

Finish Drying Grain in Spring

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None of my corn dried very well in the field last fall. I still had corn fields with 20 to 22% moisture when I harvested them mid November. The elevator would not take corn that was above 17% moisture so I had no choice, I had to put high moisture corn in the bin and try to get it dry. I have two bins equipped with full mesh drying floors, stirring systems and fans intended for drying grain. One bin is now down to 16% moisture and the other is down to 18%.

I took your advice and got the grain between 25 and 30 degrees in December and then ran the stirring system to even out the moisture in the bin before I quit running the aeration fans except to check the grain for heating a couple of times a month.

I have two questions:

- **When should I start warming up the corn to finish drying the corn?**
- **How long will it take to get it dried to 15% moisture?**

A.1. Since you described these as dryer bins, I will assume you can push at least one cubic foot of air per minute per bushel (1 cfm/bu). While cooling the corn to 25 to 30 degrees was a good idea when weather conditions were not conducive to drying with natural air, now is the time (mid to late February to finish drying the grain to a safe moisture content for storage (15% if sold by May, 14% if held into the summer months.)

It is preferable to warm cold grain in stages. Push a warming front through the bin whenever the air is 10 to 15 degrees warmer than the grain. If you wait until the air temperature is greater than 15 degrees warmer than the grain, you might experience some rewetting of the grain because the air will be cooled as it passes through the cold corn and could drop below the dew point temperature of the air. This is a greater problem when the grain is below 25 degrees because the humidity will condense in the form of frost. Frost buildup can impede airflow through the grain.

When cooling or warming grain, always push the temperature front all the way through the entire grain mass before discontinuing aeration for more than a few hours. Once you get the grain over 40 degrees F, I advise using the Equilibrium Moisture Content table to judge when it will be advantageous to run the aeration fan to dry your corn. One source for the Equilibrium Moisture Content table is **Grain Storage Tips** from the University of Minnesota.
<http://www.extension.umn.edu/specializations/cropsystems/M1080-FS.pdf>

Caution: Once you warm the grain above 45 degrees, it will be more susceptible to mold growth, so warm the grain only if the forecast calls for several days of good drying conditions based on the Equilibrium Moisture Content table.

A2. For estimates on the time to dry corn with natural air, look at the estimated time to dry corn chart in **Drying Time for Binned Corn Using Natural Air** on the Crop Watch newsletter website.
<http://cropwatch.unl.edu/web/cropwatch/archive?articleID=1990301>
Your two bins of corn are 16 % and 18 % moisture. The bin with 16% moisture should dry to 15%

in about five days if the 24 hour average air temperature is 40 degrees and humidity is 50%. The time to dry from about 18% to 15% moisture is about 14.5 days under the same average temperature and humidity conditions.