Grain Storage Management in February

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- If your bin of corn is at or below 15% moisture, monitor for signs of heating twice a month. If you have a grain temperature probe, take the grain temperature near the bin wall about every 20 feet around the outside of the bin and a couple of places near the middle of the bin. Let the probe stay in place for 7 to 10 minutes before taking each reading. If there is more than a 10 degree difference in temperature between any two spots in the bin, run the aeration fan long enough to push a temperature front through the entire grain mass. (The rule of thumb is: The hours to push a temperature front through a bin of grain is 15 divided by the airflow in cubic feet per minute per bushel in the bin (cfm/bu).

- If you don't have a temperature probe, turn on the aeration fan and lean into the access hatch or climb into the bin. Does the air hitting your face feel warmer than expected, or do you detect a musty odor, or does condensation form on the inside surface of the bin roof on a cold day, if you detect any of these symptoms, continue to run the fan long enough to push a temperature front through the bin. If the bin is equipped with a stirring system run two or three rounds to break up hot spots and to equalize the moisture throughout in the grain mass.

- If the warning signs are present and the bin is not equipped with a stirring system, pull a load or two out of the bin to and monitor the condition of the grain coming out of the auger. If you detect heating, run the aeration fans to cool the grain and to dry the grain if air properties allow. Level the grain surface if the remaining grain will be left in place.

- If the corn is above 15% moisture and you plan to continue holding the grain on the farm, you need to start setting the stage to finish drying to safe moisture content. The first objective is to warm grain that was cooled in late fall to preserve it during the cold months. Grain should be warmed in stages. Run a warming front through the bin when the outside air temperature is 10 to 12 degrees higher than the grain temperature. When the grain is above 40 degrees, use the Equilibrium Moisture Content table to judge when to run the aeration fan to dry the corn. The values in the table are the driest moisture content achievable under the conditions.

Equilibrium Moisture Content of shelled corn at various air temperatures and related humidities						
Air Temp ^{O}F	Relative Humidity (percent)					
	50	55	60	65	70	75
30	13	13.5	14.5	15.5	16.5	17.6
40	12.5	13.0	13.8	14.7	15.5	16.5
50	12.0	12.5	13.3	14.0	14.8	15.8
60	11.4	12.0	12.6	13.4	14.0	15.0
80	10.4	11.0	11.6	12.2	13.0	14.0

Based on USDA research at Iowa State University