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PRESS RELEASE

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FOR IMMEDIATE RELEASE

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GRAIN BIN ENTRY: DON'T RISK YOUR LIFE

Know and follow all safety protocols.

Grain handling is always a high hazard activity and farmers are encouraged to be on guard during the 2020 harvest for hazards such as grain dust and the added threat grain dust poses if grain bin entry is required.

“Extremely dry conditions during 2020’s grain harvest will result in significant grain handling dust hazards,” Aaron Yoder, University of Nebraska Medical Center College of Public Health, Department of Environmental, Agricultural & Occupational Health, says. “In 2019, farmers were dealing with wet grain that clumped and molded inside bins. This year, they’ll be dealing with different conditions. When we’re working with unforeseen circumstances that cause us to take actions we’re not used to, it can increase the risk for injury.”

Grain dust doesn’t just pose dangers for personal respiratory injury. Combined with the components found in a grain handling environment, there’s also a real danger of grain dust explosions.

“Grain dust is combustible,” Yoder says. “It can explode or start a fire. That’s especially true when grain dryers are running, or grain is being moved.”

Four elements are required to set the stage for a grain dust explosion or fire. Dust must be present and be in a confined enclosure. Oxygen and an ignition source must also be available. Dust and oxygen are always found in confined areas such as a grain bin. If an ignition source is available – such as a spark from a grain auger, static electricity, etc. – an explosion or fire could occur.

“When grain is in good condition, there’s no reason to go inside a bin,” Yoder says. “However, we know there are some situations that require entering the bin. If you have to go in, make sure you’ve had the proper grain bin entry training and thoroughly understand safe grain bin entry procedures.”

As a Grain Handling Safety Coalition Board Member, Yoder recommends carefully following this organization’s “Best Practice” Prevention Strategies for entering a grain bin (found at www.grainsafety.org).

1. Entrapment/Engulfment

- a. ALWAYS lockout and tag out unloading equipment before entering a bin.
- b. NEVER work alone in a bin. Have someone watching who can call for help.
- c. ALWAYS WEAR a harness and lifeline. Do NOT “walk down the grain.”

2. Falls

- a. Use fall protection for heights over 4 feet – either restrain or fall arrest systems.
- b. 3-4-1 Triangle for ladders – Extend ladder 3 feet above surface; for every f feet of height, place ladder 1 foot away from surface.

3. Entanglement

- a. If it moves, guard it! Use AUTO: Around, Under, Through, Over.
- b. ALWAYS lock out/tag out all equipment before working on it.

4. Electrical

- a. Lower augers, pole, ladders, etc. to avoid hitting overhead power lines.
- b. Use lock out/tag out before service or maintenance.

5. Struck by (falling/thrown objects, vehicles, machines)

- a. Wear PPE – hardhat, steel-toed footwear.
- b. Secure overhead objects and transport tools in secure manner.
- c. Block and lock. Block tires and raised beds. Lock vehicles, hydraulics, mechanisms.

6. Dust Explosions

- a. Limit all ignition sources and control the fire elements.
- b. Perform maintenance and housekeeping regularly.

“Newer bins have staircases that help reduce the risk of falling from a grain bin ladder,” Yoder says. “Still, it’s recommended to have fall suppression devices installed.”

Falls that occur while farmers work around a grain bin are reported every year. While the injuries are often less serious than those resulting from grain entrapment, fatalities related to grain bin falls do occur. The potential cost of a grain bin fall involves much more than just dollars and cents.

When a fall occurs, monetary expenses are related to medical treatment, lost time, decreased output upon returning to work, damage to equipment and repair/replacement costs. Lawsuits may also be involved if safety regulations weren’t followed or negligence is uncovered. The emotional and psychological costs experienced by the victim and their family may last a lifetime.

Other points of potential injury related to working around a grain bin include entanglement in grain sweeps or augers. If PTO (power-take-off) shaft guards aren’t in place, it poses significant potential for serious injury or death. Machine guarding and lock out/tag out procedures provide the best prevention for these kinds of hazards.

Common machine hazards include pinch points, wrap points, pull-in points and shear/cutting points. These hazards are found in motors, pulleys, belts, and gears. They're also in an elevator leg drive and elevator leg belt, auger drive motors and sliding doors for bins.

PTOs are among the oldest and most common machinery hazards. PTO drivelines should always be fully shielded. Never reach over or around rotation parts such as those found on PTOs, conveyors, elevator legs or sweep augers.

When working around these types of equipment, long hair should be pulled back and loose fitting, baggy clothing should never be worn. Any laces, cords, ties, flaps or loose threads on clothing should be cut, tucked or bound before working around a grain bin or grain bin equipment. All jewelry should be hidden, tucked away or bound to avoid any kind of entanglement.

"Noise-induced hearing loss is also associated with working around grain bins," Yoder says. "Bin fans, augers and dryers can permanently damage hearing."

Preventive Personal Protective Equipment for working around a grain bin includes earplugs or earmuffs, safety glasses or goggles, face shields, hard hats, safety shoes or rubber boots, gloves, vests and respirators. Filtering face pieces, full and half face mask respirators with filters or canisters, self-contained breathing apparatus, or powered air respirators are recommended.

"Prepare ahead of time so you can effectively respond if there is an emergency," Yoder says. "Write down your location, the address where you're working and your phone number. Often, when something bad happens, it's hard to think clearly.

"Be aware that rushing to get things done can quickly lead to tragedy," Yoder adds. "If you or someone you know get away with doing something risky, don't be fooled into believing it's okay to do it again. Have someone who will hold you accountable if you do something unsafe. It's never helpful to reinforce bad behavior."

Find more grain handling resources and training options at the Grain Handling Safety Coalition site, www.grainsafety.org.

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