

CROP STORAGE & DRYING



BRIDGE TO
LAND WATER SKY

It's important to store harvested crops properly on farms—especially when delivery points like elevators fill up during harvest and market prices are low. Once in storage, temperature and moisture levels need to be monitored to prevent spoilage, heating, and even fire risk. These tasks can be automated with modern monitoring systems. On-farm drying equipment helps producers manage price discounts and marketing restrictions for crops that are too wet or “tough” at harvest.

Storage Bin Types



Flat-bottom

- These grain bins have concrete floors, steel walls, and conical roofs.
- They can have aeration fans and/or perforated floors for air flow to help protect the crop from spoilage.
- Flat-bottom bins use a ‘sweep auger’ to fully empty.



Hopper-bottom

- These grain bins are most expensive, with a conical bottom hatch-door allowing for complete emptying via gravity alone.
- From a hopper bin, farmers use augers to transload grain into a truck for hauling out to market.



Grain bags

- Are quick and easy to use, typically for back-up storage when the bins are full.
- Constructed of multi-layered polyethylene resin, grain bags store the crop right in the field, in airtight long tubular rows.
- Grain bags are the least expensive, but less durable and more prone to loss in storage, often due to wildlife breaking them open.
- Grain bags require specialized equipment to empty into trucks.

Farm size and crop types determine the storage setup. For example, farms with more crops to store often use more and usually smaller bins. Large operations with simpler rotations store fewer crop types and rely on larger-capacity bins. Farms in wetter regions with shorter growing seasons have the strongest incentive to install drying equipment.

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Drying Equipment

Dryers are essential when harvest conditions, time constraints, or pest and disease pressures force farmers to remove crops before they reach target moisture levels.

On-farm drying options include:



Continuous Flow Dryers

These systems feed wet crops in at the top and move them downward while blowing hot, dry air across the flow. The crops exit at the bottom dried and cooled, ready for storage or further handling.



In-bin Dryers

These systems combine storage and drying in one setup. Newer models push air upward through the bin, using a sweep auger or stirring mechanism to ensure even drying throughout the stored crop.



Natural Air Dryers

These systems use fans to push ambient air upward through stored crops, gradually reducing moisture. They work best for drying large volumes at a lower cost provided outdoor temperature and humidity conditions are favourable.



Batch Dryers

These systems load wet crops into a column and force hot air through the batch, repeating the process until the target moisture level is reached.

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