

SAFETY PAYS: Don't Be a Victim of Dryer Fire

Shawn Lachnit is feeling the stress of this fall's harvest. A technical specialist with Palace Builders in Mitchell, South Dakota, Lachnit has been on the road servicing commercial and farm grain dryers — no small task this year as high-moisture crops and cold temps are putting a heavy demand on drying equipment.

With more grain drying comes an increased risk of dryer fires. In fact, by mid-October, one Palace Builder customer had already experienced a major fire, while our Main Street America Agribusiness team had already received two dryer fire claims.

Lachnit, who has an associate degree in electrical construction and maintenance, has been with Palace Builders for seven years. He said he continues to see ag businesses struggle with two major issues that can lead to grain dryer fires: lack of adequately cleaning the equipment and insufficient training of employees in dryer operation and maintenance.

"It really boils down to keeping the dryer clean and having your employees know that equipment and how to properly dry the different commodities," said Lachnit. He recommends basic steps to help you avoid dryer fires that can prove very costly in terms of damaged equipment and downtime.

START WITH A PRE-HARVEST CLEANING AND INSPECTION

"Prior to starting up the dryer in the fall, you should have somebody — either experienced employees or professionals — go through and inspect the dryer," said Lachnit. "I do approximately 30 to 40 pre-season inspections of commercial and farm dryers each year," he said. "I go through the dryer from top to bottom." Most manufacturers or dealers will provide inspection services.

If you don't currently schedule annual pre-harvest inspections, or conduct them in-house, Lachnit advised that you make it a priority in the future.

"Make sure it is thoroughly cleaned before you start it up in the fall — removing all foreign materials inside and out of the dryer," he said. "It doesn't take long for an ember to sit

in the midst of debris, smolder and pretty soon you have a fire."

KEEPING THE DRYER CLEAN

Good housekeeping practices do not end once the drying season begins. According to Lachnit, inspecting and keeping the plenum interior clean from excess buildup is critical, and should be done daily. "That's where the heat is," he explained. "When the dryer is shut down and before it starts up again someone should make a visual inspection — especially when drying soybeans, or now when the corn is wetter and it's colder outside and you're running higher temperatures. It's a big deal to make sure that area is staying clean."

Another area to watch is the sloped cleaning floor. "If you're not keeping that floor clean," stated Lachnit, "any little ember that makes its way through the burner and lands on that floor will be fed by the fan blowing air on it, and starting a fire that can then roll down into the corn column and to the unloading carousel."



Continued on next page

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Conquer Winter Driving Challenges — 3

The Grain Condition/Entrapment Connection — 4

Propane Marketers' Duty to Warn — 5

SAFETY PAYS... Continued from page 1

MONITORING THE DRYER PAYS OFF

Lachnit stressed the importance of checking the dryer at least three or four times a day to ensure grain is continuing to flow through the screens. “If grain is not flowing through, and it’s just sitting there exposed to heat for a long time, it will eventually ignite,” said Lachnit. “You don’t have to sit there ‘babysitting’ the dryer, but routinely make sure everything is running smoothly.”

EMPLOYEES PLAY AN IMPORTANT ROLE

During the busy harvest season, Lachnit said he understands that grain businesses sometimes need to hire additional help, some who may not have a good understanding of the equipment. But when it comes to operating and maintaining a grain dryer, he said it’s important that employees are trained on the equipment and understand the science of drying.

“There is a manual that comes with each dryer,” he said. “And with the dryers we sell today, if a manual gets misplaced, there’s a digital manual pre-loaded onto the controller.” That manual, he explained, will provide operating instructions, as well as basics such as how often it should be cleaned and greased, how often to change oil in the gear boxes, and more. “Go over that manual with employees, and provide them training,” said Lachnit.

In one instance, he said employees emptied an older dryer of corn and then loaded it with soybeans, forgetting to set

the burner temperature down from 180 degrees. “It was a simple mistake,” he said, “but it ended in a major fire.”

Kent Voigt, senior risk consultant with Main Street America Agribusiness, recommends employees be trained in shutdown procedures, how to shut off gas and grain flow to and from the dryer, and how to dump the grain if it’s required. He also suggests that important phone numbers be readily available, and never to allow just one employee to watch the dryer overnight. In addition, try to stagger work shifts to reduce employee fatigue, and write down, point by point, what should be done if the dryer does catch fire.

DON’T FORGET POST-SEASON CLEANING

“I understand that at the end of harvest, everyone is worn out after the long hours,” said Lachnit. “But there are multiple reasons to clean out the dryer system after the season is over, including preventing fires next season and prolonging the life of the equipment.” ▶

“IT DOESN’T TAKE LONG FOR AN EMBER TO SIT IN THE MIDST OF DEBRIS, SMOLDER AND PRETTY SOON YOU HAVE A FIRE.”
- SHAWN LACHNIT
SERVICE TECHNICIAN, PALACE BUILDERS



NEBRASKA - Randy Tinker, Nationwide Insurance risk management property engineer, addressed the meeting of the Ag Safety Directors of Nebraska on Sept. 10, 2019. He discussed the inspection of concrete elevators for

structural issues and how to identify potential issues with leg/conveyor bearings.



MINNESOTA - The Ag Cooperative Safety Directors of Minnesota (ACSDMN) met Sept. 11, 2019, at the Kandiyohi Power Cooperative. Dave Nelson, director of the Safety and Health Program for the Minnesota Grain and Feed

Association (MGFA), discussed safety and health issues and the MGFA DVD library. The next meeting will be Jan. 15, 2020.



SOUTH DAKOTA - The South Dakota Ag Cooperative Safety Directors (SDACSD) met Sept. 18, 2019, in Huron. The meeting included a general discussion about recent grain engulfment incidents in the state and ways

the SDACSD could communicate safety information to the public. Greg Derynck, South Dakota State University (SDSU) Extension engineer and part of the OSHA On-Site Consultation team, discussed the SHARPS program and OSHA 300 electronic logging. Bruce Will, also with SDSU’s OSHA On-Site Consultation Program, talked about dust hazard analysis. Kyle Anderson, with Dakota Riggers & Tool Supply, Inc., showed and discussed fall protection options. The next meeting is scheduled in Brookings on Jan. 15, 2020.



IOWA - Allan Tedrow, sales executive with McCormick Construction Company, presented information on bucket elevator and conveyor maintenance to members of the Ag Cooperative Safety Directors of Iowa during

their quarterly meeting on Sept. 18, 2019. Al Tweeten, Tweeten Consulting LLC, discussed housekeeping, preventive maintenance and hazard monitoring systems. Lloyd Krutzdeldt provided updates from the Commercial Feed and Fertilizer Bureau of the Iowa Department of Agriculture and Land Stewardship (IDALS). Chris Downs with Iowa OSHA Consultation talked about the importance of housekeeping and dangers of grain dust. Dave Reddel, technical agronomist with Berkley Agribusiness Risk Specialists, discussed the status of hemp in Iowa. The next quarterly meeting will be Jan. 15, 2020.

CONQUER WINTER DRIVING CHALLENGES



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With the winter season upon us, drivers — especially truck drivers — need to substantially increase their safety buffer in order to avoid accidents. Feed and fuel deliveries occur year-round, no matter the weather conditions. And facility-to-farm delivery presents one of the bigger challenges, since many farms are located on secondary roads that were likely built long before today's typical 80,000-pound gross payloads.

Narrow roads, deep ditches, sharp 90-degree turns and cramped farmsteads all become more treacherous when there's snow hiding the natural hazards. Before the snow flies, ask your drivers to take mental notes of where the dangerously sharp turns and drop-offs are so they are prepared to tackle the challenges when weather turns nasty.

BE WARY OF ROAD EDGES AND DROP-OFFS

Ensure that your drivers are extra vigilant after a snowfall when it's difficult to see the edges of roads and corner drop-offs. Consider having another employee ride along who can get out of the truck before turning a sharp corner that's hidden by snow. Have that person check where the drop-off begins and mark it with a pole so the driver can gauge where his or her back tandems are in relation to the drop-off. If sticking a pole in the snow or ground isn't feasible, at least have the employee make an outline near the drop-off by trenching the snow with their boots.

The same can be said for farmstead entrances. Even straightaways on secondary roads can be challenging in the

winter. Meeting an oncoming vehicle, for example, and not knowing for sure where the edge of the road drops off can be especially nerve racking. Obviously, slowing down while meeting an oncoming vehicle is required, but there may be times when it's better to stop and let the vehicle drive by you. Usually, when one vehicle is stopped, less distance is required between vehicles, adding a safety factor on a narrow road.

DON'T CROWD THE PLOW

Another winter hazard is following and meeting snowplows. Visibility can disappear in an instant when meeting a plow and be substantially restricted when following. Please, please, please, tell your drivers to never pass a snowplow unless they have 100-percent clear vision of oncoming traffic to a distance they know will allow safe passing. If the wind is blowing the snow that's created by the snowplow across the road, restricting vision, tell them to accept that they may be traveling the next several miles at 30 to 40 mph. Snowplow drivers will usually pull over every few miles to let backed-up traffic pass.

Finally, a reminder to those who travel secondary roads: get into the habit of wiping off taillights on a regular basis. Many vehicles today are equipped with LED bulbs which create much less heat than standard bulbs. That means the snow doesn't melt as quickly, if at all, from the lenses. Carry paper towels or a rag and get in the habit of wiping taillights off while parked during a delivery and again when back at your business. In fact, this practice shouldn't be reserved for winter driving since many secondary roads are unpaved and dust and mud are an ever-present issue. Stopping to check tail lights after driving on unpaved roads and before pulling onto a busy main highway or interstate is a very good idea to ensure the drivers behind you can see if you're braking or signaling a turn or lane change. ▶



THE GRAIN CONDITION/ENTRAPMENT CONNECTION



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It seems we can't go a week without an accident involving someone being trapped in grain. On average, there are over 30 grain engulfment or entrapment fatalities per year. Approximately 70 percent happen on the farm, the other 30 percent at commercial facilities. It is estimated that approximately 30 percent, which are near misses, go unreported. After these accidents happen, we read about them in the local paper, hear about them in the news, and talk about them. But why do they happen? And how do we educate our employees and our patron farmers on cause and prevention?

Poor crop conditions, wet grain, weather and improper storage present challenges and dangers. There is a direct relationship between out-of-condition grain, engulfment and entrapment. Historically, we see more accidents in the years following a wet season. The grain can form solid masses, crusts, horizontal grain bridges, and vertical grain walls that can collapse.

Most grain accidents happen when an employee or farmer enters a bin or storage structure because the grain has stopped flowing — an event usually associated with out-of-condition or spoiled grain. The grain plugs augers and conveyors, necessitating entry into the structure to unplug or free the clogged equipment.

Avoiding out-of-condition or spoiled grain, then, is the first step in preventing these life-threatening incidents. That begins with understanding the causes of out-of-condition grain and then implementing good handling, maintenance and storage practices in order to help control the factors that contribute to the problem.

CONTRIBUTING FACTORS TO SPOILED GRAIN

- Wet and cooler/hotter weather conditions
- Grain moisture
- Grain temperature
- Initial condition of the grain
- Insects and mold
- Storage which doesn't protect the grain

STEPS TO HELP PREVENT OUT-OF-CONDITION GRAIN

Proper bin prep and cleaning

- Inspect and repair the storage before filling
- Fix leaks in bin roof and sides
- Inspect air ducts

Temperature controls and sensors

- Use temperature systems to monitor grain
- Add moisture- and level-monitoring to cables
- Watch for condensation on walls, under roof

CO2 levels in grain

- Check CO₂ levels which can indicate early stages of spoilage
- Monitor fan exhaust points or in head spaces

Visual inspection of quality

- Look for color changes on surface of grain
- Pay attention to high condensation in bin
- Watch for leakage coming from bin seams
- Be aware of rotten or sweet smells in or around bin
- Is grain plugging or not unloading like normal?

Aeration

- Ensure aeration is equalizing the moisture and temperature with outside air
- Maintain and ensure airflow

PROTECTING EMPLOYEES AND PATRONS

Grain bin safety begins with maintaining grain quality in storage, which means learning and practicing better stored-grain quality management, while closely monitoring grain condition. Educate your employees and your patrons on how to maintain quality grain in storage by inviting your patrons in for a meeting, for training or by sending information with monthly statements. You can also use information gathered from National Grain and Feed Association sites. Preventing out-of-condition or spoiled grain is the first step in decreasing the likelihood of having an employee or patron become one more grain entrapment or engulfment statistic.

The NFGA has a good video which covers safety and grain quality management. You can find it at <https://vimeo.com/366552299>. ▶



PROPANE MARKETERS' DUTY TO WARN



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While propane is a safe, reliable and clean energy source, it is essential to share basic safety information with your customers. The propane industry's "Duty to Warn" standard requires suppliers of propane to warn customers of potential hazards and provide information on ways to recognize and avoid them. In fact, propane marketers have a legal obligation to warn their customers of the product's potential dangers and to advise them of any precautions they should take.

QUALITY, FREQUENCY AND DOCUMENTATION MATTER

In terms of what information to provide customers, The Propane Education & Research Council (PERC) Duty to Warn materials are recommended because they are based on research and prepared by experts.

It's also important to understand that putting Duty to Warn materials in front of your customers is not a one-time event. Safety information needs to be given to consumers on a repetitive basis using written, verbal, email and website resources. If you don't have a website, you can refer your customers to <http://www.propane.com/residential/safety/>. There they can find multiple safety messages covering everything from what to do if they smell gas in the home to short videos on propane safety in high snowfall events.

Periodic mailings to customers are very important. Every fall, your propane customers should receive a mailing that includes a letter outlining your propane out-of-gas delivery policies, as well as propane safety information pamphlets entitled "Propane Safety" and/or "Important Propane Safety Information for You and Your Family."

The "Important Propane Safety" brochure tells customers what to do if they smell gas, and provides facts about odor

fade, propane gas detectors, carbon monoxide safety, pilot lights, and general appliance maintenance and safety. A scratch-and-sniff test is included. The brochure fits in a standard envelope and can be used as a self-mailer. It's designed to help you satisfy Duty to Warn requirements.

Encourage your customers to read through the pamphlets to familiarize themselves with the potential hazards of propane and ways to notice and eliminate those potential hazards. New customers should also be mailed a packet that includes these same materials when you set a propane tank for them. Also, include safety information on the back of every delivery ticket.

Documentation of your mailings is also essential. Keep a file of your mailing, including a copy of the brochure, mailing list, date of the mailing and receipt of postage. Make sure you mail a copy of the mailing to your business to ensure the material went out, and then keep that envelope sealed and place it in the file.

Don't forget verbal communication. Your service people and drivers should take every opportunity to explain potential hazards to your customers. Employees should be very vigilant about looking for potential hazards and propane system deficiencies when making deliveries and performing service work, and then communicating that information to the customer and making sure the appropriate repairs are made to the gas system.

The goal of the propane industry Duty to Warn standard is to prevent injury and possible death due to propane explosions. The more informed your customers are about propane safety, the less likely those

tragic incidents will occur. The ultimate goal is to keep everyone who uses propane safe.

ORDER DUTY TO WARN MATERIALS

You can order Duty to Warn pamphlets from your state propane gas association or PERC. Some state associations cover the cost of the actual brochures, minus postage, or go to propane.com and click on the Resource Catalog in the upper right-hand corner. ▶





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GRAIN CONDITION AND ENTRAPMENT...PAGE 4

Know the Connection

2020 AG SAFETY DIRECTOR'S LEADERSHIP CONFERENCE

Building Lasting Safety Cultures Upon Strong Foundations of Trust is the theme for the 2020 Ag Safety Director's Leadership Conference Jan. 7-9, 2020, at the Mid-America Conference Center in Council Bluffs, Iowa.

Keni Thomas and David Horsager are the keynote speakers. Thomas, Black Hawk Down veteran and author, draws from his experience on the battle field. This former Ranger tells the story of extraordinary individuals and their fight to bring each other home. He stresses the importance of outstanding leadership at every level. Horsager is the author of the best-selling book *The Trust Edge* and CEO of Trust Edge Leadership Institute. There will be breakout sessions following their presentations.

Other speakers include arc flash survivor and electrician Brandon Schroeder from Marion, Iowa, and Allan Zumpfe, CEO of Dorchester's Farmers Cooperative.

The conference, sponsored by Mid-West Ag Cooperative Safety Director's Association, also includes a trade show, meals and entertainment. For a complete registration packet or questions about registrations please contact Mark Hueftle at markh@cpicoop.com or call (308) 991-1778. ▶

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