Inadequate energy levels during this critical period can sap the strength of cows and unborn calves. This often results in weak calves that are slow to nurse. Inadequate nursing also decreases the natural protection that colostrum milk provides.

Energy intake and body condition at time of calving can also have considerable influence on how well cows cycle and rebreed following calving; thus paying attention to the energy content of feeds pays off in several ways.

Many of you have participated in our Winter Feed Meetings. In these meetings, we go over your hay test with you and discuss what all of the numbers mean on your hay test.

After water, energy and protein are the two primary nutrients. The energy of feeds may be expressed in a variety of ways. One of the systems commonly used is “Total Digestible Nutrients” (TDN). TDN is a measure of digestible nutrient content of a feedstuff or diet. Because energy is the largest single nutrient, measuring TDN gives an approximate energy value. It is defined as digestible crude protein (CP) plus digestible crude fiber (CF) plus digestible nitrogen free extract (NFE) plus 2.25 times digestible ether extract (fat).

TDN is expressed as a percentage. For example corn TDN value is 90%, which suggest in every 100 lbs of corn there are 90 lbs of digestible nutrients.

Energy content of feeds and the amount provided to animals becomes more critical under cold conditions. Severe winter weather can cause cows and heifers to lose body weight more quickly if they are underfed than in mild winter weather. Feed adjustments may need to be made to prevent losses in weight and body condition.

Survivability of calves depends significantly on the nutrition their mothers get during the last 90 to 100 days before calving.

<table>
<thead>
<tr>
<th>Gestation Stage</th>
<th>CP Required</th>
<th>TDN Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid</td>
<td>7%</td>
<td>55%</td>
</tr>
<tr>
<td>Late</td>
<td>9%</td>
<td>60%</td>
</tr>
<tr>
<td>After Calving</td>
<td>11-12 %</td>
<td>65%</td>
</tr>
</tbody>
</table>

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There will be a very informative program about general care, nutrition, fitting and showmanship of show cattle on February 20th. It will be held at the Marion County Fairgrounds and will begin at 10 am. Lunch will be provided.

Blake Morrison of Morrison Show Cattle will be presenting. Blake and his family have a vast knowledge of the day to day care of show cattle and what it takes to produce a winner!

Participants will be divided into two different age groups. The two age groups will be ages 5-9 and ages 10-19. Participants are welcome to bring their own show calf and equipment but it is not required. There is no cost to attend this clinic but space is limited to 25 participants so contact the extension office quickly to insure you will have a spot in the class!

For more information or to register for the clinic, please contact the Marion County Extension office at 870-449-6349. Please note that sponsor credit or recognition does not imply the University of Arkansas’ endorsement of the services or products named.
Blueberries can be successfully grown in the home garden, but there are some steps to take to insure the planting is successful.

Step 1: Choose the right variety. In Northern Arkansas the northern highbush and rabbiteye should be grown.

Step 2: Site preparation. Blueberries require a planting site that is free of bermudagrass and johnsongrass with good air circulation and a soil that is acidic and drains well with medium to low fertility. In addition, blueberries require irrigation for optimum growth.

Blueberries should be planted on a raised bed. This can be accomplished by mounding-up the planting row from several inches to a foot high and several feet wide depending on the potential for poor drainage.

Blueberries desire soils with a pH range of 5.0 to 5.2. Any soil treatment to correct pH should be done six months prior to planting.

Step 3: Fertilizing and mulching. Fertilize according to soil test results when establishing the planting site. In subsequent years, foliar and soil test should be conducted to determine the fertilizer needs of the planting site.

Experience and experiments show that mulching 5 or 6 inches is essential for new blueberry plants in Arkansas.

Step 4: Pruning. Remove the large flower buds at the tips of the shoots the first and second seasons, especially on small plants. This will allow a larger, heavier producing plant to develop. After the second growing season, remove a portion of the canes and fruiting twigs to shape the plant.

There is a lot more to planting and maintaining blueberries then what I have outlined here. Reference factsheet FSA6104 at www.uaex.edu. For more information on how to grow your own blueberries please visit the Marion County Extension office or call us at 870-449-6349.

Common Questions and Answers

Q: Should I castrate bull calves surgically or use a band?
A: Surgical castration has been shown to have less impact on calf performance.

Q: When buying bulls and heifers what questions should I ask the seller?
A: Ask for a copy of the EPD sheet. If that is not available ask for performance records of the Dam and Sire and look at weaning weights of calves, birth weights and so on. Ask for a list of health records such as vaccines and wormers given, birth date of the calf, and current weight. If they are cross bred ask what breed influences they have. Reference factsheets FSA3075 and FSA3068.

www.uaex.edu

Garden Planting Guide

January
Order Seed
Lime Soil
Salad Greens (protected)
Order Catalogs
Lettuce in Cold Frame
Spinach
Add Compost
Prepare Soil
Test Soil
English Peas

February
Horseradish
Carrots
Broccoli
Cabbage
Brussels Sprouts
Swiss Chard
Beets
Radish
Lettuce
Turnips

March
Asparagus
Lettuce
Cabbage
Mustard
Irish Potatoes
Onions
English Peas
Spinach

Reference Factsheet FSA6062.
What do you do after you get the soil test results and what does it all mean?

There are two important factsheets that explain how to read your soil test that can be found at www.uaex.edu or here at the office. The factsheet numbers are FSA2118 and FSA2153. That being said, we are most concerned with the Recommendations and Crop Notes. We will make extra hand written notes that suggest how much actual fertilizer to apply. For example, if your soil test calls for 50lbs of nitrogen per acre then you must decide which nitrogen source you will use? What is available locally will most likely be the determining factor. The most common sources are Ammonium Nitrate, Urea or Poultry Litter. What are the differences? Urea contains 43% nitrogen and Ammonia Nitrate contains 34% nitrogen and poultry litter varies.

The best way to determine poultry litter fertilizer value is to have it tested. You can do that by bringing in a quart of litter to our office and we can send it off for testing. The test cost $27 plus shipping.

Back to our example, the soil test calls for 50lbs of nitrogen and you are going to use ammonia nitrate as your nitrogen source. To figure out how much fertilizer you need to apply per acre, you will use the equation: 50 lbs of N required divided by 34 times 100 which equals 147 lbs of ammonium nitrate to fulfill your nitrogen requirement per acre.

So when do you apply this fertilizer? The soil test will explain this in the Crop Notes and it will depend on the crop you are fertilizing. For example, a cool season grass hay field with a 2 ton per acre harvest goal will call for a fertilizer application in the late winter at spring green up.

Look for future articles where we will expand on this topic further and look at Poultry Litter vs. Commercial Fertilizer.

Weeds: Spray or Mow?

In pasture and forage crops, chemical control (herbicides) and mechanical (mowing) are the most common approaches to controlling weeds. Chemical control involves selecting herbicides that will target one or several weed species depending on the mode of action. Herbicides control many annual, biennial or perennial weeds. Remember, once the weed has begun to flower, herbicide applications are much less effective. The best time to use herbicides for weed control in established pasture is during the fall, early winter or early spring when weeds are actively growing. The approach will depend on the targeted weeds species. After spraying, weeds normally do not re-sprout if the correct herbicide was applied.

Mowing or clipping temporarily removes weed top growth, but it also removes top growth from grass. This system stops seed production, but has different effects on the weeds. Using mowing as a control will depend on the cutting frequency and the height at which the weeds are cut. Frequent mowing or cutting can prevent seed production and reduce the amount of energy stored in below-ground structures. Some producers tend to mow when seed heads are present. This approach is not recommended because it increases the areas for seed dispersion making the area for weed control much larger.

Remember, the key to controlling weeds starts with grazing management.

<table>
<thead>
<tr>
<th>Table 1. Economic comparison of mowing vs. spraying to control weeds in pastures.</th>
<th>40-HP Tractor with w/ 6-feet rotary mower</th>
<th>w/ 30-feet boom sprayer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Labor Cost</td>
<td>$10.00</td>
</tr>
<tr>
<td></td>
<td>Time Utilization</td>
<td>2.73</td>
</tr>
<tr>
<td></td>
<td>Acres/hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost/acre</td>
<td>$6.58</td>
</tr>
<tr>
<td>Fixed</td>
<td>Labor</td>
<td>$0.00</td>
</tr>
<tr>
<td>Herbicide¹</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>Operating</td>
<td></td>
<td>$3.66</td>
</tr>
<tr>
<td>Total cost/acre²</td>
<td></td>
<td>$6.00</td>
</tr>
</tbody>
</table>

¹Herbicide used was 1 quart of Grazon Next. Cost may vary based on herbicide and rate applied.
²There may be a slight, incremental cost based on the price of application equipment and maintenance.

In Closing...

It is my pleasure to serve the people of Marion County. "The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer. The Arkansas Cooperative Extension Service is an equal opportunity/equal access/affirmative action institution. If you require a reasonable accommodation to participate or need materials in another format, please contact your County Extension office (or other appropriate office) as soon as possible. Dial 711 for Arkansas Relay."

Sincerely,

Brian See
County Extension Agent – Agriculture
Email: bsee@uaex.edu