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Considering Sulphur

In crop production systems, we typically consider 16 elements essential for growth. Of those, Sulphur (S) is often considered the fourth major nutrient, right behind Nitrogen (N), Phosphorus (P), and Potassium (K).

While known to be important for production, the actual need of *supplemental S* in our Northeast Kansas cropping systems is a little more difficult to predict. Because it's a mobile nutrient, zero to six-inch soil sampling may not always provide an accurate picture of available soil Sulphur. While mostly an issue on low organic matter or coarser textured soils subject to leaching, that isn't *always* the case. Sulphur deficiencies *have* been noted on an increasing basis on finer textured soils and even in bromegrass with organic matters of three percent or higher.

While the best way to predict a need for Sulphur is via use of deep (zero to 24 inches) soil sampling, that may not be possible in all cases. When considering Sulphur applications, make decisions based on soil texture, soil organic matter levels and crop yields to provide a prediction of possible needs. To get a better idea of crop S needs, check out *Sulphur in Kansas*: <https://bookstore.ksre.ksu.edu/pubs/MF2264.pdf> (copies available upon request from District Offices). It provides excellent information on how to determine potential crop S needs as well as Sulphur product differences – including manure application averages.

Volunteer Tree Control – Use Caution

Sometimes, a tree doesn't fit. Maybe it grew unexpectedly in a flower bed/lawn. Maybe it's an undesirable species in a wooded or landscape area. Removal may well be the best option – and this time of year is a good time to do it – so long as you keep a couple of cautions in mind.

First, remember that most deciduous trees will re-sprout after cutting. Elm, Oak, Hackberry, Hedge, and others will either have to be dug up or the cut stump treated with a herbicide after cutting, or you run the risk of the tree coming back from the root system next season. Removal isn't always as simple as lopping it off at ground level.

Second, know how and where the tree is growing. Trees sprouting from seed may be easily removed by digging or pulling with minimal damage to other vegetation. This is especially important when undesirable trees are growing among desirable vegetation or other trees that could potentially be damaged by cut stump applications. If they aren't growing among other trees or desirable vegetation, they are also fairly easily controlled with cut stump herbicides.

Trees growing from existing woody plant root systems will not be as easily dug and cut stump applications can hurt the source plant and surrounding woody vegetation. Whether they are from a root sucker or are root grafted, herbicide treatments applied after cutting will likely cause damage or death to the host tree. Continuous cutting may be your only control option.

Cut stump treatments are an effective and often needed method of keeping resprouting trees at bay. Before you do so, however, make sure you know where that tree is growing from as well as the potential for damage to surrounding vegetation if cut stump treatment is utilized.

In all cases, read and follow label directions. Cut stump treatments work well as long as applications are made when temperatures are above freezing.

Ross Mosteller

District Extension Agent
Livestock & Natural Resources

Winter Vitamin A and E for Beef Cows

Since I've been on a roll with nutrition topics, vitamins are another consideration that can't be overlooked in winter cowherd nutritional discussion. Two of the most important to discuss at this time of year are Vitamins A & E. Unfortunately, I've ran into personal experience with weak calves at birth due to Vitamin A deficiency, so my first-hand knowledge of this topic has been hard learned! Balanced vitamin consumption is always important.

Both Vitamins A and E are plentiful in green forages, but tend to be scarce commodities in dormant range, crop residues and hay. The farther away a cow gets from the last bite of green grass only continues the decline in availability in forage diets and stored reserves within the cow. As fat-soluble vitamins, there is debate on how well Vitamin E is stored, but Vitamin A is generally stored 3 to 4 months, primarily the liver. Be honest with yourself on when the last time was that your cows grazed, lush, green grass, for some cows that might have been last spring!

Vitamin A maintains tissues lining in the respiratory, digestive, and reproductive tracts – keeping them pliable and in good working order. Without these healthy tissues, nutritional absorption in the gut is reduced and immune function declines. Vitamin A deficiency also impacts reproduction in both males and females. Deficiency symptoms include loss of appetite, rough hair coat, and reduced feed efficiency. Swelling of the legs and brisket, especially after working the animals, is also a symptom of vitamin A deficiency.

Vitamin A and E deficiencies in calves can range from vision issues and white muscle disease, to the more commonly noted challenges with calf vigor and immunity. The result of deficiencies in these vitamins can show up as decreased vigor and an increased susceptibility to illness. It is important to note that these vitamins do not cross the placenta in high enough amounts to directly meet calf requirements. Calves must obtain sufficient Vitamin A & E levels through colostrum directly after birth, which emphasizes the priority focus on the vitamin status of the cow prior to calving to ensure sufficient levels in the colostrum.

Forage vitamin levels are not something cattle producers should take for granted in any situation. Supplying sufficient Vitamin A and Vitamin E to cows in late gestation is important every year, and the price of the supplement should not be a limiting factor, as these are relatively inexpensive inputs. Pregnant cows and heifers should be supplemented with 30,000-100,000 IU/head/day of Vitamin A and 50-100 IU/head/day of Vitamin E when green forage is not available. Even high-quality stored forage should not be assumed to supply sufficient Vitamin A or E. Pay close attention to storage life on supplementation products, as vitamins can degrade relatively quickly. If a mineral-vitamin package is not fed within about a year the minerals are still good but vitamin activity can be reduced.

Injections of Vitamin A can be used to help increase stored levels in the liver. An injection of 1,000,000-1,500,000 IU per head can boost liver levels, but may need to be given monthly if supplementation is not provided by the diet. A single injection a few weeks prior to calving can help the cow overcome a drop in the body reserves of these vitamins prior to calving. Producers should consult their veterinarians regarding specific products and the timing of their use, as there are reported issues with injections given at the wrong time or in conjunction with other injections. Additionally, injections of Vitamin E and A to newborn calves can be given, but this should not be considered a substitute for proper vitamin supplementation in the cow's diet to produce and provide quality colostrum.

Teresa Hatfield
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Family and Community Wellness

Reduce Stress with Healthy Holiday Habits

With the holidays just around the corner, our lives can get hectic. There is often too much to do and too little time. For others, the holidays can be a sad time of year. They may miss people who cannot be with them or those who have passed away. The perfect holiday is often an elusive myth. Our lives don't resemble a movie, holiday card or a T.V. special. Just remember it's normal and human to be imperfect, don't set too high of standards, and take some time to take care of yourself.

Here are ten tips to reduce holiday tension.

1. Don't be afraid to say no. I know that is very hard for some of us; it's not in our make to turn a request down. But during this time of year, you can end up overextending yourself. Be choosy about which invitations you accept; make sure they are the ones that will give you joy.
2. Plan ahead. Set aside days and times for baking, shopping, and decorating. Make a grocery list before you go to the store so you remember all last-minute items. Just remember to take your list with you when you go.
3. Set a budget and stick to it. Decide beforehand how much you want to spend on holiday gifts, food, and decorations. Try alternative options for gift giving. Give a gift to charity in honor of the recipient, make a homemade gift, or start a family gift exchange where you only buy and receive one gift.
4. Keep up your exercise routine. If you don't have time for your workout routine, take a walk; keep moving. You may feel like you don't have the time between everything you have on your plate, but taking care of your physical health should still be a top priority.
5. Take care of your mental health. People often feel blue this time of year or anxious about unrealistic expectations from family and friends. Other factors like shorter days and diet changes can also impact our mood. Take time to get a good night's sleep and take breaks to relax.
6. Watch your alcohol consumption. Parties and gatherings often serve alcohol. If you are driving, remember to designate someone to drive who is not drinking. Alcohol also contains extra calories and some more than others. Eggnog with alcohol can have more than 250 calories per drink.
7. Try not to skip meals; instead, try smaller meals throughout the day. If you miss a meal, you could feel more tired and irritable, making it more challenging to enjoy the festivities.
8. Be smart about consuming appetizers high in calories. Fill your plate with fruit and vegetables, and then try a small portion of your favorite chip, dip, or dessert.
9. Give away leftover food. If you are hosting a party or a holiday meal, send your guests home with a plate or take food to a loved one in a long-term care facility.
10. Start a new healthy tradition. You can take a walk after the family meal. Try a new healthy recipe. Take time to learn a new board game, play with the whole family, or make a craft together.

Hopefully, some of these tips will make your holidays more enjoyable and less stressful.

Resources: North Carolina Cooperative Extension, Illinois Extension

Cindy Williams

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Family & Community Wellness

Save Time During the Holidays by Freezing Yeast Bread and Cookie Dough

The holiday season can get really busy, and being able to prepare yeast bread dough ahead of time and freeze it for later use could save time, according to Kansas State University food scientist, Karen Blakeslee. Preparing and freezing yeast bread dough must go hand-in-hand with proper food safety practices.

When making any kind of baked good, remember to wash your hands before and after handling flour and the dough. Raw flour has been linked to several foodborne illness outbreaks, so it is important to keep hands clean.

“To save time during the holidays, or any time of the year, prepare yeast bread dough ahead of time and freeze into dough balls for rolls to bake later,” Blakeslee said. “The trick is using a dough with extra yeast because slow freezing can damage yeast.

Blakeslee’s advice for safely freezing yeast bread dough includes these tips from [Iowa State University Extension and Outreach](#):

- Increase the yeast by $\frac{1}{4}$ to $\frac{1}{2}$ teaspoon per 3 cups of flour to your favorite bread recipe. Dough that has extra yeast can compensate for potential freeze damage.
- Use bread flour for added dough strength.
- Consider recipes high in yeast and sugar, and low in salt, which are best for freezing.
- Dough can be frozen 1) after kneading and before the first rise, or 2) after the first or second rise.
- Place dough in a freezer-safe package and freeze. Dough can be frozen up to four weeks.
- Thaw frozen dough in the refrigerator or at room temperature, shape, let rise and bake as directed.

Cookie dough also can be prepared and frozen to save time when baking for the holidays. Some tips for freezing cookie dough include:

- Drop cookie dough can be prepared, scooped onto a cookie sheet then frozen.
- After freezing, cookie dough can be removed from the cookie sheet and stored in freezer and packaged to be baked later.
- Always remember to wash your hands after handling raw cookie dough.

Blakeslee cautioned against the urge to snack on raw cookie dough, “because of the foodborne illness risks due to eating raw flour and eggs.” Instead, she said, wait until cookies are fully cooked and cooled before enjoying.

Another holiday option: Instead of freezing dough, bake the product first, allow them to cool completely then tightly wrap them and freeze. Let them thaw in the wrapping before using. Rewarm baked goods with a quick zap in the microwave for that just out of the oven taste.