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Dealing with drought...

Weakened cornstalks require early harvesting;
combines need adjustments, MU specialists say

COLUMBIA, Mo. – Farmers with reduced crop yields in drought areas also face severe harvesting losses, a University of Missouri agronomist said.

“In a drought, corn stalks weaken and start breaking earlier than in a normal year,” said Bill Wiebold, MU Extension crops specialist. “Dry weather also causes soybean pods to shatter more easily, losing seed before harvest.

“When the crop matures, farmers should be ready to start harvesting,” he said. “Any delays only increase the risk of crop losses.”

Combines must be adjusted and operated differently for a light crop, said Bill Casady, MU Extension agricultural engineer.

In some cornfields in northwest Missouri in the drought three years ago, half the stalks fell over by Sept. 1, Wiebold said. “This wasn’t from a windstorm, the stalks just could not hold the plants erect.”

Lack of water prevents corn plants from building strong stalks. “Stalks just don’t get the nutrients they need,” he said.

Drought this year is speeding maturity of corn and soybeans, complicating harvest season. Farmers normally harvest corn while soybeans, which bloom later in the season, continue to fill seedpods and mature. “Many farmers may have soybeans and corn ready to harvest at the same time,” Wiebold said.

Crop combines should be inspected before harvest. “Last year’s bumper crop may have caused more wear on the concaves and rotors than normal. This may result in slack settings,” Casady said. “The concave settings should be zeroed out and reset, according to the operator manual, for a light crop.”

With less grain to harvest, a combine should be operated at a higher speed, he said. “Today’s large machines require that you keep the combine full to do a good job of threshing without excessive damage to grain. That will mean a faster ground speed.”

With weaker stalks, there may be larger amounts of stalks passing through the combine putting more material into the feeder house and concaves. “That can increase separating losses out the back of the combine,” Casady said. “There’s a balance between good grain quality and separating grain from the chaff.”

At maturity, corn kernels contain about 32 percent moisture, too damp to harvest. Farmers usually allow corn to dry on the stalks in the field, then harvest at around 20 percent moisture.

Most grain cannot be stored safely in a bin at moistures above 15 percent. Less moisture is better for safe storage to prevent mold and rot in the bin. Gas-fired dryers are used to reduce moisture to safe levels.

Farm managers must calculate a trade-off between the added cost of drying and harvesting early to save the grain. Most grain dryers are fueled by propane gas.

Melvin Brees, MU agricultural economist, estimated that it takes 1.5 to 2 gallons of propane to remove a point of moisture from 100 bushels of corn. “Harvest losses could quickly exceed the added drying costs,” said the specialist with the Food and Agricultural Policy Research Institute (FAPRI).

Drying costs may be lower when outside temperatures are higher early in the harvest season. Lower humidity and longer days also can help dry the crop.

Soybeans are not harvested until they are dry enough to store. Soybean seeds dry quickly, dropping four or five percentage points of moisture in a day, Wiebold said. Soybean seeds are encased in thin pod shells, which allow evaporation.

Corn, on the other hand, grows on a high-moisture cob and is wrapped in husks that slow drying. Corn drying varies by hybrid, Wiebold said. It has a lot to do with how many layers of husk encase the ear.

“Farmers will be facing some very difficult decisions at harvest time,” Wiebold said. “The main thing is to start monitoring seed moisture content early. The crop can be ready for harvest much earlier than expected.”

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