



February 27, 2015

THE MOST IMPORTANT INFORMATION ON A GRAIN TICKET

When hauling stored grain this time of year, it is important for clerks at elevators to write on the grain ticket an extra bit of information. If you don't see the number, ask for it. The most important thing to know is not the exact selling price or weight, it's the temperature of the grain.

Keeping stored grain cool is important as outdoor temperatures fluctuate and eventually start to warm this spring. If the temperature of the grain is 60 to 70 degrees there is real trouble and the only advice I can give at that point is keep on hauling fast and keep that fan on.

With grain, for each 10-degree increase in grain temperature, the allowable storage time decreases by about half. For example, the allowable storage time for 18% moisture corn is about 200 days at 40°F, 90 days at 50°F, 50 days at 60°F and only 30 days at 70°F. Temperature of the grain is crucial information to have and manage.

In the spring, south sides of grain bins act as a solar collector and there can be twice as much solar energy heating the south side of the bin compared to the north. The low angle of the sun, the first part of March, makes this more of an issue than later in the year. Make sure and run an aeration fan periodically at night or during the cool part of the day to keep the grain cool and evenly cool throughout the grain bin and as close to 30°F as possible. Nighttime temperatures typically are near or below 30°F in March and below 40°F in April. Even in early May, they frequently are below 45°F. Regardless of the time of year it is best to maintain grain temperatures within 15-20°F of the average monthly temperature.

Temperature sensors are excellent tools to have for instant readings but remember that they only measure the temperature of the grain next to the sensor. Hot spots can develop just a few feet away from the sensors. Aeration fans or ducts should be covered when not operating. The wind will push warm, moist spring air through the grain, warming it to near the daily maximum temperatures.

March is a good time to begin to check grain every two weeks. While checking on the grain, measure and record the grain temperature and moisture content. Rising grain temperature may indicate insect or mold problems. Insect infestations can increase from being barely noticeable to major infestations in three to four weeks when the grain is warm.

Checking the grain moisture content is important because moisture measurements at harvest may have been in error due to moisture gradients in the kernel, grain temperature, and other factors. In addition, the moisture may have changed while the grain was in storage due to moisture migration or moisture entering the bin.

Verify the accuracy of the measurement by warming the grain sample to room temperature in a sealed plastic bag before measuring the moisture content. A period of six to 12 hours in a sealed container also permits grain moisture to reach equilibrium across the kernels.

The next time you haul grain, surprise the clerk by asking for the temperature. Tell her the importance to your operation to always know that.

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