Preparing Grain Bins for Harvest Meeting Kit

THE GOAL – GOOD GRAIN STORAGE

The key to good grain storage is to put the highest quality grain into the bin or bring it to the proper moisture condition as quickly as possible. Overall quality of stored grain always deteriorates, it is just a matter of how fast. Having a good marketing plan and selling as much as possible before the grain heats up next spring is the best way to have quality stored grain. It is never as good as the day it is put into the bin. Storing the grain longer than next spring requires much more vigilance in management.

PROBLEMS / HAZARDS IN GRAIN STORAGE

Remove all traces of old grain from combines, truck beds, grain carts, augers, and any other equipment used for harvesting, transporting, and handling grain. Even small amounts of moldy or insect-infested grain left in equipment can contaminate a bin of new grain.

Rodents and pest problems are big issues with left over grain residue in bins and equipment / machinery.

Inspect bins for structural problems. Uneven settlement of foundations causes gaps between the foundation and bottom edge of the bin. This results in grain spills and provide entry points for water, insects, and rodents.

HOW TO ACCOMPLISH QUALITY GRAIN STORAGE

Protecting grain in storage is a key management process to maintain the quality of grain and result in the best economic gain

and the safest working environment. Grain with insect damage, mold, damaged seeds and kernels and off odors pose many hazards to workers around storage facilities. Many of the quality indicators are also reflected in lower grain grades at marketing time, impacting profit. There are three steps that can be taken even before the grain is harvested to ensure quality.

1. **Facility Preparation.** The smallest amount of moldy grain, old grain, insect-infested grain or trash can contaminate the freshly harvested grain coming into storage. It is essential to clean all equipment that will be in contact with new grain. Remove old grain, trash and dust from combines and combine headers, trucks, grain carts, augers, driers, pits, bins and any other equipment used to handle or transport the grain.
2. **Maintenance.** Once the equipment and area has been cleaned, conduct a thorough inspection for leaks or areas where moisture can enter the bin. Caulk or repair any suspicious areas. It is also a good time to check belts, bearings, belt alignment, safety shields and guards, temperature cables and electronic equipment. Electrical cords, connections and cables must be inspected for mouse damage, corrosion, frayed wires or bare areas in wiring. Corroded connections can cause malfunction of electrical equipment and can be hard to locate later on. Thorough inspection and repairs now can save time and money later. Test all aeration fans. If repairs and replacements need to be made, there is time for the contractor or sales company to make these adjustments before the aeration system at harvest time is needed.
3. **Insecticide Application.** After the sanitation and maintenance steps have been completed, insecticides for empty-structure treatments can be wise investments. If there are areas that are hard to clean, such as under perforated flooring, these insecticides can be very helpful in controlling insect activity. If there is a history of insect problems in a structure, these treatments can be helpful to break the cycle of infestation. It is best to give empty structure treatments two weeks to work before loading with grain. Allow at least 24 hours for liquid sprays to dry

before loading the grain. More time—up to two weeks—is the best schedule. Perimeter sprays can reduce infestation entry from outside the structure. A heavily infested structure may require insecticide fumigation before treatments will help. Insecticide fumigation generally uses phosphine gas and must be applied by certified fumigation specialists that are licensed in your state. After these initial infestations are controlled and sanitation and maintenance steps have been completed, the empty structure sprays can do the job as protectants and prevention.

1. Let everyone on the farm know that there will be people working around the grain storage structures and that no one is to start any equipment at the site.
2. Assemble a team that will work on these tasks and assign each person their duties. Working in these structures is at minimum a two- to three-person job. At least one person needs to be outside the bin and to be able to hear the individual inside the bin.
3. Prior to entering the enclosure, run the aeration system and open the top of the bin for at least an hour to help remove any toxic gas levels.
4. Before entering, take a gas reading to make sure the gas levels are safe.
5. When the team is ready to go to work, tag out and lock out all grain handling equipment. This helps prevent accidental operation of this equipment while working inside.
6. The person entering the enclosure needs to be in a safety harness that is secured to the outside of the bin.

FINAL WORD

Preparing grain bins for harvest should be done to maintain the quality of grain and to make sure the areas around bins are ready for the busy season ahead. It is also a good time to inspect any mechanical components and clean up around the bin. Simple maintenance and safety rules will prevent any problems in the season ahead.