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Aerate Grain NOW

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Abstract

The current cold weather provides some relief from the wet grain issues that have plagued farmers in 2008. There is considerable corn in storage over 18 percent moisture, with some over 20 percent. And there is still wet corn in the field that likely will not dry any more.

Keywords

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Aerate Grain NOW

By Charles Hurburgh, Department Agricultural and Biosystems Engineering

The current cold weather provides some relief from the wet grain issues that have plagued farmers in 2008. There is considerable corn in storage over 18 percent moisture, with some over 20 percent. And there is still wet corn in the field that likely will not dry any more.

Temperature control is the most important element of grain storage. Every fan in Iowa probably should be running right now, to get grain temperatures down. Even 20 percent plus moisture corn will keep for a while if the temperature is cold enough. See the table below. If you can keep temperatures below 40F, you can hold 24 percent corn a month or so. This will buy time for dryers to catch up, or to do a second drying pass on corn that was very wet coming out of the field. The wetter the corn, the more tendency there will be for internal heating - so the internal temperature today may not be the temperature next week.

Constant monitoring is needed

If your corn is below 54 pounds per bushel test weight after drying (as some 2008 corn is), then shorten the times in the table by at least 30 percent. Have a method in place to monitor temperature, either manually or with temperature cables. And act on the readings. A layer of hot corn can form very quickly, and then propagate upward.

Freezing corn works, as long as the grain is clean. Trash and broken corn tend to make clumps that divert the air. Remove about 5 percent in the center core after filling a bin; this will take out a lot of the problem material. Replace with other corn or level the surface after coring. Wet corn will have more tendency to clump, but the risk may be worth it to get grain out of the field.

Maximum storage time (months) for corn and soybean*							
Corn temperature ° F	Moisture Content						
	Corn (top %)		Soybean (bottom%)				
	13%, 11%	14%, 12%	15%, 13%	16%, 14%	17%, 15%	18%, 16%	24% N/A
40	150	61	29.0	15.0	9.4	6.1	1.3
50	84	34	16.0	8.9	5.3	3.4	0.5
60	47	19	9.2	5.0	3.0	1.9	0.3
70	26	11	5.2	2.8	1.7	1.1	0.2
80	15	6	2.9	1.6	0.9	0.9	0.06

*Based on 0.5% maximum dry matter loss—calculated on the basis of USDA research at Iowa State University. Corresponds to one grade number loss; 2-3% points in damaged seeds. Soybean approximated at 2% lower moisture than corn.

Charles Hurburgh is a professor of Agricultural and Biosystems .

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