



February 2021

HAL Family Field Day Set

The Haskell Ag Lab Family Field Day committee has set a date of **Wednesday, June 30** for their Family Field Day. More details and information will follow.

MARK YOUR CALENDAR!

WINTER SURVIVAL AND FALL DORMANCY IN ALFALFA

Whether you planed it originally or held off due to dry conditions in the fall, the time for spring planting alfalfa is just around the corner. Selecting the right seed is crucial, and two traits to consider are fall dormancy and winter survival. These traits are often treated the same, but are different. Let's take a closer look.

Winter survival or winter hardiness is the ability for an alfalfa plant to make it through winter without injury, once the plant goes dormant. This is different than the fall dormancy rating that measures the alfalfa's ability to prepare for and recover from dormancy. Winter survival is measured on a 1 to 6 scale with 1 being extremely hardy and 6 not hardy.

As temperatures drop and days shorten, alfalfa plants change their physiology to survive freezing temperatures and make it through winter. Increased hardiness can lead to reduced yield potential, but for a high dollar perennial forage, having a stand year after year is key.

On the other hand, fall dormancy is a measure of an alfalfa plant's ability to regrow in the fall. Dormancy is scored on a scale ranging from 1 to 11 with 1 being most dormant and 11 the least. Higher dormancy means a harvested plant will focus its resources in the fall more on building reserves to survive the winter and less on new growth. There are free alfalfa ratings available online that may be helpful for comparing survival and dormancy between varieties.

This tendency toward slower regrowth manifests throughout the year, with less dormant varieties typically recovering faster in the spring and producing overall higher yields. Another role dormancy plays is keeping plants from starting growth during the random warm-ups we can have in the fall and winter

months. Plants that break bud during these periods are subject to winterkill and will have to start growth from new buds later on.

Finally, fall dormancy can impact the harvest timetable. Again, lower dormancy ratings means a plant regrows slower. This translates into more time to remove forage from the field before "windrow disease" and field traffic become a concern.

In the past, winter survival traits were linked with fall dormancy. With new varieties, this isn't always the case, so each trait needs to be evaluated on its own.

We want to pick a winter survival ranking that will get us through winter without compromising yield. Where you are in the state plays a big role in what to pick, but in general, 3 is as low as we want to go. Winter temperatures affect this, but maintained snow cover is also important. As snow can help insulate the ground, parts of the state that regularly have open winters may need as high or higher survival rating than colder locations with winter-long snow cover.

When selecting a fall dormancy rating, a lot depends upon your management and production goals. We want to select a variety that will make it through winter without sacrificing additional yield. If you have regular issues with stand winterkill, you may consider going with a lower rated variety. In Nebraska, we generally don't see much higher than a 5.

Bottom line, a winter survival rating of 3 is about as high as we want to go and areas with open winters or regularly colder temperatures should be even lower. For fall dormancy, a rating of 5 is about as high as we want to go to balance yield and survival. Spring recovery is important, but don't forget fall dormancy also impacts maintaining dormancy, harvest schedule, and yield potential.

-Ben Beckman is a beef systems Extension Educator serving the counties of Antelope, Cedar, Knox, Madison and Pierce. He is based out of the Cedar County Extension office in Hartington. You can reach him by phone: (402) 254-6821 or email: ben.beckman@unl.edu.



Extension to hold landlord-tenant cash rent, ag budgeting workshops for eastern Nebraska

Nebraska Extension will hold a virtual landlord-tenant cash rent workshop, geared toward eastern Nebraska, on Feb. 25, from 9 to 11:30 a.m. It will cover current trends in cash rental rates and land values, lease provisions, crop and grazing land considerations and current university crop budget information.

The workshop, titled Ag Land Leasing, Budgeting and Management for 2021, will be led by extension land specialists Allan Vyhalek, Austin Duerfeldt, Glennis McClure and Jim Jansen, who conduct research and outreach in land management, crop budgets, farm and ranch succession, communication and negotiations. They will address common agricultural landlord and tenant topics, including equitable rental rates, managing and adjusting farmland leases, landlord-tenant communication, pasture leasing and other land management considerations.

Following the landlord-tenant workshop, an agricultural budgeting workshop will be held from 1:30 to 3 p.m. Information will be presented on using University of Nebraska-Lincoln crop budgets to calculate cost of production. The new online Agricultural Budget Calculator program will also be demonstrated. These workshops will be conducted on the same meeting link as the morning session.

Paper copies of the program curriculum will be mailed to participants who provide their address during registration, which should be completed at least one week prior to the workshop to ensure receipt by the time of the workshop.

The workshop is free to attend and will be held via Zoom. Registration is required at farm.unl.edu/manage21.

CONTACT: Allan Vyhalek, Extension Educator, Agricultural Economics, 402-472-1771, avyhalek2@unl.edu

Soybean Gall Midge Discussion

If you happened to miss the “Midwest Soybean Gall Midge Discussion Series” last month, you can view the three-part series at soybeangallmidge.org. Just click the “Midwest SGM Series Recordings” and learn about soybean gall midge identification and distribution, biology and ecology, and our SGM management research. This is a new pest of soybean, and the series presents what we have learned to date from various SGM research projects.



Bringing Manure Application to the Digital Age

<https://water.unl.edu/article/animal-manure-management/bringing-manure-application-digital-age>

By Cole Trojan, Student of Animal Manure Management ([Rick Koelsch](#), faculty instructor)

Current manure application

practices have little to no precision application capabilities compared to other modern agricultural equipment. Due to some recent emerging



technologies being released on the market, manure application is finally joining the digital age. This article summarizes these new precision manure application technologies.

Interested in testing nitrogen stabilizers on your farm?

Javed Iqbal – Extension Nutrient Management and Water Quality Specialist | Laura Thompson – Extension Educator



Figure 1. Ammonia loss can be significant where the surface applied urea is not timely incorporated.

Nitrogen fertilizer management is challenging due to several factors that influence fertilizer nitrogen once applied to the soil. One of the primary concerns is the potential of fertilizer nitrogen (N) to be lost to the environment either through ammonia (NH_3) volatilization, denitrification, or nitrate (NO_3^-) leaching, which leads to reduced nitrogen availability for the crop.

In situations with a high potential for N loss, the use of [N fertilizer stabilizers](#) (nitrification inhibitors, urea inhibitors, slow-release coated fertilizers) may decrease the N loss while protecting the fertilizer N investment. Currently, there are several products of N fertilizer stabilizers in the market. For example, products with known efficacy for inhibiting urease activity are N-(n-butyl) thiophosphoric triamide (NBPT) and N-(n-propyl) thiophosphoric triamide (NPPT). These active ingredients are found in products with tradenames of Agrotain™ (NBPT) and Limus™ (NBPT & NPPT). There are also other products that contain NBPT, since it is no longer patent-protected. Products with known efficacy for inhibiting nitrification are dicyandiamide (DCD), nitrapyrin, and pronitradine. Nitrapyrin has long been sold as N-Serve™ and Instinct™, and pronitradine has recently come into the market with the tradename Centuro™. Nitrapyrin and DCD are not patent protected, and may be found in a variety of products.

[Precision Nitrogen Management On-Farm Research Project](#)

[Project](#) provides opportunities to test nitrogen inhibitor products on the grower's farms.

Participation in the on-farm trial will allow growers to evaluate the effect of nitrogen fertilizer inhibitors in enhancing nitrogen efficiency and crop yield on their farm. They will work closely with Nebraska Extension to accomplish the project. All cooperating growers will receive compensation for purchasing fertilizer nitrogen inhibitors, their time, and resource commitments.

Contact Javed Iqbal (jiqbal2@unl.edu) or Laura Thompson (laura.thompson@unl.edu), or your local cropping systems extension educator if you are interested in testing fertilizer N inhibitors.

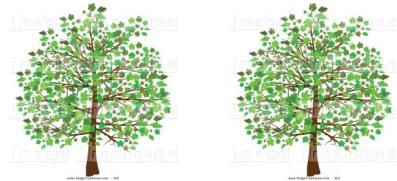
More information about the proposed testing can be found at the [Precision Nitrogen Management On-Farm Research Project](#) page.

Additional information about the N fertilizer stabilizers can be found in the following links.

<https://cropwatch.unl.edu/2019/nitrogen-inhibitors-improved-fertilizer-use-efficiency>

<https://cropwatch.unl.edu/2018/nitrogen-fertilizer-stabilizers-corn>

Interested in seeing more results from 2020? Make plans to attend the 2021 Nebraska On-Farm Research Results Update Meetings, held in-person and online. Visit go.unl.edu/2021OnFarmResearch



FORESTER TO RETIRE

Steve Rasmussen, District Forester with the Nebraska Forest Service will retire at the end of February. Steve has helped numerous individuals with their tree problems and questions over the past 37 years in northeast Nebraska.

We want to thank Steve for his many years of service and wish him a long, happy and healthy retirement.

Jorden Smith and Pam Bergstrom will be taking over forestry responsibilities in northeast Nebraska for Steve. Welcome Jorden and Pam!

Science with Sarah by Sarah Roberts

Greetings fellow scientists! Even with the frigid temperatures outside, you can still have some fun! Try this activity especially when temps are below zero. Bundle up and bring a camera along, because you might catch some cool shots!



Frozen Bubbles

Bundle up to make a trip outdoors! Make sure to wear gloves, a hat, and boots!

Mix up some bubble solution using 4 cups distilled water, 1 cup Dawn dish soap, $\frac{1}{4}$ cup glycerin or light corn syrup.

Collect a straw and a bubble wand and a bowl.

Start by blowing bubbles in the bowl with the straw. Ice should start to form on the outside of the bubbles.

Blow bubbles using the bubble wand. What happens? Your bubbles should freeze mid-air!

Take some pictures of your freezing bubbles.

Tip: Find a place outdoors that is out of the wind so bubbles will last longer.

Questions to Ask:

How long does it take the bubbles to freeze?

Which makes better bubbles? The straw or the bubble wand?

Can you build a frozen bubble tower?

For questions or more fun science experiments, email me at sarah.roberts@unl.edu. Stay warm and THINK OUTSIDE!

Winter Nutrition: Are You Staying Ahead or Getting Behind?

By: Travis Mulliniks, UNL Beef Cattle Nutritionist, Range Production Systems; TL Meyer, Nebraska Extension Beef Educator



Winter nutritional management affects not only the profitability of a beef cowherd, but also the future performance of the cow and her offspring. Photo credit Troy Walz.

You can listen to a discussion of the content in this article on [this episode of the BeefWatch podcast](#). You can subscribe to new episodes in [iTunes](#) or paste <http://feeds.feedburner.com/unlbeefwatch> into your podcast app.

As winter progresses, winter nutrition and increased environmental stress on cows may concern many cow-calf producers. Winter nutritional management affects not only the profitability of a beef cowherd, but also the future performance of the cow and her offspring. With that in mind, building a nutritional program for a cow-calf system requires understanding nutritional requirements, knowing the "stress periods" that can happen, and knowing the quality and quantity of your forage resources.

One "stress period" is late gestation. Moving from mid to late gestation increases a cow's energy requirement 25% and her protein requirement 10%. In addition, the nutritional management of the pregnant beef cow can affect her calf's performance. Developmental, or fetal, programming is the idea that the maternal environment affects fetal development and the offspring long-term. Calves born from nutrient-restricted dams during late gestation have been shown to have reduced immunity. It can be tempting to let dry, pregnant cows "rough it" on low-quality range or forages with little to no supplement in an attempt to save money. However, providing good nutrition to pregnant cattle during late gestation supports rapid fetal growth, calf health and performance. In addition, it prepares the cow for her greatest nutritional "stress period" of lactation, which can affect her subsequent reproductive performance.

The impact of winter weather should not be ignored. When the effective temperature is below the animal's lower critical temperature, the animal must increase heat production to maintain a constant body temperature. The entire article is available with more information at:

<https://beef.unl.edu/beefwatch/2020/winter-nutrition-are-you-staying-ahead-or-getting-behind>

Interviews with the authors of BeefWatch newsletter articles become available throughout the month of publication and are accessible at <https://go.unl.edu/podcast>.