal  C.) Beta-agonist  D.) Made in China

7. How many total studies met all the selection criteria in this summary?

A.) 16 studies  B.) 28 studies  C.) 42 studies  D.) 12,342 studies

8. How is Optaflexx used?


9. When fed as a top dress, Optaflexx should be fed at a 90% DM basis continuously in a minimum of 1.0 lb/hd/d. What is the appropriate range?

A.) 90 – 430 mg/hd/d  C.) 28 - 42 mg/hd/d
B.) 70 – 400 mg/hd/d     D.) 8.2 – 24.6 mg/hd/d

10. Your goal is to increase feed efficiency and ribeye area in the cattle you feed based off of previous years cut out data on your cattle. Should you feed Optaflexx?

A.) No, it does not increase ribeye area  C.) Yes, feed as much as possible
B.) No, it is too expensive     D.) Yes, if used as directed
Effects of Optaflexx® on Performance and Carcass Characteristics in Finishing Heifers: 16-trial Summary
Elanco Study No. T4VUS130001

Study overview
A meta-analysis of 16 trials was conducted to quantify the effects of Optaflexx dose level on performance and carcass characteristics in finishing heifers.

Key study results
- Compared to the control, Optaflexx fed at 200 mg/hd/d:
  - Improved feed efficiency by 12.5%
  - Increased live weight gain by 11.9 lbs
  - Increased hot carcass weight (HCW) by 9.4 lbs
  - Increased dressing percent by 0.2 units
- Compared to the control, Optaflexx fed at 300 mg/hd/d:
  - Improved feed efficiency by 18.8%
  - Increased live weight gain by 17.8 lbs
  - Increased HCW by 14.1 lbs
  - Increased dressing percent by 0.3 units

Background information

TRIAL DESIGN
- Trial selection criteria
  - Experimental unit was pen or lot
  - Negative control and at least one Optaflexx treatment
  - On-label use for dose and duration
  - Period performance data (28 to 42 days)
- A total of 16 studies met selection criteria

MATERIALS AND METHODS
- Total head — 12,342
  - Control: 5,387 hd
  - 100 mg/hd/d Optaflexx: 172 hd
  - 200 mg/hd/d Optaflexx: 5,139 hd
  - 300 mg/hd/d Optaflexx: 1,644 hd
- Research conducted in 8 states
- Initial weight ranged from 1,015 to 1,267 lbs
- Final weight ranged from 1,097 to 1,362 lbs
- Hot carcass weight ranged from 638 to 813 lbs
- Average duration of Optaflexx feeding was 32.3 days

Statistics
- Data were analyzed in SAS using mixed effects regression models with Optaflexx intake (mg/hd/d) as the primary predictor
- The meta-analysis used a regression model that inversely weighted each study to its variation — the more variation there was in a study, the less weight the study was given in the analysis
- Differences were deemed statistically significant if $P < 0.05$

Study results

Table 1. Live performance of heifers comparing multiple Optaflexx doses

<table>
<thead>
<tr>
<th></th>
<th>Optaflexx treatment, mg/hd/d</th>
<th>SEM</th>
<th>$P$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Linear</td>
<td>Quadratic</td>
</tr>
<tr>
<td>Live weight gain, lbs</td>
<td>72.8</td>
<td>78.7</td>
<td>84.6</td>
</tr>
<tr>
<td>Response over controls, lbs</td>
<td>—</td>
<td>5.9</td>
<td>11.9</td>
</tr>
<tr>
<td>Daily gain, lbs</td>
<td>2.56</td>
<td>2.76</td>
<td>2.96</td>
</tr>
<tr>
<td>Response over controls, %</td>
<td>—</td>
<td>7.8</td>
<td>15.7</td>
</tr>
<tr>
<td>DM intake, lbs/d</td>
<td>20.30</td>
<td>20.18</td>
<td>20.36</td>
</tr>
<tr>
<td>Feed conversion</td>
<td>7.78</td>
<td>7.30</td>
<td>6.81</td>
</tr>
<tr>
<td>Response over control, % improvement</td>
<td>—</td>
<td>6.3</td>
<td>12.5</td>
</tr>
</tbody>
</table>
Key findings

- Live and carcass weight gain increased as the dose of Optaflexx increased.
- Effects on carcass characteristics and USDA quality and yield grades changed with increasing doses of Optaflexx, resulting in slight shifts in yield- and quality-grade distributions.
- In a highly dynamic marketplace, Optaflexx is the only beta-agonist that gives cattle feeders more management options,* allowing them to respond to changes in the market while optimizing both live and carcass performance.

*Based on zero-day withdrawal and dose range.

The label contains complete use information, including cautions and warnings. Always read, understand and follow the label and use directions.

Optaflexx: Complete feed
For increased rate of weight gain and improved feed efficiency: Feed 8.2 to 24.6 g/ton of ractopamine hydrochloride (90% DM basis) continuously in a complete feed to provide 70 to 430 mg/hd/d for the last 28 to 42 days on feed.

For increased rate of weight gain, improved feed efficiency and increased carcass leanness: Feed 9.8 to 24.6 g/ton of ractopamine hydrochloride (90% DM basis) continuously in a complete feed to provide 90 to 430 mg/hd/d for the last 28 to 42 days on feed.

Optaflexx: Top dress
For increased rate of weight gain and improved feed efficiency: Feed 70 to 400 mg/hd/d of ractopamine hydrochloride (90% DM basis) continuously in a minimum of 1.0 lb/hd/d top dress Type C medicated feed (maximum 800 g/ton ractopamine hydrochloride) during the last 28 to 42 days on feed.
Senior Quiz – 2018

Carefully circle the correct answer to each of the questions below. (Each question is worth 2 points each for a total of 50 points)

1.) What class of nutrients are considered the body’s fuel?
   a. Roughages  c. Vitamins
   b. Energy   d. Minerals

2.) How many steers are born in the United States each year?
   a. 0  c. 100,000
   b. 10,000  d. 1,000,000

3.) The recommended time frame to castrate lambs and pigs is?
   a. Day born  c. 5 weeks of age
   b. First 2 weeks of age  d. 10 weeks of age

4.) What may cause hay to be yellow or brownish in color?
   a. Bleached out by the sun  c. Stored in the bale at too high moisture
   b. Rained on  d. All of these

5.) Which of these is the least desirable, lowest quality roughage?
   a. Alfalfa  c. Clover
   b. Timothy  d. Fescue

6.) What is docking?
   a. Vacinating  c. Dehorning
   b. Detailing  d. Castrating

7.) What is a concern of swine breeders where baby pigs get dehydrated, have scours and have a high mortality rate?
   a. PEDv  c. Parakaratosis
   b. Rhinitis  d. Gestation

8.) What is the most important thing to provide livestock?
   a. Show Feed  c. Water
   b. Vitamins  d. Salt
9.) Programs such as “Berkshire Gold”, or “Certified Hereford Beef “are called?
   a. Organic       c. Cheap products
   b. Boxes of meat  d. Branded Products or niche market

10.) What is the most acceptable weight on market hogs?
   a. 75 – 125       c. 250 – 325
   b. 125 – 225      d. 375 – 450

11.) When would it be recommended to give iron shots to swine after birth?
   a. First 48 hours  c. 84 days
   b. 48 days        d. 480 days

12.) What is most important when selecting breeding animals to be used as replacements?
    a. Color and breed       c. Bone and foot size
    b. Structural and reproductive soundness  d. Muscle

13.) Which breed would you select for mothering ability and marbling?
    a. Hereford          c. Charolais
    b. Chianina          d. Angus

14.) What Quality Grade would you expect a beef animal with extra fat cover and intra - muscular fat to receive?
    a. 1 or 2       c. High Choice
    b. Select       d. 5 or 6

15.) Which state is the leading cattle producing state east of the Mississippi?
    a. Kentucky    c. Illinois
    b. Texas       d. Maine

16.) What is the most important vitamin for a breeding beef animal?
    a. Vitamin A       c. Vitamin T
    b. Vitamin C       d. Vitamin Z

17.) What is included at Livestock Judging Contests?
    a. Classes of animals       c. Reasons
    b. Questions                d. All of the above
18.) Which one is not a common parasite of cattle?
   a. Grubs       c. Lice
   b. Birds       d. Flies

19.) Calcium and Phosphorous are?
   a. Vitamins       c. Minerals
   b. Proteins       d. Oils

20.) Feeding cattle grain that is too finely ground can cause?
   a. Extra growth       c. More Profit
   b. Bloat       d. Less days on feed

21.) A normal beef steer will consume what percent of its body weight in feed each day?
   a. 1%        c. 10%
   b. 2.5%       d. 25%

22.) Long periods of stress prior to the harvest of beef cattle causes?
   a. Dark Cutter       c. Better Yield Grade
   b. Better Quality Grade       d. Extra Carcass Weight

23.) Which is the most common method used to supplement feed to beef calves on pasture prior to weaning?
   a. Provide extra water       c. Creep feeding
   b. Providing poor quality hay or straw       d. None of these

24.) What is the proportion of total variation for a given trait that is passed on directly from parent to offspring?
   a. Heterozygous       c. Heritability
   b. Homozygous       d. Both A and C

25.) Which of these is not used to identify new born lambs in the flock setting?
   a. Ear Notches       c. Paint branding
   b. Tagging       d. DNA
KEY

Senior Quiz – 2018

Carefully circle the correct answer to each of the questions below. (Each question is worth 2 points each for a total of 50 points)

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   **b. First 2 weeks of age**

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   a. Bleached out by the sun  c. Stored in the bale at too high moisture
   b. Rained on  d. All of these
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   **a. PEDv**

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Senior Retail Meat Judging Class 1 – 2018

Name______________________   Contestant #_______________ County________________

Placing is worth a possible 50 points

Contestant Number ________________
Placing Score _____________________

University of Kentucky
College of Agriculture
Animal Sciences Department

Contestant’s Name
______________________
______________________

Address
______________________
______________________

County
______________________

Class: 1. Bone in Ribeyes

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z
Senior Retail Meat Judging Class 1 – 2018

Placing is worth a possible 50 points

Official: 1-4-2-3    Cuts: 3-4-2

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</table>

University of Kentucky  
College of Agriculture  
Animal Sciences Department

Contestant’s Name                        
______________________________________
______________________________________
Address                                 
______________________________________
______________________________________
County                                  
______________________________________
Class: 1. Bone in Ribeyes
Senior Retail Meat Judging Class 2 – 2018

Name____________________________ Contestant #_______________ County________________

(Placing is worth a possible 50 points and each of the 5 questions is worth 10 points for 50 possible points – Grand Total of 100 possible points)

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<th>Contestant Number</th>
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<td>W 4 3 1 2</td>
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<tr>
<td>X 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

[Turn over and answer questions on the back of this sheet]
QUESTIONS

1) Which steak has the most external fat cover and least amount of edible product? ________

2) Which steak has the least amount of tail waste? ________

3) Between 3 and 4, which steak has less seam fat? ________

4) Between 1 and 2, which steak has the more uniform and more correctly textured marbling? ________

5) Between 3 and 4, which steak has a more correct shape to the eye? ________
Senior Retail Meat Judging Class 2 – 2018

Official: 2-3-4-1 Cuts: 4-2-7

(Placing is worth a possible 50 points and each of the 5 questions is worth 10 points for 50 possible points – Grand Total of 100 possible points)

Contestant Number _______________

Placing Score _____________________

|   | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X |
|   | 1 | 2 | 3 | 4 |   | 1 | 2 | 3 | 4 |   | 1 | 2 | 3 | 4 |   | 1 | 2 | 3 | 4 |   | 1 | 2 | 3 | 4 |   |
|   | 21| 19| 17| 11|   |  9| 34| 32| 43|   | 50| 48| 26| 20|   | 39| 46| 27| 40|   | 20| 16| 33| 42|   |

University of Kentucky
College of Agriculture
Animal Sciences Department

Contestant’s Name
______________________
______________________

Address
______________________
______________________

County
______________________

Class
Retail Meat Class 2 Strip Steaks

[Turn over and answer questions on the back of this sheet]
QUESTIONS

1) Which steak has the most external fat cover and least amount of edible product? ___ 1 ___

2) Which steak has the least amount of tail waste? ___ 4 ___

3) Between 3 and 4, which steak has less seam fat? ___ 4 ___

4) Between 1 and 2, which steak has the more uniform and more correctly textured marbling? ___ 2 ___

5) Between 3 and 4, which steak has a more correct shape to the eye? ___ 3 ___
Senior Hay Judging Class – 2018

Name_____________________  Contestant #_______________ County________________

(50 points possible)

Contestant Number ________________
Placing Score _____________________

University of Kentucky
College of Agriculture
Animal Sciences Department

Contestant’s Name

Address

County

Class

Hay Judging Class

[Turn over for Scenario and Forage Analysis Information]
Scenario:
You are backgrounding a load of feeder heifers with an average weight of 400 pounds. These cattle have been purchased from a local stockyard and have not been vaccinated or started on feed. 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 for the next 60 days.

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

<table>
<thead>
<tr>
<th></th>
<th>Hay Lot #1 2017 2nd Cutting Orchardgrass</th>
<th>Hay Lot #2 2014 Late Cut Grass Mixture</th>
<th>Hay Lot #3 2017 2nd Cutting Orchardgrass</th>
<th>Hay Lot #4 2014 Late Cut Grass Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry matter</td>
<td>88.6%</td>
<td>88.9%</td>
<td>88.6%</td>
<td>88.9%</td>
</tr>
<tr>
<td>Crude protein</td>
<td>12.6%</td>
<td>7.4%</td>
<td>12.7%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Acid detergent fiber (ADF)</td>
<td>44.8%</td>
<td>49.9%</td>
<td>44.6%</td>
<td>49.7%</td>
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<tr>
<td>Neutral detergent fiber (NDF)</td>
<td>67.3%</td>
<td>69.2%</td>
<td>67.5%</td>
<td>69.4%</td>
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<tr>
<td>Total digestible nutrients (TDN)</td>
<td>64.6%</td>
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<tr>
<td>Price per ton</td>
<td>$110</td>
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<td>$110</td>
<td>$85</td>
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</table>
Senior Hay Judging Class – 2018

Official: 3-1-4-2 Cuts: 3-7-2

(50 points possible)

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University of Kentucky
College of Agriculture
Animal Sciences Department

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<td>C 1 3 2 4 45</td>
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[Turn over for Scenario and Forage Analysis Information]
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**Nutrient Requirements for 400 pound feeder heifers to gain 1.5 pounds per day.**

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<th>Crude Protein:</th>
<th>Total Digestible Nutrients</th>
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<tr>
<td><strong>Scenario</strong></td>
<td>10.7 pounds per day</td>
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<td>64%</td>
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**Forage Analysis**

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Leftovers and Food Safety

Often when we cook at home or eat in a restaurant, we have leftovers. To ensure that leftovers are safe to eat, make sure the food is cooked to a safe temperature and refrigerate the leftovers promptly. Not cooking food to a safe temperature and leaving food out at an unsafe temperature are the two main causes of foodborne illness. Safe handling of leftovers is very important to reducing foodborne illness. Follow the USDA Food Safety and Inspection Service's recommendations for handling leftovers safely.

Cook Food Safely at Home
The first step in having safe leftovers is cooking the food safely. Use a food thermometer to make sure that the food is cooked to a safe, minimum internal temperature.

- **Red meats:** Cook all raw beef, pork, lamb and veal steaks, chops, and roasts to a minimum internal temperature of 145° F as measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.
- **Ground meats:** Cook all raw ground beef, pork, lamb, and veal to an internal temperature of 160° F as measured with a food thermometer.
- **Poultry:** Cook all poultry to an internal temperature of 165° F as measured with a food thermometer.

Keep Food out of the "Danger Zone"
Bacteria grow rapidly between the temperatures of 40° F and 140° F. After food is safely cooked, hot food must be kept hot at 140° F or warmer to prevent bacterial growth. Discard any cold leftovers that have been left out for more than 2 hours at room temperature (1 hour when the temperature is above 90 °F).

Cool Food Rapidly
To prevent bacterial growth, it's important to cool food rapidly so it reaches as fast as possible the safe refrigerator-storage temperature of 40° F or below. To do this, divide large amounts of food into shallow containers. A big pot of soup, for example, will take a long time to cool, inviting bacteria to multiply and increasing the danger of foodborne illness. Instead, divide the pot of soup into smaller containers so it will cool quickly.
Cut large items of food into smaller portions to cool. For whole roasts or hams, slice or cut them into smaller parts. Cut turkey into smaller pieces and refrigerate. Slice breast meat; legs and wings may be left whole.

Wrap Leftovers Well
Cover leftovers, wrap them in airtight packaging, or seal them in storage containers. These practices help keep bacteria out, retain moisture, and prevent leftovers from picking up odors from other food in the refrigerator.

Store Leftovers Safely
Leftovers can be kept in the refrigerator for 3 to 4 days or frozen for 3 to 4 months. Although safe indefinitely, frozen leftovers can lose moisture and flavor when stored for longer times in the freezer.

Thaw Frozen Leftovers Safely
Safe ways to thaw leftovers include the refrigerator, cold water and the microwave oven. Refrigerator thawing takes the longest but the leftovers stay safe the entire time. After thawing, the food should be used within 3 to 4 days or can be refrozen.

Microwave thawing is the fastest method. When thawing leftovers in a microwave, continue to heat it until it reaches 165° F as measured with a food thermometer. Foods thawed in the microwave can be refrozen after heating it to this safe temperature.

Reheat Leftovers Safely
When reheating leftovers, be sure they reach 165° F as measured with a food thermometer. Reheat sauces, soups and gravies by bringing them to a rolling boil. Cover leftovers to reheat. This retains moisture and ensures that food will heat all the way through.
Senior Team Quality Assurance Exercise – 2018

In today’s Food Industry, it is becoming more and more important that we have trained, qualified individuals to provide research based information that is guided by common sense about the food we raise, provide and sell to the general population. Food Safety jobs are in high demand. They give you the opportunity to make a difference in local, state, national and international markets. Plus, with the continued growth in population and need for safe, affordable food, this allows for job security. Your mission at the Quality Assurance Station is work together as a team to answer the following questions which deal with food safety and animal / human contact dealing with influenza. Take your time but work efficiently. This is a double station so you have 24 minutes to work through this activity and you do not defend to a listener at this station. (Each correct answer for questions 1-9 are worth 10 points each. Questions 10-31 are worth 5 points each. Questions 1-9 and 10-31 combine for a total of 200 points).

Using the attached handout answer the following 9 questions.
They are worth 10 points each for a total of 90 points. Please circle your answer.

1. The best instrument to use to determine proper cooking temperature is?
   a. Knife   b. Eye ball   c. Outdoor Thermometer   d. Cooking Thermometer

2. To thaw frozen ground beef, you should?
   a. Take out of package and thaw in hot water   c. Thaw in microwave
   b. Place on top shelf of refrigerator just on the rack   d. Thaw on the counter

3. Veal steaks should be cooked to a minimum internal temperature of?
   a. 160 degrees   b. 145 degrees   c. 140 degrees   d. 90 degrees

4. After properly placing leftovers in a sealed container?
   a. There is no risk of bacteria   c. Place in the refrigerator
   b. Leave on the counter   d. Place in a cool 60º cabinet

5. Large portions of meat or large pots of soup/stew should be?
   a. Divided into smaller portions or containers   c. Placed in refrigerator as is
   b. Leave out to cool on the counter   d. Reheat to 100 degrees & leave out 2 hrs
6. The proper cooking temperature for a medium-rare steak is $130^\circ$ F. However according to foodsafety.gov it should at least be cooked to a minimal internal temperature of?

   a. $150^\circ$  
   b. $120^\circ$  
   c. $145^\circ$  
   d. $160^\circ$

7. Turkey should be served when?

   a. When the outside is nice and brown  
   c. Internal temperature of $165^\circ$
   b. You taste it and it is awesome  
   d. Internal temperature of $145^\circ$

8. When reheating foods in a microwave you should?

   a. Stir and or turn the food to evenly cook  
   c. Cook till the lid blows off
   b. Set on an appropriate time for the food  
   d. Both A and B

9. When dealing with preparing and keeping food safe, we are concerned with?

   a. Virus  
   b. Bacteria  
   c. Petrel  
   d. Prius

   **Questions 10-13 deal with animal/human contact dealing with influenza.**
   **They are worth 5 points each. Please circle your answer.**

10. What is a “zoonotic disease”?

    a. Any disease that an animal at a Zoo gets.  
    c. A disease where you see Zoo animals
    b. There is no such thing as zoonotic disease  
    d. Disease transmitted from animal to human

11. What are fomites?

    a. A special brush for show animals.  
    c. Any object that can spread a disease from touch
    b. A small biting animal  
    d. A brand of disinfectant for show barns

12. When should exhibitors report that pigs are ill to the show veterinarian?

    a. Anytime an animal becomes ill during a show  
    c. When animals have a fever
    b. Never  
    d. Both A and C

13. When should you disinfect equipment used with your animals at a show?

    a. After every show  
    c. No need, doesn’t matter
    b. Depends on value of your animals  
    d. Only if you think they are dirty
Questions 14-18 are matching temperatures with food safety terms. They are worth 5 points each.

______ 14. Refrigerator temperature will not kill bacteria
______ 15. Hot enough to prevent most harmful bacteria from growing
______ 16. Food Temperature Danger Zone
______ 17. Freezer temperature will not kill bacteria
______ 18. Hot enough to kill most harmful bacteria

Options for 14 – 18.

A. 160º to 212º
B. -20º to 0º
C. 140º to 160º
D. 32º to 40º
E. 40º to 140º

Questions 19 -31 are Random Food Safety Questions. They are worth 5 points each. Please circle answers.

19. Placing grilled meats on the plate that held the raw meat is an example of:

20. Tiny microorganisms which cause foodborne illness are called:
   a. Lice            b. Flagella            c. Bacteria

21. What is the Food Temperature Danger Zone?
   a. 10 – 15 degrees     b. 40 – 140 degrees    c. 160 – 212 degrees

22. In order to multiply, most bacteria need:
   a. Cold & Dry conditions   b. Placed in a freezer    c. Warm and Moist conditions

23. What are the most common symptoms of foodborne illness?
   a. Stomach and Bowel issues   b. Sneezing and Cough    c. Sore feet and legs
24. The abbreviation for the government agency that is concerned with cause and control of disease:
   a. FFA  b. FDA  c. HUD  d. CDC

25. The safest place to store raw meats in the refrigerator is:
   a. On the top shelf  b. On the bottom shelf  c. On the counter

26. Who is least at risk to contract a foodborne illness?
   a. A tiny baby  b. An elderly person  c. A lively teenager

27. Which food does not have to be kept cold to be safe?

28. After using a cutting board for raw beef, what needs to be done?
   a. Wipe with a paper towel  b. Switch to Poultry  c. Wash with soap and hot water

29. Which is the most unsafe to eat?
   a. A washed apple  b. Cookie dough with raw egg in it  c. Cold tuna sandwich

30. Recommended handwashing takes how long?
   a. 5 seconds  b. 20 seconds  c. 5 minutes  d. 20 minutes

31. What is a foodborne illness?
   a. An illness caused by eating too much food.
   b. An illness caused by eating foods that are high in fat and cholesterol.
   c. An illness caused by disease causing microorganisms in food.
Senior Team Quality Assurance Exercise – 2018

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___ E._ 16. Food Temperature Danger Zone

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   a. A washed apple  b. Cookie dough with raw egg in it  c. Cold tuna sandwich

30. Recommended handwashing takes how long?
   a. 5 seconds  b. 20 seconds  c. 5 minutes  d. 20 minutes

31. What is a foodborne illness?
   a. An illness caused by eating too much food.
   b. An illness caused by eating foods that are high in fat and cholesterol.
   c. An illness caused by disease causing microorganisms in food.
# Sim-Angus Bull Data

**SPRING 2018 EPDs**

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Sim-Angus Bull Data
2018 Senior Team Breeding Activity

Team Name:______________________________

Team Members:___________________________________________________________________
_________________________________________________________________

You are the owner operator of a highly regarded Purebred Angus and Sim-Angus cow herd in Kentucky. Customers from across the United States visit your farm looking for high quality cattle to use in their commercial herds. Most of your bulls go to operations that run an Angus cow base or some type of an F-1 cross of angus/Hereford. You have recently partnered with a high end restaurant to provide them with steaks that will grade choice or better. This allows you another avenue of helping your bull customers merchandise their calves at a premium. You are an entrepreneur and are always looking for ways to improve your ability to merchandise your product. Answer the questions that follow and explain to the listener, which heifer you would pick to breed to bull number 2 and why, which female you would pick to breed to bull number three and why, and which bull do you feel could cause the most potential issues for an individual who works off the farm, has limited feed resources and prefers longevity in his cow herd. (Each Heifer will have a point value for a total of 25 pts on who you select to breed to bulls 2 and 3 for a total of 50 points. There are ten questions over the data worth 10 points each for a total of 100 pts. Your presentation to the listener is worth 50 points. Total for Breeding Activity 200 pts.) Turn Paper Over to Finish this Activity.
2018 Senior Team Breeding Activity

10 questions worth 10 points each for a total of 100 points.

1. Which bull’s daughters would potentially be moderate framed, require less inputs / labor and should stay in the herd longer? ______

2. Which bull would pose the most issues with labor, feed resources and offspring grading choice? _____

3. Which bull’s daughters would potentially be large framed, heavy muscled and would have a hard stay reaching an extended life in the herd? ______

4. Which bull is the oldest or at least has had the most data collected? ______

5. Which bull’s offspring are probably the most alert when humans enter their space? ______

6. Which bull has the best combination of indexes? ______

7. Which bull’s offspring should have the most likelihood of meeting the needs of the high-end restaurant? ______

8. Which bull’s daughter’s offspring will probably need to be provided a creep feeder? ______

9. I have some cows that are so easy keeping their offspring are always High Prime and Yield grade 5’s. Which bull should I use to improve my bottom line on a Grid basis? ________

10. Which bull is not an answer to any other question? _________

Selection Portion: 25 points for each question for a total of 50 points.

A. Which heifer would you AI to bull #2? __________

B. Which heifer would you AI to bull #3? __________

Discuss your decision with the listener. Discussion is worth 50 points.

Score for Discussion _____________________
2018
Senior Team Breeding Activity KEY

10 questions worth 10 points each for a total of 100 points.

1. Which bull’s daughters would potentially be moderate framed, require less inputs / labor and should stay in the herd longer? ____2____

2. Which bull would pose the most issues with labor, feed resources and offspring grading choice? ____4____

3. Which bull’s daughters would potentially be large framed, heavy muscled and would have a hard stay reaching an extended life in the herd? ____4____

4. Which bull is the oldest or at least has had the most data collected? ____3____

5. Which bull’s offspring are probably the most alert when humans enter their space? ____3____

6. Which bull has the best combination of indexes? ____2____

7. Which bull’s offspring should have the most likelihood of meeting the needs of the high-end restaurant? ____2____

8. Which bull’s, daughter’s offspring will probably need to be provided a creep feeder? ____3____

9. I have some cows that are so easy keeping their offspring are always High Prime and Yield grade 5’s. Which bull should I use to improve my bottom line on a Grid basis? ____4____

10. Which bull is not an answer to any other question? ____1____

Selection Portion: 25 points for each question for a total of 50 points.

A. Which heifer would you AI to bull #2? ____________

B. Which heifer would you AI to bull #3? ____________

Discuss your decision with the listener. Discussion is worth 50 points.

Score for Discussion _____________________
2018 Kentucky Skillathon – Senior Team Activity

You have purchased a group of 10 feeder pigs (average weight = 65 lb.) at $0.90/lb. Your plans are to feed the pigs for 100 days and sell them at 250 lb. for freezer pork.

1. What is the expected daily gain per day for each pig? 

2. If the expected feed/gain efficiency is 3.0, what is the expected total feed consumption for the group? 

3. If feed cost is $320/ton, what is the estimated total group feed cost? 

4. What is the feed cost of gain per pig? 

5. If you are considering a premix to add to your feed and the inclusion rate was 5% of the total amount of feed, how much of the premix would you need to purchase? 

6. If the premix was packaged in 50lb bags costing $20/bag, what is your total premix cost? 

7. What is breakeven live price ($/cwt) you would have to receive to cover your investment in pigs and feed (not including premix)? 

8. If your customers preferred to purchase pigs on a carcass price basis, what would be an equivalent carcass price? Assume your pigs will dress 72% 

9. Based on a $1.25/lb. carcass price, your projected net return above pig and feed costs should be _________ for the pen of pigs. 

10. If miscellaneous costs were an additional $10/pig and you estimated that you spent 60 minutes per day on your pig project what was your return to your labor? (express on an hourly basis) 

| lb/d | lb | Total $ | $/lb | $ | $ /cwt | $ | $/hr |
2018 Kentucky Skillathon Contest – Senior Team Feeding Activity
10 pts. / question and 100 points for your explanation for 200 point total.
You have purchased a group of 10 feeder pigs (average weight = 65 lb.) at $0.90/lb. Your plans are

to feed the pigs for 100 days and sell them at 250 lb. for freezer pork. Explain how you think the

pigs have grown, why people might want to buy from you and will you make a profit?

1. What is the expected daily gain per day for each pig? 
   lb/d  2decimals

2. If the expected feed/gain efficiency is 3.0,
   what is the expected total feed consumption for the group? 
   lbs

3. If feed cost is $320/ton, what is the estimated total group
   feed cost? 
   Total $ 

4. What is the feed cost of gain per pig? 
   $/lb, 2 decimals

5. If you are considering a premix to add to your feed and the inclusion rate was 5% of the total
   amount of feed, how much of the premix would you need to purchase?
   lb

6. If the premix was packaged in 50lb bags costing $20/bag, what is your total premix cost?
   $, 2 decimals

7. What is breakeven live price ($/cwt) you would have to receive to cover your investment in pigs
   and feed (not including premix)? 
   $ /cwt, 2 decimals

8. If your customers preferred to purchase pigs on a carcass price basis, what would be an
   equivalent carcass price? Assume your pigs will dress 72% 
   $ /cwt, 2 decimals

9. Based on a $1.25/lb carcass price, your projected net return above pig and feed costs should
   be __________ for the pen of pigs. 
   $ 2 decimals

10. If miscellaneous costs were an additional $10/pig and you estimated that you spent 60 minutes
    per day on your pig project what was your return to your labor? (express on an hourly basis)
    $/hr, 2 Decimals
2018 Kentucky Skillathon Contest – Senior Team Feeding Activity
10 pts./ question and 100 points for your explanation for 200 point total.
You have purchased a group of 10 feeder pigs (average weight = 65 lb.) at $0.90/lb. Your plans are to feed the pigs for 100 days and sell them at 250 lb. for freezer pork.

1. What is the expected daily gain per day for each pig?
\[
\frac{(250 \text{ lb} - 65 \text{ lb})}{100 \text{ d}} = 1.85 \text{ lb/hd/d}
\]
1.85 lb/d

2. If the expected feed/gain efficiency is 3.0, what is the expected total feed consumption for the group?
\[
(3.0 \text{ lb feed/lb gain}) \times 1.85 \text{ lb gain} = 5.55 \times 100 \text{ d} = 550 \times 10 \text{ pigs} = 5,550 \text{ lb feed}
\]
5,550 lb feed

3. If feed cost is $320/ton, what is the estimated total group feed cost?
\[
\frac{5,550 \text{ lb feed}}{2,000 \text{ lb per ton}} = 2.775 \text{ tons feed}
\]
\[
2.775 \text{ tons} \times $320 \text{ /ton} = $888.00 \text{ total feed cost}
\]
$888.00 feed cost

4. What is the feed cost of gain per pig?
\[
\frac{$888.00 \text{ feed cost}}{(250 \text{ lb} - 65 \text{ lb} = 185 \text{ lb gained}) \times 10 \text{ pigs}}
\]
\[
\frac{$888}{1850} = $.48/lb.
\]
$.48/lb

5. If you are considering a premix to add to your feed and the inclusion rate was 5% of the total amount of feed, how much of the premix would you need to purchase?
\[
5,550 \text{ lb feed} \times .05 = 277.50 \text{ lb}
\]
277.50 lb

6. If the premix was packaged in 50 lb bags costing $20/bag, what is your total premix cost?
\[
\frac{277.5 \text{ lb}}{50 \text{ lb}} = 5.55 \text{ bags. So, you have to round to 6 bags}
\]
\[
6 \text{ bags} \times $20/\text{bag} = $120.00
\]
$120.00

7. What is breakeven live price ($/cwt) you would have to receive to cover your investment in pigs and feed (not including premix)?
\[
[10 \text{ pigs} \times (65 \text{ lb} \times .90 = $58.50)] = $585 \text{ purchase price}
\]
$585.00 purchase price + $888.00 feed cost = $1473.00
\[
$1473.00 / \text{(10 pigs x 250 lb = 2,500 lb sold)} = 0.5892 \times 100 \text{ (because it is cwt)}
\]
$58.92/cwt.

8. If your customers preferred to purchase pigs on a carcass price basis, what would be an equivalent carcass price? Assume your pigs will dress 72%
\[
$58.92/.72 = $81.83
\]
$81.83/cwt.

9. Based on a $1.25/lb carcass price, your projected net return above pig and feed costs should be _________ for the pen of pigs.
\[
10 \text{ pigs} \times (250 \text{ lb} \times .72) \times (\$1.25) = $2,250.00 \text{ income}
\]
\[
$2,250 - [$585 \text{ (pigs)} + $888 \text{ (feed)}] = $1473.00
\]
\[
$2250 - $1473 = $777.00
\]
$777.00

10. If miscellaneous costs were an additional $10/pig and you estimated that you spent 60 minutes per day on your pig project what was your return to your labor? (express on an hourly basis)
\[
[S777 – (10 \text{ pigs} \times $10)] / (100 \text{ days} \times 1 \text{ hr.})
\]
\[
(S777 - $100) / 100 = $677/100hrs = $6.77/hr
\]
$6.77/hr.