K-STATE Research and Extension | Meadowlark District

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Precision Nutrient Management – Forage Stands

Oklahoma State University Extension Specialist for Precision Nutrient Management Dr. Brian Arnall once stated: *When fertilizer is applied without a recent soil sample, it is done based upon pure guesswork. How many other management decisions are made on a farm or ranch by a guess?* The answer is: not many, and forage fertility isn't an easy thing to guess at to begin with.

Precision nutrient management might be as simple as a composite soil sample or as complex as grid sampling. No method is perfect and requires an evaluation of both field *and* grower needs. Never had a soil sample from your forage stand? A composite sample from across the field (depending on size) can be a place to start and provide some great information.

Grid sampling is on the other end of the spectrum and is simply sampling on a predetermined grid to get a deeper look at variability across a farm. If you don't note any evidence of field variability or if a composite soil sample has already given insight into whether a certain nutrient need addressed, grid sampling may not be necessary. If on the other hand you are trying to determine whether an application truly *is* needed because a composite sample is right on the line, more information via a grid sampling program might be in order.

In the middle is a zone sampling program where we sample based on various zones across the field. It works well when you have a goal in mind such as trying to fine tune what a composite sample might be telling us or where issues might be affected by soil type, etc…. It's also a good option for monitoring how a nutrient management program might be working following a grid sampling exercise.

Whatever type of program you settle on, the important thing is to get a soil test. Forage stand fertility levels have shown consistent declines over time with many hay fields in particular suffering from low nutrient levels. Managing fertility needs are an important part of keeping forage stands in good shape. Appropriate fertilizer levels are an important part of economically producing that forage. Both are helped immensely by a good soil sample. Drop me a line if you want to discuss what type of soil test program might work well for you.

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Ross Mosteller
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Buy or Sell Corn Stalk Bales???

About a month ago I spent some time working through the economics of determining rental rates for grazing corn stover in a column. If you've followed my writing or spoken with me at all, you know I prefer to let the grazing animal harvest, process and redistribute nutrients from forages, versus expensive equipment doing the same. However, there are times and places where baled forages come into play. A recent conversation on this topic makes me think this will be a good one to discuss today.

Grazing and baling corn stalks is a typical practice for many producers on both the crop and livestock side of the operation. The most nutritional value comes from the fallen grain, husk and leaves. Grazing animals return manure (nutrients) and organic matter to the field, but cornstalk bales can be used as part of winter feed rations. Approximately 1 ton of stover is produced per 40 bushels of dry corn. Removal of crop residues (stover) can reach 50 to 80%, with raking and baling removing more than the recycling effect of grazing.

The questions to utilize crop residues can include nutrient removal, soil compaction, extension of the grazing season, incorporation of lower cost forages into rations, or economics, to name a few. For the livestock producer decisions are based upon the nutritional value unit cost, as well as supply and demand. Currently, the national supply of higher quality hay is in better condition than some recent years, so the desire to purchase lower quality forage sources like corn stover is likely less this year.

Crop producers may also consider stover removal from the field to warm the soil sooner in the spring. If the corn crop averaged 180 bushels per-acre, there are 4.5 tons of stover laying on the soil. The stover can be a blanket, keeping the spring sun from warming the soil and delaying planting. Removing some of the stover may also make planting more manageable in the spring due to a reduction of residue on the ground. Lower grain prices may encourage the thought of additional revenue from baling and selling corn stalk bales as well.

The flip side of stover removal is erosion potential and nutrient removal. Careful consideration to baling corn stalks should be considered in highly erodible fields, particularly those with low soil organic matter content. Work at the University of Nebraska shows the typical nutrient content in one ton of stover is roughly 17 pounds of Nitrogen, 4 pounds Phosphorus, 34 pounds Potassium and 3 pounds Sulfur. Depending on the price of these nutrient input prices, this could equate to $25-30 per ton. Forage harvesting cost can run in the $15-25 per ton, if raking, baling and hauling are considered.

Corn stover is low in nutritive value to livestock. It roughly contains about 5% crude protein, 70% NDF concentration, and 50% dry matter digestibility. It can be used in maintenance rations of non-lactating beef cows. Supplementation with energy and protein are required if corn stover is the primary ingredient in rations for growing and lactating animals. Sorting can be a problem if fed without further processing, like grinding, which adds additional equipment and cost. A recent Kansas Hay Market report showed a wide range of market value in corn stalk bales from $60-130 per ton delivered.

At the end of the day, it often comes down to economics. Can a livestock producer purchase corn stalk bales and supplements for less money than using other higher quality available forage/feed sources? The farmer must compare the cost of nutrients removed from the field and harvest costs versus the income potential from selling the stalks. Pushing a pencil to see what makes sense for your operation is always an exercise worth doing. Iowa State University has a good resource titled Estimating a Value for Corn Stover to help. The decision-making tool called "Corn Stover Pricer" quickly helps work through the math.

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Laura Phillips
District Extension Agent, Horticulture

Winterizing your Roses

As winter creeps closer, you may be wondering how you can ensure your rose bushes are ready for the cold weather. Most of the shrub, landscape, or older rose varieties can survive our winters without much issue, but some of the hybrid teas and other modern varieties require winterizing. If you have a young rose of any variety, winterizing can help ensure that it lives through the winter despite not having a fully established root system.

The first step, pruning can be done as soon as roses go dormant. If your roses are exposed to winds, cut back canes to 36-inches and remove weak or thin canes. Tie the remaining canes together loosely to keep them secure during windy weather. If the canes are allowed to whip in the wind it can cause damage to the crown and disturb the soil. If your roses are well protected from the wind, you can wait until late winter to prune your roses.

Then clean up any plant debris in the area surrounding the roses, especially any leaves from the rose bushes or canes that you pruned off. This will help prevent any diseases from overwintering and infecting your roses next summer.

Then next steps are dependent on weather, not time of year. You will want to make mounds of soil at the base of your roses only AFTER several hard frosts have occurred, but BEFORE the ground freezes. Doing this too early keeps the stems warm and moist which promotes mold growth, while too late risks damaging the sensitive graft union where the rootstalk attaches to the above ground growth. We have had two days (November 9th and 10th) where temperatures dipped below 25 degrees, but our soil has not gone below 40 degrees yet, so now is the perfect time to make these mounds around your roses.

When making mounds around the roses, aim for 8 to 10 inches of soil or compost around the base of each rose. Bring in new soil for this instead of displacing soil. Soil acts as insulation for roots in the cold winter, so you do not want to remove any soil from areas around the roses, or you may increase the chance of the roots getting frost damage.

Once the ground has frozen, which generally happens mid-December, add a 4-inch layer of straw, leaves, wood chips or other mulch over the mound and cover with a layer of soil to hold it in place. This will help protect the plants from the cold but also prevent early budding during warm winter and early spring days. You can check the current soil temperatures online using the K-State Mesonet tool online or check with your local extension office.

You can then place a layer of soil or mesh wire over the mulch to keep it in place. You can also make a wire cage around the rose as a barrier to keep the mulch in place. As the mulch settles during winter you may need to add more.

When the ground thaws in the spring remove the mulch and soil from the base of the plant to return the soil level to normal.

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Teresa Hatfield
District Extension Agent, Family and Community Wellness

The Silent Struggle: Social Isolation During the Holidays

As we head into the holiday season once again and begin to gather with family and friends, many Americans face feelings of loneliness and isolation during the holidays. According to the U.S. Surgeon General, social isolation and loneliness are significant public health concerns. According to a report, "the lack of social connection poses a significant risk for individual health and longevity. Loneliness and social isolation increase the risk for premature death by 26% and 29% respectively. More broadly, lacking social connection can increase the risk for premature death as much as smoking up to 15 cigarettes a day." These findings are significant and should not be ignored. This isolation is more than just an emotional burden it is a serious health concern.

Holidays can hit people especially hard. There are expectations from society that you are supposed to be happy during this time of year, after all, as the song by Andy Williams goes, "it's the most wonderful time of the year". If this is true, why do we sometimes not feel this way? There are several reasons why this might be.

- Unrealistic Expectations: Many of us want the holidays to be perfect. Lofty expectations can create undue pressure for us to live up to a picture-perfect holiday.
- Living alone, being unable to leave your home, or feeling isolated and disconnected from others.
- Suffering from grief and loss: Many have lost people they are close to, a spouse, a friend.
- Being a caregiver: Caregivers often feel alone in their struggles. The pressure to make things perfect is frequently overwhelming.

What can you do to reduce the sense of loneliness you or others feel? Below are some tips to help make you feel more connected.

- Attend events and programs at local community centers, schools, or churches.
- Participate in a local exercise group.
- Volunteer with local charities or organizations.
- Share stories about a loved one you have lost or make their favorite recipe to share with others.
- Schedule some time to connect with family, friends, or neighbors.
- Limit social media time as it can trigger anxiety or feelings of inadequacy.

Remember to try and focus on the moment and enjoy the time without expecting everything to go flawlessly. Realize that traditions can change over the years, and that's okay. Reach out intentionally to those you know who may be struggling with loneliness.

The world we live in can be challenging and polarizing. Seek out professional help if you are showing signs of depression. Contact the suicide and crisis lifeline if you or someone you know is considering harming themselves at 988.

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Cindy Williams
District Extension Agent, Food, Nutrition, Health and Safety

No news article this week.