

WARNING:

MANY GRAIN MOISTURE METERS ARE NOT ACCURATE ON COLD GRAIN

Many electronic moisture meters used on farms are not accurate when grain temperatures are below about 40 degrees. Place the grain sample in a plastic bag or other sealed container, warm it to room temperature, and then measure the moisture content to obtain an accurate value.

One farmer was measuring the corn moisture content in the field to be at 20 percent, but after warming it to room temperature discovered that it really was about 25%.

Rapid warming methods, such as heating the sample in the microwave oven or using another form of heater, generally cause errors. These rapid methods have caused errors of two percentage points or more.

If the sample is not in a sealed container during warming indoors, moisture will initially condense on the surface of the kernel and cause an error. As the sample continues to warm, the grain will be drying which will also cause an error.

Even meters used in testing laboratories have a grain sample temperature range. For example some have a range of 0 to 113 F while others are 32 to 100 F.

At temperatures within the operating range, the meter reading may need to be adjusted based on the grain temperature unless the meter measures the grain temperature and automatically adjusts the reading. Check the operator's manual for the meter to determine correct procedures to obtain an accurate value. If the meter does not automatically measure the grain temperature and adjust the value, then it must be done manually.

Even if the meter does it automatically, it is recommended to allow a sample in a sealed container to reach room temperature before measuring the moisture content, and then compare the moisture content of the room temperature sample to the initial sample to verify that the adjustment is done accurately.

Also, moisture meters will not provide accurate readings on corn coming from a high temperature dryer due to the moisture variation within the kernel. The amount of error will vary depending on the amount of moisture removed and the drying temperature, but the meter reading error may be 2 percentage points. In addition, an adjustment must be made for grain temperature. The recommendation is to check the moisture of a sample, place the sample in a closed container for about 12 hours, and then check the moisture content again to determine the amount of error.

