

Proper Grain Storage is Crucial in Late Winter and Spring

As outdoor temperatures begin to warm, the potential for grain storage problems increases.

With the likelihood for issues going up, the need for grain monitoring and management does as well, says Ken Hellevang, grain drying expert and retired North Dakota State University Extension agricultural engineer.

Navigating temperature changes

During a winter day, the outdoor air may fluctuate by 25 to 30 degrees Fahrenheit. This warms the bin and the grain next to the wall during the day, but they cool at night. The result is that the bin and grain near the bin wall will be near the average temperature. The same will occur during an extended warm period that is followed by a cool or cold period: the temperature will be near the average of the two periods.

Grain is an insulator, so grain temperature fluctuation is limited to the grain next to the bin wall. Dry grain that has been cooled to 20 to 30 degrees in northern regions is not expected to be affected by these temperature fluctuations.

"The stored grain temperature increases in parts of a bin in the spring due to solar heat gain on the bin," says Hellevang.

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. This, along with solar heat gain on a bin roof, can create an environment conducive to grain spoilage.

A 10-degree temperature increase reduces the allowable storage time of grain by about half. For example, the storage time of corn at 17% moisture is reduced from about 130 days at 50 degrees to about 75 days at 60 degrees, and further, only 45 days at 70 degrees.

If the stored grain is dry, Hellevang recommends periodically running aeration fans in the spring to keep the grain below 40 degrees as long as possible through the beginning of summer. In northern states, night air is normally near or below 30 degrees in April and 40 degrees in May.

Frost and ice can block bin vents when the fan is operated at temperatures near or below freezing, which may lead to roof damage. 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 or being drawn in by a chimney effect, which could heat the stored grain to temperatures 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. Providing air inlets near the eaves and exhausts near the peak allows the top of the bin to ventilate due to the warm air rising — similar to what occurs in an attic — as does a roof exhaust fan.

Monitoring grain moisture, temperature

Stored grain should be monitored closely to detect storage problems early, advises Rob Proulx, NDSU Extension ag technology and grain systems specialist. Grain temperature should be checked every two weeks during the spring and summer, as a temperature increase may indicate a storage problem.

Grain should also be examined for insect infestations. Checking the moisture content of stored grain determines if it needs to be dried. Proulx recommends verifying that the moisture content measured by

the meter has been adjusted for grain temperature.

"Verify the accuracy of the measurement by warming the grain sample to room temperature in a sealed plastic bag before measuring the moisture content," says Proulx. "Remember, moisture measurements of grain at temperatures below about 40 degrees may not be accurate."

Some in-bin cables estimate grain moisture content by measuring temperature and air relative humidity, then calculating it using grain equilibrium moisture content equations. The measured moisture may differ by 1.0%-1.5% from the true moisture content, so Proulx advises verifying it with another moisture 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 7%-8%. The allowable storage time for 13% moisture soybeans is less than 100 days at 70 degrees.

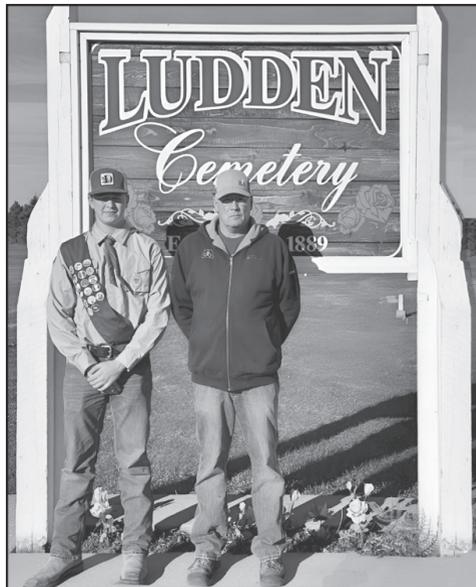
If grain stored in grain bags isn't dry, it will spoil, and molds will grow. Grain in the bags will be at average outdoor temperatures, so grain will deteriorate rapidly as outdoor temperatures increase unless it is at the recommended summer storage moisture contents.

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

In addition to storage practices, Hellevang stresses the importance of knowing the safety hazards associated with handling grain and applying recommended safety practices to decrease the risk of injury or death.

Source: Ken Hellevang

On My Honor, I Will Do My Best



Levi Thorpe poses with Ludden Cemetery board member Jon Hansen after the completion of his cemetery restoration Eagle Scout project.

Once an Eagle, Always an Eagle, Levi Thorpe Achieves Eagle Scout Ranking After Completing Historic Cemetery Preservation Project BY PAT SCHAFFER

On April 26, Levi Thorpe will be recognized at a Court of Honor ceremony for achieving Scouting's highest honor, the Eagle Scout Award.

Sixteen-year old Levi will join his older brothers Tate and Jack, who also have successfully achieved their goal of becoming Eagle Scouts.

It is a is not an easy goal to achieve.

A candidate must earn 21 merit badges covering a wide range of activities, plus complete a special Eagle Scout project demonstrating leadership qualities and exceptional community service.

Since the inception of the Eagle Scout award 115 years ago, fewer than 5 percent of those who have joined Scouting have achieved Eagle Scout rank.

The Thorpe brothers are proud to join the roll of elite scouts who have achieved this rare honor.

A young cub

Levi's introduction to scouting came early.

He joined as a Cub, when he was in kindergarten. But, his mother, Dana, recalls Levi enjoyed attending his older brothers' Scout meetings before he was old enough to join.

Now all young men, Levi, 16; Jack, 18, and Tate, 20, are the sons of Dakota Valley Electric Cooperative members Dana and Ross

Thorpe, who live on a farm west of Ludden, where they raise corn and soybeans on the Thorpe Family farm.

Levi, a sophomore at Oakes High School, is member of the Oakes Tornadoes wrestling team, where he wrestles in the 189-pound weight class. He enjoys helping with farm work, especially harvesting crops. After graduation, he plans to study agriculture, with the intent of returning to help operate the family farm.

Like many who join Scouting, as Levi grew older and become involved in sports and other activities, his interest in scouting began to fade.

While Scouting activities are designed to build responsibility and life skills through hands-on learning and fun-filled activities, earning merit badges takes time.

Time can be hard to find in today's busy schedules. It would have been easy to drop out, but Dana encouraged him to stay the course, saying, "We like to finish stuff, once we start it."

As Levi's scouting experience grew and he saw Tate and Jack achieving the pres-

tigious Eagle Scout ranking, he realized it was an achievable goal for him, too. Finally, all that remained was the final requirement, which was completing the work for the Eagle Scout community service badge.

To earn the badge, he had to demonstrate leadership and a commitment to service by organizing and completing a project that would provide a significant service and improve his community.

But what would it be? Selecting a project Over time, even with regular care and maintenance, cemeteries tend to deteriorate.



Jack Thorpe and Ludden Sportsmen board member Matt German at the picnic shelter at Dakota Lake. The picnic shelter was Jack's Eagle Scout community project.



Levi Thorpe and his team of volunteers realign and level headstones at Ludden's historic cemetery.

This is especially true of many pioneer cemeteries, established when North Dakota was still Dakota territory.

Even with loving care, the soil settles, headstones shift and start leaning. A few, unfortunately, topple over and break.

It is not unusual to find volunteer trees and shrubs growing around headstones, or to discover smaller markers, covered with thick layers of dried grass, are difficult to locate.

Established in 1889, the Ludden Cemetery was no exception.

Even though the grass was regularly mowed by community volunteers and the graves tended by local relatives, time had taken its toll. Many stones were leaning badly.

Lovell township board members and volunteers were concerned and knew the situation would only get worse.

They had checked prices with contractor who specialized in cemetery restoration. The quotes ranged from \$10,000 to \$15,000, well out of reach of their limited budget.

Since Levi had helped community members who voluntarily mowed the Ludden Cemetery, including the Voightman, Hansen and German families and his grandfather, Larry Thorpe, he realized the historic facility needed more restoration than the township could fit into its budget.

That realization prompted Levi's decision to submit the Ludden Historic Cemetery Preservation Project for approval as his Eagle Scout required community service

project. After receiving preliminary approval, Levi contacted Ludden Cemetery board member Jon Hansen and local funeral director Adam Dahlstrom for advice on how to successfully level the headstones.

Levi then set about organizing volunteers to help complete the restoration.

In August 2025, the group of volunteers, mostly Thorpe

family members and neighbors-set about realigning, leveling and resetting 70 headstones at the cemetery.

Smaller headstones were tilted using a crowbar and "man power" so gravel, donated by their neighbors at Quandt Farms,

could be packed underneath until they were level. They used a Bobcat skid steer loader to tilt and level the larger, heavier granite headstones.

The volunteers worked on the project for six days. Some days, if the weather was favorable for harvesting, they worked only a few hours. But when it was too wet to harvest, they put in a full day.

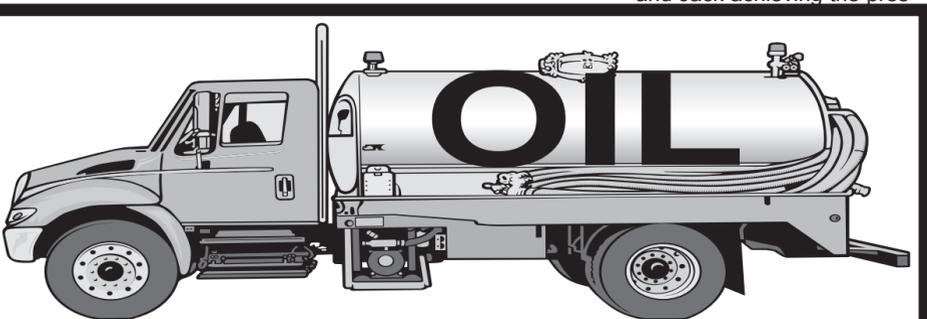
The results are gratifying. Travelers on Highway 11 often stop in to admire the restoration and visit family graves. Those with old ties to the community have purchased cemetery plots because they see that this is a



Tate Thorpe and Oakes American Legion board member George Iverson at the retired flag drop box, which was Tate's final Eagle Scout community project.

community that cares and they "want to come home."

Congratulations to Levi Thorpe, his brothers Jack and Tate, and to their Troop No. 147- Oakes; their Scouting leaders Mark Malmberg and Dorothea Rath; and to the Thorpe family for staying the course and earning scouting's highest honor.



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City of Ludden Council Meeting
March 12th, 2026
 Mayor M. German called the meeting to order.
 Pledge of Allegiance
 Auditor E. German read minutes from February 12th, 2026 meeting
 M. Young made a correction to February 12th, 2026 minutes that the 2022,2023 financial report from the ND Office Of The State Auditor was read.
 M.Young made a motion to approve minutes as read with corrections.
 D. Anderson 2nd motion. Carried.
 E.German read the financials
 D. Anderson made a motion to accept financials as read.
 M.Young 2nd motion. Carried.
 Old Business:
 None
 New Business:
 Tax Equalization meeting will be April 14th, 2026 at 7:00PM at The Ludden Community Center

Discussion on the usage/bill increase for city water
 Discussion on Bobcat
 Discussion on date for April council meeting (Monthly City Council Meeting date changed to April 16th, 2026 7:00PM)
 M.Young made a motion to allow LOYH a raffle permit
 D. Anderson 2nd motion. Carried.
 D. Anderson made a motion to approve minutes as read before published to the Oakes Times.
 M.German 2nd Motion. Carried.
 There being no further business M.Young made a motion to adjourn the meeting.
 Next Meeting April 16th, 2026 7:00PM at The Ludden Community Center
 Respectfully Submitted
 Erica German- City Auditor
 (Submitted to the Times Leader 03/19/2026)