



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Hardin County Extension News Release

For Further Information Contact:

Mark Badertscher

Agriculture and Natural Resources Extension Educator

Phone – 419-767-6037

E-Mail – badertscher.4@osu.edu

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Wheat Harvest is Upon Us

Hardin County – Farmers will be harvesting wheat in the next few weeks, seeing the outcome of what they planted nine months ago. However, farmers are already taking steps to prepare for the harvest, such as cleaning storage facilities and checking harvesting equipment.

Most farmers in the area will take their wheat directly to the commercial grain elevator soon after harvest. They generally save their private grain bins for corn storage. Farmers that will store wheat on their farm for future markets will soon prepare bins for this year's grain.

Preparing bins is critical to keep insects away and to prevent grain spoilage. Farmers will clean the bins to make sure that any old grain is not left before storing this year's crop. Any old grain remaining may be a source of insect and mold contamination.

Augers that transfer the grain from trucks and carts to the bins will be checked for proper operations. An auger is like a large turning screw that moves grain from one container to another. Farmers will also check fans and ventilation systems to ensure grain is stored at the proper moisture level.

Farmers will remove any vegetation growing around the grain bins to discourage insect activity, which may move from the vegetation to the bins. If a farmer plans to store grain long term, they may spray an insecticide in the bin before loading grain.

In addition to preparing bins, farmers will also prepare harvesting equipment such as combines. As its name implies, the combine is a machine that combines two harvesting steps in one operation: reaping and threshing. Reaping is cutting off the stems and threshing is separating the grain from the inedible parts of the wheat head, such as the glumes, lemmas, and paleae, collectively called the chaff.

The reel of the combine acts as a slow rotating wheel that pulls the wheat plants to cutter knives for the reaping phase. Knives will cut off the wheat plants, which will then be moved to a center conveyor belt by an auger. The conveyor belt will transport the plants inside the combine to the threshing area.

In the threshing area, plant material will be beaten and shaken to separate grain from the chaff and straw. Separated grain will fall through sieves (holes) in the threshing area and then moved into a collection tank, often called the hopper. Sieves are adjusted to allow only material of a certain size (grain) to fall through.

The larger and heavier straw will be removed on a conveyor called a straw walker to the back of the combine and dropped outside of the machine. Any grain still attached to the straw will be shaken again over sieves as the straw is moved to the back of the combine.

Fans blow the chaff and other light material away from the grain and out the back of the machine. This blown material causes the “dust” that people often associate with the harvesting process. The hopper in the combine is not large enough to hold all the grain from most fields. The farmer will unload the hopper each time it is full into a grain cart or truck.

In preparation for the harvest, farmers will lubricate moving combine parts and check to make sure that the reel, knives, auger, threshing drum, sieves, and fan are working properly.

Depending on the grain moisture and toughness of the vegetative material, a farmer will have to adjust the threshing drum, fan speed, and sieve size for each field to ensure grain is properly separated from the plant. Otherwise, grain may be kicked out with the straw or grain will be mixed with chaff in the hopper.

Any grain kicked out with the straw is a harvest loss. Farmers will lose about one bushel per acre if the average square foot of ground has 20 seeds on it after harvest. Chaff and other debris not blown away will lower the quality of grain being sold to the elevator.

Farmers harvest wheat when the grain moisture is between 14 and 20%. Often, they wait until it is closer to 14% since the elevator may reduce the price they get because of drying costs. The elevator needs to maintain wheat at 13 – 14% moisture depending on the length of storage time and will have to dry wetter grain to these levels.

Harvesting near 20% moisture will result in higher test weight and better grain quality. Harvesting sooner will also reduce the chance of rain falling on mature grain, which may lead to sprouting or disease issues. Unfortunately, grain elevators often do not pay farmers more for high quality wheat, but they will pay less for lower quality.

A farmer will often harvest a strip in a field to determine grain moisture and to see if combine settings are appropriate for cutting and threshing. Moisture levels can drop as much 2.5% in a day and will change from morning to afternoon.

Combines will soon be running in wheat fields. Farmers have been preparing the past two weeks in anticipation of the harvest. They know that storage bins must be ready and combines running properly to have a strong finish with this year's crop.

Article written by Ed Lentz, OSU Extension-Hancock County and edited by Mark Badertscher, OSU Extension-Hardin County.