PRSRT STD U.S. **POSTAGE** April 2024 **PAID** The Roundup **ECRWSS** Postal Customer Inside This Issues The Importance of Colostrum See page 2

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Importance of Colostrum

By Marley Voll, MSU Richland County Extension

Although some are finishing up calving and others are still yet to begin, it is always necessary to remember the importance of colostrum. This is the first milk produced by a cow after she has given birth. Colostrum contains immunoglobulins, IgG in particular, as well as white blood cells, milk fat, and vitamins A and E. All of these components are important to the newborn calf. A calf is born without immunoglobulins, because the placenta prevents immunoglobulins from being transferred from the cow to the calf in utero. Immunoglobulins are proteins that act as antibodies to protect the immune system from disease and help to establish the calf's immune system. White blood cells help to further protect the calf from pathogens, while Vitamins A and E also play a role in stimulating the immune system and offering antioxidant properties.

Timing is important in colostrum consumption. The calves' small intestine lining is primed for IgG at birth but that timing window begins to close significantly after 12 hours of life. The peak absorption occurs in the first four hours post-partum, and after 24 hours the gut has completely closed. Difficulty at birth can negatively impact gut absorption of colostrum, as can cause metabolic acidosis. Because of this, it is advised to ensure adequate colostrum intake of calves with births you assisted in.

A very important point to note is that not all sources of colostrum are created equally. The best source of colostrum, of course is that of the newborn calf's mother. If that option is not available, the next best option is colostrum from a donor cow from the same operation. When choosing a donor cow, healthy cows with an adequate vaccine history are ideal. Colostrum can be collected, stored in a quart freezer bag, and frozen for up to one year. When thawing the colostrum, remember that the microwave can denature the IgG antibodies, and the best practice is to water bath the colostrum in temperatures lower than 140 degrees F. If providing a bagged colostrum supplement, be sure to read the label. Some are intended for calves that have already received some colostrum, and they do not have adequate IgG levels for newborn calves. It is also important to read the label and ensure that the product you are choosing contains dried colostrum.







MFU Members Help Shape National Policy

Family farmers and ranchers from Montana traveled to Scottsdale, AZ., March 10-12 for the 122nd National Farmers Union convention. Delegates and attendees heard from nationally known speakers, administration officials, and each other during policy debate.

Over the past year, NFU has increased membership by more than 12,600 members, as well as continued the impactful Fairness for Farmers campaign. This campaign and meetings with administration officials in the Department of Justice, the Federal Trade Commission, and the Department of Environmental Quality have elevated issues of importance to farmers, like right to repair, and anti-competitive practices and market concentration.

Secretary of Agriculture Tom Vilsack also took time to address attendees with updates on the Farm Bill and answer questions.

He also announced a Product of the USA labeling rule that requires packages of meat labeled as "Product of the USA" to be born, raised, and processed in the USA. Product with packaging that includes an image of the U.S. flag must also be born, raised, and processed in the U.S.

M F UPresident Walter Schweitzer called the rule a "great first step" toward mandatory country of origin labeling and said the rule will give U.S. ranchers credit for their highquality product and give

consumers confidence because of truthful labels.

Half of the convention schedule is dedicated to policy considerations, debate, and votes. Policy informs the organization and dictates which issues NFU's president and staff will promote or oppose. Montana's delegation played an active role during policy consideration.

Federal farm subsidies were one issue that was discussed during policy work. As a family farm organization, NFU is concerned that 85 percent of farm subsidy money goes to the largest 15 percent of farms. Numerous policy proposals discussed methods of redirecting government funding. Most proposals generated spirited debate but failed to pass. One proposal would have altered the way the

(Continued on next page)



Montana Farmers Union delegates recently attended National Farmers Union's annual convention in Arizona. While there, they heard from industry leaders, as well as helped craft the policy that laid the groundwork for NFU's efforts on behalf of family farmers and ranchers in the coming months. Pictured above is Sarah Degn, MFU board member and a Next Generation Advisory Representative on NFU's board. (Courtesy photo)

MFU Members Help Shape National Policy...

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Farm Service Agency Credit Programs evaluated retirement accounts. The change was opposed by Montana delegate Sarah Degn who said, "I came back to the farm with a little bit saved in a retirement account from a previous career. Having to liquidate that account to finance my farm or call that an asset to acquire a loan would have incurred a huge penalty. Farmers deserve to save for retirement too."

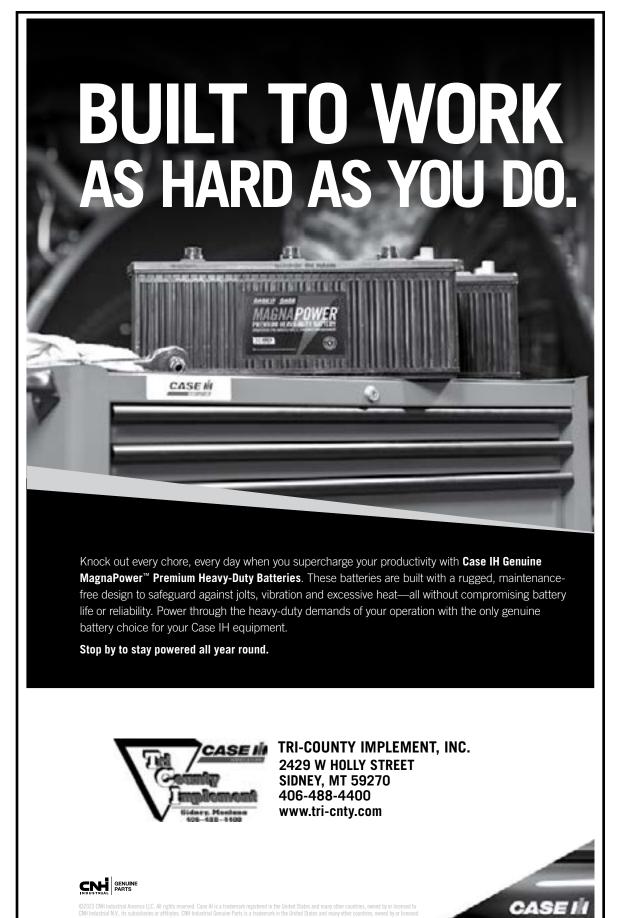
Sometimes national policy must be expanded because regional or state needs have become relevant nationally. Erik Somerfeld, an MFU board member and veteran delegate, proposed and successfully passed new policy.

"MFU has had policy opposing the removal of dams on the Snake and Columbia River systems since 1999. Until the last year or so, we hadn't been worried that this could happen. Now that it is possible, we passed policy at National to protect the hydropower produced and the grain shipped by those river systems," Somerfeld explained.

Whether it was networking with NFU members from around the country, learning from industry experts, hearing updates from Biden Administration officials about their headway tackling anti-competitive practices, or helping craft policy to direct the organization in the coming year, MFU delegates left convention hopeful, inspired, and more dedicated to the success of family farms and ranches than ever.

"I'm inspired and reminded why farming is so important. I come home ready and eager to go to work," MFU member John Wicks said. "This administration is listening to our concerns and actually taking action. It's refreshing to see the work of all these people come to fruition for family farms, and it shows that being involved is important and is the only way to get results."

Montana Farmers Union has worked more than 100 years for family farms, ranches, and rural communities. MFU supports its members through: Strong education programs for both youth and adults, by advocating member-driven policies and legislation at the state and federal level, and cooperation through producer-owned co-ops. For more information, visit www.montanafarmersunion.com.



Proper Spring Grain Drying & Storage Critical

Stored grain needs attention as outdoor temperatures rise.

By NDSU Agriculture Communication

The warmer winter and early spring have increased the potential for grain storage problems and the need for grain monitoring and management, says Ken Hellevang, North Dakota State University Extension agricultural engineer and grain drying expert. Stored grain temperature increases in parts of a bin in the spring, which is not only due to an increase in outdoor temperatures but also due to solar heat gain on the bin.

Solar energy produces more than twice as much heat gain on the south wall of a bin in spring as it does during the summer. That, in addition to the solar heat gain on a bin roof, can create an environment conducive to grain spoilage. A ten degree increase in temperature reduces the allowable storage time of grain by about one-half. For example, the allowable storage time of corn at 17% moisture is reduced from about 130 days at 50° Fahrenheit to about 75 days at 60° and 45 days at 70°.

Hellevang recommends periodically running aeration fans during the spring to keep the grain temperature near or below 30° if it exceeds recommended storage moisture contents and below 40° as long as possible during spring and early summer if the grain is dry. In northern states, night air temperatures are normally near or below 30° in April and 40° in May.

Bin vents can become blocked with frost and ice when the fan is operated at temperatures near or below freezing, which may lead to damage to the roof. Leave the fill and access door open as a pressure relief valve when operating the fan at temperatures near or below freezing.

Cover the fan when it is not operating to prevent warm air from blowing into the bin and heating the stored grain. Warm grain is more prone to spoilage and insect infestations. Hellevang also recommends ventilating the top of the bin to remove the solar heat gain that warms the grain. Provide air inlets near the eaves and exhausts near the peak so the top of the bin can ventilate due to warm air rising, similar to what occurs in an attic, or use a roof exhaust fan.

Stored grain should be monitored closely to detect any storage problems early, Hellevang advises. Grain temperature should be checked every two weeks during the spring and summer. A temperature increase may indicate a storage problem. The goal is to keep the grain cool. Grain also should be examined for insect infestations.

Check the moisture content of stored grain to determine if it needs to be dried. Remember to verify that the moisture content measured by the meter has been adjusted for grain temperature.

In addition, remember that moisture measurements of grain at temperatures below about 40° may not be accurate. Verify the accuracy of the measurement by warming the grain sample to room temperature in a sealed plastic bag before measuring the moisture content.

Some in-bin cables measure grain moisture content by measuring the temperature and air relative humidity then calculating the grain moisture content based on grain equilibrium moisture content equations. The measured moisture may be 1.0 to 1.5 percentage point different than the true moisture content, so it is a tool that should be

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Monitor stored grain closely to detect any storage problems early. (NDSU photo)

Proper Spring Grain Drying & Storage...

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verified with another moisture content measurement method.

Corn needs to be dried to 13-14% moisture for summer storage to prevent spoilage. Soybeans should be dried to 11-12%, wheat to 13%, barley to 12% and oil sunflowers to 8%. The allowable storage time for 13% moisture soybeans is less than 100 days at 70°.

Corn at moisture contents exceeding 21% and soybeans exceeding 15% should be dried in a high-temperature dryer because deterioration is rapid at warmer temperatures. For example, the allowable storage time of 22% moisture corn is about 190 days at 30° but only 8 days at 70°. Follow the manufacturer's recommendation for high-temperature drying soybeans. Monitor the soybean quality and reduce the drying temperature if excessive cracking or splitting occurs. Reduce the fire hazard by keeping the soybeans flowing in the dryer. Pods and trash can become lodged and combustible. Frequently clean the dryer to remove anything that may impede flow. Constantly monitor the dryer when drying soybeans.

Recommended Airflow Rates and Maximum Air-Drying Moisture Contents Corn: For natural air-drying, assure that the fan's airflow rate is at least 1 cubic foot per minute per bushel (cfm/bu) and the initial corn moisture does not exceed 21%. Start the fan when the outdoor temperature averages about 40°. The grain will reach a moisture content based the average air temperature and relative humidity during the fan operation. Nighttime higher humidity air is generally needed to balance the lower daytime relative humidities.

Soybeans: Use an airflow rate of at least 1 cfm/bu to natural air-dry up to 15-16% moisture soybeans. Start the fan when the outdoor temperature averages about 40°.

Sunflowers: Natural air-drying for oil sunflowers requires an airflow rate of 0.75 cfm/bu for up to 15% moisture. The drying should start when outdoor temperatures average about 40°.

Wheat: Use an airflow rate of at least 0.75 cfm/bu to natural air-dry up to 17% moisture wheat. Start drying when the outside air temperature averages about 50°.

Barley: Use an airflow rate of at least 0.75 cfm/bu to natural air-dry up to 16% moisture barley.

"Remember that some of the allowable storage life was used during the fall before the grain was cooled to near or below freezing, so there is less time for spring drying before deterioration occurs," Hellevang says. "This is particularly important for malting barley, where germination can be lost, so using a higher airflow rate to reduce the drying time is encouraged."

Grain storage molds will grow and grain spoilage will occur in grain bags unless the grain is dry. Grain in the bags will be at average outdoor temperatures, so grain will deteriorate rapidly as outdoor temperatures increase unless it is at recommended summer storage moisture contents.

Grain bags that run east-west will have solar heating on the south side, which creates a temperature variation across the bag that will move moisture to the north side of the bag. Continue to monitor grain stored in bags frequently.

"Also, everyone needs to become aware of safety hazards associated with handling grain and to apply recommended safety practices," Hellevang stresses. "More grain deaths occur during years with challenging conditions when there is more potential for chunks of grain to block unloading sumps or when grain columns occur."





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Wild Winter Temperature Has Different Effects On Forage Crops



This winter wheat sample shows considerable freeze damage. While the plant may still recover, forage production will be reduced. (NDSU photo)

By NDSU Agriculture Communication

If plants were well established prior to the onset of winter and had the opportunity to harden and tiller, chances of survival are very good, but forage production may be impacted.

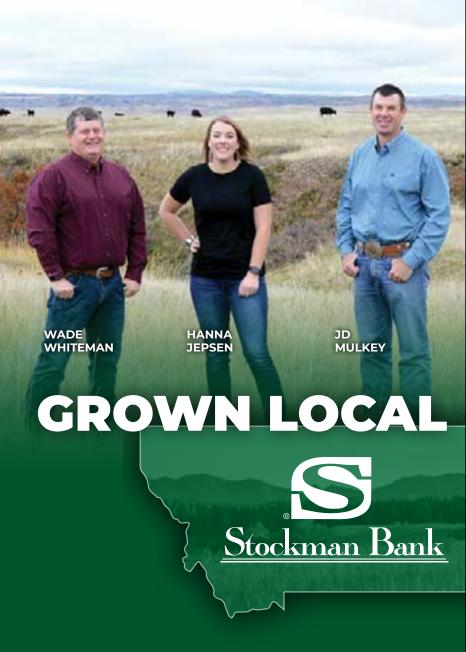
This year's unusual winter has led to questions for farmers and ranchers who grow forage crops in North Dakota. The lack of snow cover has left winter crops uninsulated from cold temperatures for much of the winter. Recent extreme temperature fluctuations have led to concerns about possible damage to winter annual cereal crops planted for forage late summer and early fall.



This rye sample shows some browning of the leaves, but other leaves are green, and roots are white and healthy. (NDSU photo)

Two of the most common winter annual cereal crops grown for forage are rye and triticale. Cereal rye is the most winter hardy of the cereal grain crops and can grow at a temperature as low as 38 degrees Fahrenheit, according to James Rogers, North Dakota State University Extension forage crops production specialist. Winter wheat is less winter hardy than rye but more tolerant than barley. Triticale, a hybrid cross between rye and wheat will have more cold tolerance than wheat but less than rye. Triticale's cold tolerance is based on its wheat parentage.

(Continued on next page)



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Wild Winter Temperature Has Different Effects On Forage Crops...

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"Optimal spring growth for cool season crops is 65-75°, but recent temperatures reaching into the 50s have stimulated top growth of these forages," Rogers says. "Then, with the sudden reversal of temperatures down into the low teens, plant damage and winter survival concerns arise. In general, however, if plants were well established prior to the onset of winter and had the opportunity to harden and tiller, chances of survival are very good."

Research from the NDSU North Central Research Extension Center in Minot reveals differences in freeze damage between rye and winter wheat.

On March 1, researchers at the center dug a sample of rye plants from a plot planted in July 2023. The plants were exposed to a high daytime temperature of 53° Fahrenheit on Feb. 26 followed by a high temperature of 7° on Feb. 27. The researchers then dissected the plant tillers by splitting the tiller beginning just above the crown to the top of the tiller, exposing the growth point, which was at the very base of the tiller, just below the soil line. The growth point appeared as a healthy dark green oblong mass sitting just above the crown of the plant at soil level.

"At this low location, the growth point is still protected by the crown, and any additional snow cover this spring will further insulate the growth point," Rogers says. "Top growth did show some browning of leaves from freeze damage, but other leaves were green, and new growth was evident. Additionally, roots of the plant were white and healthy, and new tillers were forming. As the growth point begins to elevate with warmer temperatures, the plant and grain formation will become more vulnerable to freeze damage."

As a contrast, researchers also dug up a sample of winter wheat from a plot planted in June 2023. They dissected the plants and found that the growth point of the wheat was at the very base of the tiller, similar to the rye sample, but the winter wheat plant had been damaged to a much greater extent by freezing temperatures.

"Some roots were white and healthy, but others were dark and brown indicating freeze damage," Rogers says. "This plant may still recover, but forage production will be reduced."

Winter-established cereal crops become more vulnerable to freeze damage at jointing and elevation of the growth point, which may cause the loss of individual tillers but not the whole plant. Tiller production is key to biomass production.

"It is still too early to determine the full extent of possible freeze damage, but optimism remains," Rogers says. "At this point, if the current snow cover dissipates, more damage may occur from ground heaving than from freeze damage."

To monitor growth points as spring approaches, cut a sample of tillers at the soil level and split the stem. Locate the growth point in the tiller. As the growth point elevates, the stem will be hollow beneath the growth point. When this hollow stem reaches the diameter of a dime (5/8 inch), the stem has elongated prior to stem jointing. At this point, plants can experience damage to the growth point at temperatures of 10-20° Fahrenheit.

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Working on an outdoor project? Always call 8-1-1 first, because you never know what's below. Here are five easy steps for safe digging:

1. NOTIFY

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2. WAIT

Wait two to three days for a response to your request. Affected utilities will send a locator to mark any underground



3. CONFIRM

Confirm that all affected utilities have responded by comparing the markers to the list of utilities the 8-1-1 call center notified.



4. RESPECT

Respect the markers provided by the affected utilities. They are your guide for the duration of your project.



5. DIG CAREFULLY

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Roberts Opens "Dirtech", **Soil Moisture Monitoring Business In Fairview**

As a Sidney, graduate, Evan Roberts is no stranger to the sight of pivots in the fields of the area. While Evan graduated with a degree from

MSU Billings College of Technology, he has been working with pivots for the last 15 years. Evan owns and operates Dirtech, a soil moisture monitoring growers the ability to

business, based in Fairview, servicing Eastern Montana and Western North Dakota.

Evan's goal is to give

make informed irrigation decisions from the information that the moisture Evan Roberts, Dirtech, with one of his CropX probes. (Submitted photo) the NRCS (National Remore than capable in

Registration Open for 2024 Edition of 406 **Grazing Academy**

From **MSU News Service**

BOZEMAN - Registration is now open for the three-day 406 Grazing Academy, an annual workshop aimed at ranchers seeking to hone their grazing management skills and learn new strategies. This year's event will be held June 11-13 in Miles City, and registration is open until April 26.

Registration costs \$200 per person and includes materials, a range monitoring kit, and lunch and dinner each day of the workshop. Those interested in attending can register at https://svc. mt.gov/doa/opp/DNR-406GrazingAcademy-Registration/cart.

Montana State University Extension will host the workshop alongside the Montana Department of Natural Resources



Participants in the 406 Grazing Academy conduct field measurements. The three-day event is open for registration through April 26. Photo courtesy of Jeff Mosley.

and Conservation, with support from the Dan Scott Ranch Management Program in MSU's Department of Animal and Range Sciences. This year's program will include speakers and a field portion designed for hands-on learning.

Participants are re-

sponsible for travel and hotel costs. A block of rooms is available at the Miles City Inn & Suites with code "406 Grazing Academy." A limited number of scholarships are also available through the Montana Rural Employment Opportunities program.

probes send directly to their cell phones, which he assists in setting up and translating. Every rotation saved by knowing the soil's exact moisture content saves water, electricity, time, and money. With a glance at their CropX app, the brand of the probes and accompanying technology, producers can direct themselves or hired hands efficiently to the pivots that need operated and know exactly how much water to deliver onto their fields for that irrigation. Plants need soil, water, fertilizer, and sun. With the information from the probes, you can take one major aspect out of that equation and know with confidence that you did the watering part right. Both over-watering and under-watering can dramatically affect yield, disease, and fertilizer

The moisture probes report temperature, moisture, and salts at three different levels which meets sources Conservation Service) requirements for cost share programs. Evan is working with the area NRCS offices and can provide direct reporting straight to them to simplify the process.

Many local growers are in the process of learning a new-to-them crop with the recent loss of Sidney Sugars and the sugar beet market for our area. Corn and soy have requirements that differ. and while producers are their ability to farm and adapt, the probes can offer a secret weapon in answering questions of how they can get the best out of their fields.

Leasing services include probe installation, setup, software and telemetry subscription, support for the growing season, and extraction come harvest time all for one low price. Contact Evan at 406-480-0051 or dirtech.mtnd@amail.



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Beware Of Mud Season

Taking precautions now should help reduce performance loss & improve cattle health.



Even a few inches of mud may lead to performance loss and health concerns for cattle. (NDSU photo)

By NDSU Agriculture Communication

Snow melt, rain and cattle create a recipe for muddy feedlots. While leading to uncomfortable conditions for ranchers, mud is stressful to livestock. Just a few inches of mud requires extra effort for cattle to walk and may lead to a loss of production or weight gain, according to North Dakota State University Extension specialists.

As mud depth increases to between 4-8 inches, feed intake can decrease up to 15%. When mud is up to 24 inches deep, feed increase can decrease up to 30%. The effects of mud on performance are especially profound when bedding is unavailable.

"Providing more space for cattle in pens will reduce the depth of mud that cattle tromp up," says Karl Hoppe, Extension livestock systems specialist. "When extra space is not available, bedding can be used to reduce the effect of mud. Two pounds of bedding per animal is needed to overcome 2 inches of mud."

Research at the NDSU Carrington Research Extension Center found benefits by bedding at 2-2.5 pounds of straw per head per day. Bedding reduced cost of gain and increased marbling score in fed cattle. Mature cows and bulls may need 5 pounds of bedding per day to find comfort.

"When dealing with mud, an alternative to bedding is concrete, Hoppe says. "Heavy-use concrete pads, barns with indoor concrete floors, or completely concreted pens are effective but expensive options. Cleaning concrete pens regularly is recommended, but this can be difficult during winter with frozen bed packs."

In addition to performance loss, cattle may also experience health issues due to mud.

When cattle get wet, their hair lies down, and they lose insulation value. Mud will further reduce the insulation value of hair coats. Cattle become chilled more quickly from wet and muddy conditions. This stress can inhibit the immune system, making animals more susceptible to disease, says Dr. Gerald Stokka, Extension veterinarian and livestock stewardship specialist.

Mud and manure carry bacteria and other pathogens that can affect cattle health. Calves are particularly susceptible through direct contact or through mud on dirty udders. Calves consuming mud or drinking from mud puddles are at risk for digestive tract infections, such as scours. Calves born in wet, muddy conditions are also more susceptible to naval/joint infections. Dr. Stokka advises dipping the naval after birth with a sanitizing liquid. A classic product is 7% tincture of iodine, freshly made and uncontaminated.

In muddy conditions, move bunks and bale ring feeders to dry ground regularly. If footing around feeders becomes deep with mud, cows have a better chance of getting dirty udders. If moving feeders is not possible, use bedding materials around feeders to keep footing as dry and clean as possible.

Foot rot can also be an issue with muddy conditions. The bacteria responsible for foot rot persist in wet areas. The skin between the toes become tender in wet conditions, leading to increased risk of an opened wound and infection.

"It is often difficult to do anything about mud when there are limited areas of dry ground," Dr. Stokka says. "Anything that can be done to minimize mud can help decrease the incidence of health issues. During calving, periodically move cows waiting to calve to the driest ground possible, or add bedding for the cattle."

Few options are available after muddy conditions are in place; therefore, preventive practices are key. Extension forage crops production specialist James Rogers offers these recommendations to aid in reducing muddy conditions:

- Scrape lots to maintain a 3-5% slope away from the feed bunk.
- Reshape mounds to ensure quick drainage.
- Move livestock to temporary feeding areas such as stockpiled pastures with adequate drainage or fields containing crop residue such as corn stalks.
- If stockpiled pastures are not available, consider moving livestock to pastures with tame grasses, such brome, crested wheatgrass or old CRP that is better able to withstand the impact of early grazing.
- If tame pasture is not an option, then consider native pastures that have Kentucky bluegrass as a dominant species to reduce potential negative impacts to the growth of native grass species.

"Be aware of the potential for soil compaction when placing livestock in saturated crop fields in the spring and the potential for challenging planting conditions," Rogers adds.

Mud will likely be an issue for farms and ranches when spring arrives. Taking precautions now should help reduce performance loss and improve cattle health.

Montana Spring Wheat Variety Performance Evaluations Released

By Marley Voll, MSU Richland County Extension Agent

Montana State University has released their 2023 Montana Spring Wheat Performance Evaluations. These trials are based on wheat variety performance in multiple locations across the state through multiple years. This performance summary compares agronomic characteristics of spring wheat varieties evaluated by Montana Agricultural Experiment Stations and other varieties commonly grown in the state. The trials take place in 11 locations across the state and region, which locally include Sidney (irrigated and dryland) and just across the border in Williston (NDSU, dryland). This data is aimed to help farmers select the variety which performs the best in their area and growing conditions.

A list of quick facts that summaries the results and gives descriptions of the varieties can be found at https://plantsciences.montana.edu/foundationseed/quickfacts/ while a full report can be found at https://plantsciences.montana.edu/crops/index.html or by stopping into the Richland County Extension Office.



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Minnesota Goat Confirmed To Have Highly Pathogenic Avian Influenza

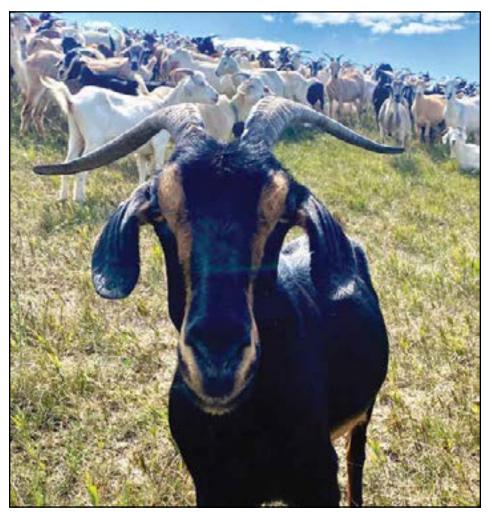
This is the first identified case of HPAI in domestic livestock in the U.S.

By NDSU Agriculture Communication

A juvenile goat in Minnesota recently tested positive for highly pathogenic avian influenza (HPAI). While HPAI has been detected in predatory mammals that prey on infected birds, this is the first identified case of HPAI in domestic livestock in the U.S. The goat lived on the same premises where a poultry flock tested positive for HPAI in late February. The goat shared the same pasture and sole water source as the poultry flock.

HPAI is a known disease of wild and domestic poultry and waterfowl. There is limited information available about HPAI infection in ruminants, though in some species, animals with immature or compromised immune systems appear to be at greater risk of infection. Only young goats were afflicted in the Minnesota case, not mature goats. This case is being investigated by the Minnesota Board of Animal Health with the assistance of the U.S. Department of Agriculture.

"As we aim to protect livestock for our North Dakota producers, the risk of



Biosecurity practices can reduce the risk of HPAI transmission to domestic animals. (NDSU photo)

transmission increases during spring," says Miranda Meehan, North Dakota State University Extension livestock environmental stewardship specialist.

"While we don't envision this zoonotic transmission to be commonplace, good biosecurity protocols separating livestock from poultry/waterfowl is a good production practice to reduce the potential spread of HPAI to our small ruminants during the spring migration of wild birds," says Travis Hoffman, NDSU Extension sheep specialist.

"H5N1 HPAI has been detected in wild birds throughout all U.S. migratory flyways, says Dr. Gerald Stokka, NDSU Extension veterinarian and livestock stewardship specialist. "Wild birds can be infected without showing symptoms of the infection. While waterfowl are the primary carriers, positive cases are being documented in predatory birds and mammals, and now domestic goats."

NDSU Extension experts support the biosecurity practices released by University of Minnesota Extension that can reduce the potential for domestic animals to contract HPAI. Recommended practices include:

- Do not allow poultry and livestock species access to ponds, wetlands and other stagnant water sources that are frequented by wild waterfowl such as ducks, geese or swans.
- Watch poultry and livestock for signs of illness, including reduced appetite, fever, inability to stand, depression, nasal discharge, diarrhea, coughing and change in behavior.
- Consider housing poultry separately from other livestock species and minimize poultry access to pasture areas that are grazed by other livestock species.
- Do not allow poultry, waterfowl and wildlife to share water sources and feedstuffs with other livestock species.

Protocols for protecting livestock include:

- In the Minnesota goat case, infected goats shared the same water source as infected poultry. Limiting livestock exposure to potentially inflicted-HPAI poultry is the first action of defense.
- Current influenza vaccines used in horses are not effective against HPAI. Always consult your veterinarian before administering vaccinations.
- Many cattle are vaccinated against Parainfluenza-3 (PI-3), a virus that can cause respiratory issues. Parainfluenza viruses are in a different family from influenza viruses and the PI-3 vaccine does not provide protection against influenza.
- If you have an unexplained death in one of your animals, consult with your farm veterinarian, contact the North Dakota Board of Animal Health.

"There is no evidence that anyone has contracted the virus from eating a fully cooked bird, either domestic or wild," says Julie Garden-Robinson, NDSU Extension food and nutrition specialist and professor of health, nutrition and exercise sciences. "It is always a safe practice to fully cook wild game to 165 degrees Fahrenheit, regardless of whether there is a threat of HPAI."

NDSU Extension HPAI resources are available at ndsu.ag/hpai. UMN Extension HPAI resources are available at z.umn.edu/HPAIgoat.

Avian influenza surveillance and testing in wild birds is being done by the USDA's Animal and Plant Health Inspection Service (APHIS) and the North Dakota Department of Game and Fish. To learn more about HPAI cases in birds and mammals, please visit the USDA's APHIS website. Report sick and dead wildlife at https://gf.nd.gov/wildlife/diseases/mortality-report. Direct wild bird avian influenza questions to 701-204-2161.

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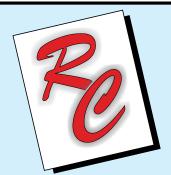
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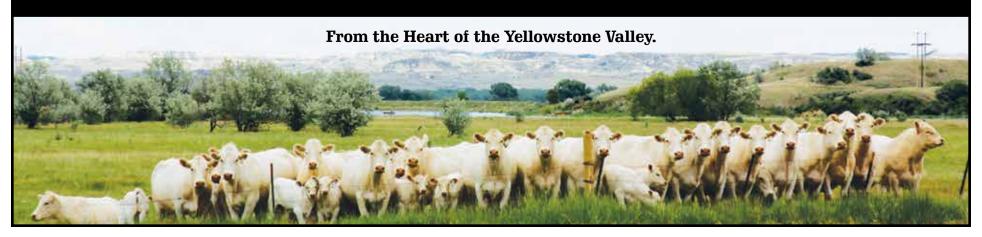
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Chlorpyrifos Insecticide Products Legal For Insect Control In 2024

According to the North Dakota Department of Agriculture there are currently two products with the active ingredient chlorpyrifos that are registered for agricultural crop use in North Dakota as of February 2024.

By NDSU Agriculture Communication

In November 2023, the U.S. Court of Appeals for the Eight Circuit issued a ruling overturning the Environmental Protection Agency (EP-A)'s final rule of August 2021, which revoked all food crop tolerances for chlorpyrifos.

The Eighth Circuit Court's decision was based in part on the fact that the EPA had issued a Proposed Interim Decision (PID) in 2020, which included 11 chlorpyrifos crop uses that the EPA determined met safety tolerances. Before the PID could be finalized, the U.S. Court of Appeals for the Ninth Circuit issued a ruling ordering the EPA to either amend or revoke chlorpyrifos food tolerances and gave the EPA 60 days to comply.

The EPA revoked all chlorpyrifos food tolerances in its final rule in Aug. 2021 (effective Feb. 28, 2022). The Eighth Circuit Court held that the EPA could have issued a PID amending tolerances despite the short turnaround time and therefore vacated the order to revoke all food crop tolerances.

"Because of the Eighth Circuit Court's rul-

ing, food crop tolerances are restored and producers can now use currently registered chlorpyrifos products on all crops with reinstated tolerances, consistent with directions for use on those product labels," says Janet Knodel, North Dakota State University Extension entomologist.

According to the North Dakota Department of Agriculture Pesticide Product Search site, located at https://www.kellysolutions.com/nd/searchbychem.asp, there are currently two products with the active ingredient chlorpyrifos that are registered for agricultural crop use in North Dakota as of February 2024.

"Those products are Pilot 4E, a liquid formulation used primarily as a foliar insecticide in several crops, and Pilot 15G, a granular formulation used as an at-plant band treatment for control of soil dwelling insects, notably sugarbeet root maggot in sugarbeets," says Mark Boetel, NDSU School of Natural Resource Sciences professor of entomology.

"Be sure to check with your state's department of agriculture for registered chlorpyrifos products," advises Knodel. "Even for registered products, availability may be limited in 2024."

"Chlorpyrifos is an important and valued tool for insect and mite control in many crops including alfalfa, field corn, soybeans, sugarbeets, sunflower, and spring and winter wheat," says Adam Varenhorst, South Dakota State University Extension entomologist. "This has the potential to be beneficial for producers, especially with the management of certain insecticide resistant insect pests, including pyrethroid resistant sovbean aphids, pyrethroid resistant red sunflower seed weevils in South Dakota, and insect pests for which there is no other effective option."

"As a reminder, read, understand and follow the label directions for these products regarding registered crops, application methods, application rates, preharvest intervals and the total seasonal limits for active ingredient per acre. Also, be sure to follow personal protective equipment (PPE) requirements on the product labels, as well as environmental hazard, spray drift mitigation. and agricultural use language," cautions Andrew



Chlorpyrifos is an important and valued tool for insect and mite control in many crops including alfalfa, field corn, soybeans, sugarbeets, sunflower, and spring and winter wheat. (NDSU photo)

Thostenson, NDSU Extension pesticide program coordinator.

Chlorpyrifos is highly toxic to bees that are directly exposed to the treatment or to remaining residuals on blooming crops and weeds. Per the Environmental Hazards section on the label, do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

"This means that application timing must occur when pollinators are not actively foraging on the crop and will not be exposed to residuals during foraging activities," says Patrick Beauzay, NDSU Extension entomology research spe-

cialist. "Application of chlorpyrifos insecticides should occur in the evening after 6 p.m. Do not apply chlorpyrifos or any other pesticide during temperature inversions, as severe off-target drift is likely to occur under these conditions."

"The future of chlorpyrifos is still uncertain. While registered product and crop uses are again legal, the EPA will continue to evaluate chlorpyrifos food tolerance and environmental safety as required by law during the registration review process," says Thostenson.

The EPA likely will issue a new PID for the 11 identified crops from the 2020 PID, including

alfalfa, soybean, sugarbeet, and wheat (spring and winter), which could include amended tolerances and new use restrictions, says Knodel. Crop uses that were not identified in the 11 uses specified in the PID are especially uncertain and could have their tolerances revoked entirely. Sunflower and corn were not included in the 11 crop uses.

Producers, crop consultants, pesticide applicators, commodity groups and other stakeholders can and should provide comments to the EPA when they publish decisions, recommends Knodel.

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