Happy Holidays,

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Meade County Extension Agent
for Agriculture/Natural Resources

Tis the Season For Mud

Mud is a dirty word around my house during haying season. I don’t know a single beef producer that likes driving tractors and walking through it during winter feeding. However, this aggravation is minor compared to what it is doing to the cattle.

Usually our muddiest months are the coldest months. This drop in temperature means cattle need a good hair coat and eat more in order to maintain their body weight. Normally this is during hay feeding season. Almost every beef producer feeds large round bales of hay. Cattle tend to congregate around the hay for most of the day and night. This causes a build up of urine, manure, and excess moisture around feeders. This muddy mixture ends up clinging and matting into the hair coat of the cattle. A muddy matted hair coat reduces its ability to insulate, therefore, leaving it difficult for cattle to hold their body temperature. If cattle are colder they need to eat more. This is one reason they tend to hang out at the hay ring all day.

Finally, cattle standing in mud created by them are at a higher risk for infectious diseases. They are standing in an ideal environment for most of the diseases that cause problems. This too gets on udders and is directly ingested by calves as they nurse.

Therefore, mud is not good for cattle. It reduces insulation of the hair coat, increases the energy needs of the cattle but sometimes decreases the animal’s intake, and it can be a major breeding ground for diseases. If you don’t have heavy use area pads for hay feeding, then at least move your hay rings on a regular basis to prevent deep mud. Also, stockpiling and holding a few pastures to graze during some of these muddy months will keep cattle clean as well.

Also, walking in mud tends to cause cattle to use more energy; therefore, they need to eat more. However, research shows that when cattle have to walk through and stand in mud intake decreases by around 15%, they eat less. They need to eat more but really eat less. Think about when you have to walk in mud that suctions to your feet. How much walking do you want to do. It’s the same deal with cattle. In mud they tend to walk around hay rings or to another nearby hay ring to get better quality hay. They tend to walk fewer times to water. Eating poorer quality hay and drinking less decreases intake.

http://www.agweb.com
As daily temperatures start to decline, most producers begin to focus on delivering stored forages to their livestock. Often, at this time the thought of an animal’s water needs are discounted. However, even in colder temperatures water requirements of livestock are critical to maintain optimum animal performance. Winter brings the challenge of providing water to livestock while battling frozen plumbing that delivers water.

Water Requirements
An understanding of how much water is required by animals during the colder parts of the year is needed when considering winter watering systems. Factors that affect water intake include: environmental temperature, feed moisture, body size, and level of milk production. A lactating beef cow in the summer on a 90°F day will drink 16 gallons of water, while during a 40°F day in December the same cow would consume less, approximately 11 gallons. Table 1 shows the water requirements of several classes of beef and dairy cattle at varying daily temperatures. Table 2 shows water requirements for different classes of goats and sheep.

During cold periods, livestock energy requirements increase to maintain body temperature. To meet the increased energy requirements, animals increase dry matter intake (DMI) if they physically can consume more feed. Water intake affects animal DMI and if it is limited due to a frozen, inaccessible water source, animals will not be able compensate for the colder environmental temperatures. Excessively cold water temperature will also decrease water intake, as well as increase energy requirements by lowering body temperature.

### Table 1. Daily water needs for cattle as influenced by temperature.

<table>
<thead>
<tr>
<th>Class</th>
<th>Impact of Ambient Temperature on Water Intake (gallons/head/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40' F</td>
</tr>
<tr>
<td><strong>Beef Cattle</strong></td>
<td></td>
</tr>
<tr>
<td>Growing, 600 lb</td>
<td>5</td>
</tr>
<tr>
<td>Finishing, 1000 lb</td>
<td>9</td>
</tr>
<tr>
<td>Wintering Pregnant Cow,</td>
<td>6</td>
</tr>
<tr>
<td>Lactating Cow, 900 lb</td>
<td>11</td>
</tr>
<tr>
<td>Bull, 1600 lb+</td>
<td>9</td>
</tr>
<tr>
<td><strong>Dairy Cattle</strong></td>
<td></td>
</tr>
<tr>
<td>Dry Cow</td>
<td>6</td>
</tr>
<tr>
<td>40 lb Milk</td>
<td>16</td>
</tr>
<tr>
<td>80 lb Milk</td>
<td>26</td>
</tr>
</tbody>
</table>

Adapted from 1996 Beef NRC and UK Publication ASC-151 Pasture for Dairy Cattle: Challenges and Opportunities

### Table 2. Small ruminant water requirements

<table>
<thead>
<tr>
<th>Class</th>
<th>Water Requirement (gallons/head/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goats</strong></td>
<td></td>
</tr>
<tr>
<td>Mature</td>
<td>1.3</td>
</tr>
<tr>
<td>Lactating</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sheep</strong></td>
<td></td>
</tr>
<tr>
<td>Rams</td>
<td>2</td>
</tr>
<tr>
<td>5-20 lb lambs</td>
<td>0.1-0.3</td>
</tr>
<tr>
<td>Lactating Ewes</td>
<td>3</td>
</tr>
<tr>
<td>Feeder Lambs</td>
<td>2</td>
</tr>
</tbody>
</table>

Adapted from Meat Goat Nutrition, Langston University and MWPS-3 Sheep Housing and Equipment Handbook
Beef
- Fall 2015 prices fell $50 to $70/cwt from last fall due to growing calf crop, lower exports, increased slaughter weights, and meat competition
- Cow herd will continue to grow in 2016, weather permitting, as prices remain above production costs
- Calf markets to improve into the spring of 2016, but overall downward trend to continue down as beef herd grows
- Backgrounders and stocker operators should be opportunistic about placement and protect downside price risk

![U.S. Beef Cow Inventory (1000 head)](image)

Poultry
- Exports decline in 2015 due to the stronger dollar and avian flu
- Broiler prices decline in 2015, but sector remains healthy
- Poultry production expansion will likely continue in 2016

Equine
- Sales/receipts hold gains from last few years as 2015 September yearling and November breeding stock sales slightly higher
- Indications of higher stud fees for 2016

Hogs
- Prices are down over 30% from 2014 as supplies increase by
- Production growth will slow, but remain positive for 2016
- Hog prices lower again in 2016, with highest prices in the summer

Dairy
- After a phenomenal 2014, milk price down by $7 per cwt for 2015
- Production growth still likely to result in lower prices for 2016, with trade being an important factor impacting dairy’s outlook

Small ruminants
- Goat numbers continue to grow in KY with sheep numbers down slightly in 2015, but up 50% from 2008
- Interest and growth to persist as price levels remain strong
- 2015-16 marketing-year average forecast price of $8.90 is 40% above the average price in 2005-06 but significantly lower than the 120% increase from 2005-06 to 2011-12
- Interest and growth to persist as price levels remain strong
2015—2016 Kentucky Agricultural Economic Outlook & Specific Highlights—continued

**Corn**
- Ending stocks projected at 1.76 billion bushels, largest since 2005-06
- Corn price increased 120% from 2006-07 to 2012-13 due to drought-stricken tight stocks and strong demand
- 2015-16 marketing-year average forecast price of $3.65 is only 20% above average price in 2005-06 with inputs, machinery and land costs increasing by more than 20% since 2005-06
- Profit margins will be challenged again in 2016

**Soybeans**
- Ending stocks projected at 465 million bushels would be the largest since 2006-07 and 274 million bushels more than 2014-15 levels

**Tobacco**
- Burley facing an improved global supply/demand balance entering 2016 which may minimize changes in 2016 burley contract volumes
- Slowing snuff sales will lead to relatively stable dark production for 2016
- After a post-buyout high level of $448 million in 2014, the value of KY tobacco production will likely fall below $350 million in 2015 and 2016

**Horticulture**
- Excessive rain and cooler summer temperatures in 2015 resulted in modest increases in produce sales of $40 million
- Strong local demand should bode well for produce markets again in 2016
- Stronger greenhouse sales should offset slower nursery sales and reach a total of $96 million in 2015. Growth in 2016 will be driven by the regional housing market and retail economy
- Large stocks in South America coupled with strong U.S. dollar could limit export growth
- Profit margins will be challenged again in 2016

**Wheat**
- Stocks projected to build to 911 million bushels, the largest since 2009-10 and representing a 165 day supply

**Forestry**
- A modest increase in the US economy, housing starts, and exports will continue to keep hardwood sawlog and mill production on a moderate upward trajectory in 2016 resulting in stable statewide prices and demand for hardwood timber
- White oak timber will be in high demand statewide in 2016 with the bourbon whisky and white oak lumber industries forecasting greater demand producing a seller’s market for landowners with quality white oak
- A collapse in pulpwood demand is predicted for western Kentucky with the Verso plant closing ($400 million loss), impacting 100 logging firms, and landowners ability to sell pulpwood, with reductions in overall timber values of $40 to $200 per acre

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**Marketing Year Average Prices as Percentage of 2006-07 Price**

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**Value of Kentucky Tobacco Production**

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Recipe: Herb and Mustard Crusted Kentucky Proud Prime Rib

**Ingredients:**

- 1 boneless Kentucky Proud beef rib eye roast, about 6 lbs. (or bone-in standing rib roast can also be used)
- 4 cloves Kentucky Proud garlic, sliced, Kentucky Proud Bourbon smoked salt and pepper
- 1/4 cup Kentucky Proud Dijon mustard
- 1 tbsp. Kentucky Proud thyme
- 2 tbsp. Kentucky Proud rosemary
- 4 Kentucky Proud russet potatoes, scrubbed and cut into chunks
- 1 lb. Kentucky Proud baby carrots, Kentucky Proud infused Olive oil, for vegetables

**Directions:**

Place beef, fat side up, on rimmed baking sheet. Using a paring knife, make slits at 1-inch intervals throughout the roast and insert slices of garlic. Season the entire roast with salt and pepper, then rub with mustard. Sprinkle 1 tbsp thyme and 1 tbsp rosemary over top. Preheat oven to 450 and roast uncovered for 15 minutes. Then reduce temperature to 350 and roast for about 15 minutes per lb. Toss potatoes in a bowl with 1 tbsp rosemary, salt, pepper, and olive oil. Roast in a separate baking dish or alongside the prime rib during the last hour of cooking. Add the carrots to either pan during the last 30 minutes. Cook the roast until center reaches 125 for medium rare, then remove from the oven and let stand for at least 20-25 minutes before carving.

Call the office, (270) 422-4958, by January 13, if you want a ride to the Beef Efficiency Conference.

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Just a Reminder: The Meade County Extension Office will be closed for the Holidays. December 24th through January 3rd. The office will reopen Monday, January 4th.

Have a safe and happy holiday!