Wet Spring Conditions Could Lead To Difficult Corn Storage Situations

BROOKINGS — South Dakota corn producers may face challenging conditions while storing last year's har-

That's according to South Dakota Cooperative Extension Farm Machinery & Safety Specialist Dick Nicolai, who said corn futures' markets are based on specific grain quality.

"It falls on the shoulders of the cash market to deal with the price discounts for moisture and quality," said Nicolai. "It is important to spend the specified time and money on improving or maintaining the quality of corn in storage. The most critical factor will be moisture content."

Nicolai said even in years when high moisture-content issues are minor that corn can go bad while in storage.

"There are always stories of someone who had a bin of corn heat up and lose condition due to excess moisture content," said Nicolai. "This year, higher-than-normal moisture content in corn is a problem throughout the Corn Belt, so anything producers can do to make sure their corn is nearperfect could give them an edge in the market."

Keeping stored grain cool is important as outdoor temperatures rise in the spring. Some storage guidelines include removing center cores to allow air passing through grain to cool it. Producers should check their stored grain at

least once every two weeks.

Nicolai said if a slow rise in temperature is noted, producers should aerate. If a hot spot in the bin forms, that corn should be the next load moved out. One storage problem always leads to another, he

"Producers should run aeration fans periodically at night or during the cool part of the day to cool the grain, with the goal to keep the grain below 40 degrees," Nicolai said. "Added

aeration fans or ducts should be covered when not operating because winds could push warm, moist air through the

Daytime temperatures rise during the spring and grain bins work as solar collectors, Nicolai added. Grain temperatures will then exceed the outside air temperature, particularly on the south side and top of the bin.

Rising grain temperatures may indicate insect or mold problems. Insect infestations can range from barely noticeable to major problems and Nicolai said they can increase in as little as three-four weeks when the grain is too warm.

"The allowable storage time is reduced by about half with each 10-degree increase in the grain temperature," said Nicolai. "The allowable storage time for corn with moisture content of 18 percent is about 200 days at 40 degrees,

90 days at 50 degrees, and 30 days at 70 degrees.

Moisture content of grain must be low enough to prevent mold growth at summer temperatures. Corn should reach moisture content between 13.5-14 percent for summer storage.

Due to late harvest last fall, some high-moisture corn was put into the storage bins. Nicolai said corn with moisture content up to 21 percent can be dried using natural air-drying in the spring if the system provides an airflow rate of at least 1 cubic foot per minute, per bushel.

"Air drying should be started when the average outdoor temperature is about 40 degrees," Nicolai said. "About five weeks of fan time should be sufficient for drying corn."

Nicolai explained that grain with moisture content of 22 percent or greater that was stored in bins may include kernels that have frozen together,

and this poses another challenge for producers.

"The goal this spring is to keep grain temperatures below freezing as long as possible to control insect infestations and spoilage problems," said Nicolai. "Once the average outdoor temperature exceeds 40 degrees, producers should run aeration fans continuously until the grain is thawed. Then they should empty their bins and dry the corn."









