Winter Beef Cow Nutrition

Temperatures have dropped, frost covers the ground, and breath turns white in the cool morning air. Winter is in full swing and livestock producers are giving full attention to maintaining herd health and nutrient requirements of their cows.

It is important to remember that the biological priority of nutrients for a beef cow begins with maintenance and is followed by growth, milk production, and reproduction. This means that before a female will reproduce, her requirements for maintenance, growth, and milk production will have to be fulfilled first. In addition to this, producers must be aware of the many factors that can influence those requirements like stages of production, weather, weight, body condition score, milk production, age, and physical activity. Due to the changing nature of these factors, the nutrients requirements of beef cattle fluctuate as well (Table 1).

With winter upon us, all these factors should be considered when assessing the nutritional needs of cattle. For producers with spring calving herds, the next couple of months are extremely important because most cows will be in pre-calving and post-calving stages. The consequences of poor nutrition during this time can result in lighter birth and weaning weights, lower milk production, lower calf survival, delayed estrus, and poorer rebreeding performance. Proper nutrition can help avoid these issues.

Feeding cattle can be hard but feeding cows and heifers that are pregnant or lactating during the winter months can be complicated. Knowing what factors affect their nutritional requirements and when they are at their highest can only help you in maintaining a healthy herd.

Justine Henderson, Livestock Agent

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**Table 1. Factors affecting nutrient requirements of beef cows**

<table>
<thead>
<tr>
<th>Factors affecting nutrition requirements</th>
<th>Stages &amp; Conditions</th>
<th>Nutrient Requirement Shift</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of production</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Period 1: post calving &amp; rebreeding</td>
<td></td>
<td>Increase/ Highest</td>
</tr>
<tr>
<td>Period 2: pregnant &amp; lactating</td>
<td></td>
<td>Decrease/ Relatively low</td>
</tr>
<tr>
<td>Period 3: mid-gestation</td>
<td></td>
<td>Decrease/ Low</td>
</tr>
<tr>
<td>Period 4: pre-calving</td>
<td></td>
<td>Increase/ High</td>
</tr>
<tr>
<td><strong>Weather</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold weather conditions</td>
<td></td>
<td>Increase</td>
</tr>
<tr>
<td><strong>Cow weight</strong></td>
<td></td>
<td></td>
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<tr>
<td>As weight increases</td>
<td></td>
<td>Energy &amp; protein Increase</td>
</tr>
<tr>
<td><strong>Milk Production</strong></td>
<td></td>
<td></td>
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<tr>
<td>Increases</td>
<td></td>
<td>Increases</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young cows &amp; heifers</td>
<td></td>
<td>Increases</td>
</tr>
<tr>
<td><strong>Physical Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cows in a field/pasture</td>
<td></td>
<td>Increases</td>
</tr>
<tr>
<td>Cows in dry lot</td>
<td></td>
<td>Decreases</td>
</tr>
</tbody>
</table>

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service
**Sulfur Needs in Wheat**

In the past couple of seasons, I have witnessed several fields of sulfur deficient wheat. Partially due to the regulations of the clean air act, our atmosphere has less free available sulfur. Combined with more intensive cropping systems and greater yields, producers need to make sure they are meeting the crop’s needs.

Symptoms almost always occur during spring green-up and are easily mistaken for nitrogen deficiency. Wheat lacking sulfur will have a lighter, pale green color with spindly weak plants. Fields may have patchy areas, forming on eroded side slopes or other low organic matter soils. Other times it is less noticeable and more uniform across broader areas. You have to look closely to see that it is sulfur and not a nitrogen issue.

The first signs of sulfur deficiency will occur at the top of the plant in newly emerging leaves. If it has been an issue for a while, the whole plant will take on that pale color. Nitrogen symptoms begin with the older leaves. From a distance, they are very similar.

The three main reasons for this problem occurring in the early spring are 1.) a shallow root system that cannot reach residual nutrients. Remember, sulfur is mobile in the soil, so it will move down with water. 2.) Increased nutrient demand as the plants are breaking dormancy. 3.) Cold soils slow the mineralization of soil organic matter; this nutrient cycling will release sulfate later in the season.

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**Thought on Grain Sorghum Market**

Observing the grain sorghum market has been interesting lately. As I write this the current crop basis in Salina is +1.45 and new crop is +0.35. Not sure if that is some kind of record but it is certainly not the norm.

After talking to several people in seed sales it appears that these prices are buying acres as farmers are looking to take advantage of our current markets. With any weather cooperation, I am confident that next years supply will go up.

Currently it is clear from the chart above that grain sorghum has separated itself from corn. The reason for this is export sales to China. What drives the buying decisions of a country on the other side of the planet is very unclear to me, though thankfully our producers are currently benefiting.

The downside to our situation is our market is based on the demand of one customer. Any situation that might cause them to slow or stop buying and this market could fall fast. In the recent past sorghum was a political pawn in a trade dispute showing it is never as simple as supply and demand.

The recent run up in grain prices could be the best thing that has happened in 2020. Now I wonder when producers should be looking forward to 2021 and lock in some sales and cover future expenses.

Jay Wisbey, Ag Agent
Please join us February 15-20 for a virtual Kansas Junior Swine Producer Week. This educational event will span a week of sessions during which youth, parents, swine project leaders and adults can increase their knowledge of swine production and management practices. Presentations and demonstrations will be provided by K-State faculty members and graduate students, as well as guest speakers. Sessions will be conducted during the week, with the program concluding on Saturday morning. All presentations will be recorded and shared with those who register, so families may participate at their own pace and as their schedule allows. The program is free this year, but all attendees will need to register using the link provided below.

Register Online by February 8!

**Schedule (tentative):**

**Tuesday, February 16**
- 6:30 PM  Selection
- 7:15 PM  Nutrition & Daily Feeding
- 7:45 PM  Wrap-up

**Thursday, February 18**
- 6:30 PM  Meat Science & Cookery
- 7:00 PM  Health Management & Diseases
- 7:30 PM  Wrap-up

**Saturday, February 20**
- 9:00 AM  Equipment & Daily Care
- 9:30 AM  Clipping & Show Day Prep
- 10:00 AM  Showmanship
- 10:45 AM  Q&A, Final Wrap-up
- 1:00 PM  State Livestock Nominations*  
 (*optional for those interested in exhibiting at the Kansas State Fair Grand Drive or KJLS)

**Thanks To Our Sponsors!**
- Kansas Pork Association
- Essential Show Feeds
- Valley Vet Supply
- K-State Department of Animal Sciences and Industry

**Door Prizes!**
We will be drawing for show equipment, supplies, & fun pork paraphernalia!

**Questions? Contact:**
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Lexie Hayes  
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785-532-1264

K-State, County Extension Councils, Extension Districts, and U.S. Department of Agriculture Cooperating. All educational programs and materials available without discrimination on the basis of race, color, religion, national origin, sex, age, or disability.


Although the program is being provided free of charge, thanks to our generous sponsors, we do need ALL participants to register, including youth and adults.

Make sure to use a valid email address that a member of your household checks regularly, as we'll be relying on email correspondence leading up to the program.

Watch your email the week of February 8 for attendee details and specific links!
March 15-20, 2021
Kansas State University
Hosted Virtually

Join us March 15-20 for a virtual Kansas Junior Meat Goat Producer Week. This educational event will span a week of sessions during which youth, parents, meat goat project leaders, and adults can increase their knowledge of meat goat production and management practices. Presentations and demonstrations will be provided by K-State faculty members, graduate and undergraduate students, and guest speakers. Sessions will be conducted during the week, with the program concluding on Saturday morning. All presentations will be recorded and shared with those who register, so families can participate at their own pace and as their schedule allows. The program is free this year, but all attendees will need to register using the link below.

Register Online by March 8!

Schedule (tentative):

**Tuesday, March 16**
- 6:30 PM Selection
- 7:15 PM Nutrition & Daily Feeding
- 7:45 PM Wrap-up

**Thursday, March 18**
- 6:30 PM Health & Wellness
- 7:00 PM Livestock Guard Dogs
- 7:30 PM Wrap-up

**Saturday, March 20**
- 9:00 AM Equipment & Daily Care
- 9:30 AM Clipping & Show Day Prep
- 10:00 AM Showmanship
- 10:30 AM Overall Q&A, Wrap-up
- 1:00 PM State Livestock Nominations*

(*optional for those interested in exhibiting at the Kansas State Fair Grand Drive and/or KJLS)

Thanks To Our Sponsors!

- Essential Show Feeds
- Valley Vet Supply
- K-State Department of Animal Sciences and Industry

Door Prizes!
We will be drawing for show equipment and supplies!

Questions?
Contact:

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Seminar Information

The 2021 Winter Ranch Management Seminar Series will be a face-to-face meeting with a series of presentations focused on enhancing profit in beef production and a "Town Hall" question-and-answer session where producers can ask questions to local/district and state extension specialists.

Producers are encouraged to bring their questions on cow-calf animal health, nutrition, genetics, reproduction and management to the session.

Please RSVP to your selected location contacts by close of business one week before the event. A maximum of 40 in-person attendees will be allowed at each location. Locations with fewer than 40 confirmed attendees either in person or online may be cancelled. Registration fees and payment forms may vary by site. Contact your local host contact for registration/RSPV details. Meal, if provided, is included in the registration fee.

Online updates about the series can be found at KSUBee.org. If necessary, the option to conduct the meetings virtually will be made by the RSVP date for each respective location.

2021 K-State Winter Ranch Management Dates & Locations

Hays (virtual) ........ January 28, 2021
6 - 9 pm

Beaumont .......... February 16, 2021
1 - 3 pm

Council Grove ...... February 16, 2021
6 - 9 pm

For more information, contact:
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Dale Blasi, Department of Animal Sciences and Industry, 785-532-5427,
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Kansas State University Agricultural Experiment Station and Cooperative Extension Service
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Kansas State University, County Extension Councils, Extension-Districts and United States Department of Agriculture Cooperating. J. Ernest Milton, Interim Director
The enclosed material is for your information. If we can be of further assistance, feel free to call or drop by the Extension Office.

Sincerely,

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