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For Prairie Farmer
August, 1966
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HOLDING WET CORN WITH AERATION

Holding wet corn by simply passing air through it is one way of easing the problem of handling corn harvested with a field sheller. If drying can be delayed only a few hours, this is a big help during the peak harvest period. How long can we keep wet corn in condition with aeration? How wet can the corn be? Should the bin be insulated? How much air is needed? How much spoilage can we tolerate? What about refrigeration? These are the questions being asked about this relatively new practice. Unfortunately, there are more questions than answers at this point in time.

The field sheller has forced many changes in corn handling. Generally, they are bigger and faster than the ear corn pickers they replaced. We are forced to dry faster or find a way to extend the drying over a longer period than most farmers want to spend harvesting in the field. Temporary holding of wet corn with aeration will do this. Holding wet corn for feeding during the winter months is also increasing in popularity.

How long then can we keep wet corn? We must consider at least three factors: moisture content, temperature, and kernel damage. Work at Iowa by Saul and others shows that corn at 18% moisture can be stored nearly a year if kept at 40°F. Corn at 30% will keep but 30 days at the same temperature. At 75°F, 30% corn will keep only 3-4 days, and 18% corn about a month. So, 18% shelled corn harvested late in the season when temperatures are low can be kept until warm weather without difficulty. Corn at 25 to 30% moisture harvested in early October when temperatures are in the 70's has a short life and bears watching.

For years, corn carrying 20-22% moisture has been stored successfully when it was harvested in the ear and put in a crib. And it was ventilated only by the wind blowing through the cracks. The reason more precautions are needed with shelled corn is related to the amount of damage done to kernels during shelling. Corn harvested with a field sheller has many broken, mashed, or snagged kernels, and deteriorates much faster than undamaged kernels on the ear. Proper machine adjustment to hold sheller damage to a minimum pays big dividends.

Sufficient air should be supplied to cool each day's harvest to the nighttime temperature before more corn is added. This requires an airflow rate of at least 1/2 cubic feet per minute per bushel. Less air is required to maintain the corn temperature after it is once cooled.

Refrigerated aeration systems are being tested and may be needed to hold high-moisture corn harvested early in the year. This is the time of the year when the dryer load is the heaviest and the need for wet corn holding is greatest. Under such conditions, the added cost for refrigeration may be justified. When nature cooperates

with cool nighttime temperatures, the use of the outdoor air could be rather extravagant before equalling the cost of refrigeration.

Recent discoveries of mold toxins in corn bear watching. Molds like to grow in wet corn, and some can survive at low temperatures. Considerable experimental work is in progress. We expect more answers soon.

There is little factor of safety built into wet corn holding. Expect to get into trouble once in awhile if you run into abnormal weather or try to push too close to the time or moisture limits. Wet corn can be held successfully with aeration only if the limitations of the practice are observed.

HOLDING WET CORN WITH AERATION

Holding wet corn by aeration means passing air through it in one way or another. The idea is to keep the corn from becoming moldy and to keep it from becoming too dry. The air should be dry and cool. The corn should be held in a bin or in a stack. The air should be passed through the corn in a way that will keep it from becoming too dry. The air should be passed through the corn in a way that will keep it from becoming too dry.

The field shelter has been found to be a very important factor in the holding of wet corn. The shelter should be made of material that will keep the corn from becoming too dry. The shelter should be made of material that will keep the corn from becoming too dry.

The long term plan is to keep the corn from becoming too dry. The plan is to keep the corn from becoming too dry. The plan is to keep the corn from becoming too dry.

For years, corn growers have been holding their corn in bins. The bins are made of material that will keep the corn from becoming too dry. The bins are made of material that will keep the corn from becoming too dry.

Substituting air should be applied to cool each bushel. This applies to all bins. The air should be passed through the corn in a way that will keep it from becoming too dry.

Cooperative Extension Work in Agriculture and Home Economics
State of Indiana, Purdue University
and the United States Department of Agriculture Cooperating
H. G. Diesslin, Director, Lafayette, Indiana
Issued in furtherance of the Acts of May 8 and June 30, 1914.