



NEWS RELEASE

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Humboldt, SK

Immediate Release

Grain aeration still important in dry year

HUMBOLDT, SK – Harvest is over in most parts of the prairies, and from all indications, yields are above average. And that means that grain storage is on a lot of producers' minds this fall.

“Each bin of grain represents thousands of dollars of investment and must be managed properly,” stated Dr. Joy Agnew of the Prairie Agricultural Machinery Institute (PAMI), who often speaks to farmers about how to store their grain to avoid spoilage.

The risk of grain spoilage in the bin is highest when the grain is hot or wet, so both temperature and moisture must be managed to prevent it.

While most producers got their crops off the field dry this fall, grain aeration is still something important they need to consider. Even dry grain is susceptible to spoilage as natural convection will cause temperature variations in the bin, which then result in moisture variations within the grain. Blowing air through the grain helps to limit those variations and minimize the risk of spoilage.

As opposed to drying grain using natural air or with hot air dryers, grain aeration is about conditioning grain; that is, evening out the temperature in the bin.

“Aeration is still useful in a dry year like this,” said Agnew.

Aeration is actually critical for canola and pulse crops like peas and lentils, which remain “alive” for up to six weeks after harvest. These crops respire in that period of time, giving off water vapour and carbon dioxide. This “sweating,” as it is commonly referred to, can spoil grain. Grain aeration can help keep that from happening.

Sweating may actually be a bigger problem for farmers straight-cutting these crops, Agnew noted, as the plants are not getting that time in the field to respire as they do when swathing occurs before harvesting the grain.

Producers are advised to turn aeration fans on as soon as the ducts are covered with grain and to leave them on continuously until the average temperature of the grain is at a safe to store temperature. Fans may be turned off during periods of high humidity, but there is very little moisture movement between grain and air at low airflow rates (0.1-0.2 cfm/bu) associated with aeration.

Farmers that need to actually dry their grain, and want to use natural air drying (NAD) systems need a higher air-flow rate than those simply aerating their bins. They also need to run their fans when the air has the capacity to dry, noted Agnew, which is typically during the day. Though the debate still rages about when it is best to naturally dry grain, Agnew sticks by her determination that it is during the day.

“If grain has water in it, and the air is dryer than the grain, it will draw the moisture out of it. And the warmer the air circulating, the more water it can hold. The air has a greater capacity to dry during daylight hours, especially at this time of year,” Agnew stated.

Farmers can “freeze dry” tough grain to minimize the risk of spoilage over the winter, but it will result in issues in the spring.

“Once grain is cold, it is extremely difficult to remove the moisture using natural air,” Agnew advised.

She advised farmers with “freeze-dried” grain to sell it frozen, or use hot air drying, as NAD will not work well to dry cold grain.

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Attached: The Facts About Grain Aeration factsheet published by PAMI earlier this year.