

Harvestore[®]

Feed Storage Structures

CST



» THE CHAMPION OF FEED QUALITY

> Harvestore. For a Lifetime of Value.

Harvestore® has built its reputation on providing dairy and livestock with superior feed quality.

For years, producers using Harvestore's oxygen-limiting technology have seen the freshness of the haylage and high moisture corn coming from the unloader, the limited spoilage and dry matter loss, and the high palatability that usually results in greater efficiency.

Harvestore is better than ever with a proven track record of high return on investment, convenience and speed to load and unload. While a Harvestore may not fit every operation, it can be an important component of your complete feed and commodity storage system.

Many farmers who own both Harvestores and bags or bunkers choose to store their best forage and feed their top producers from Harvestore units. That's because forage quality influences milk production, reproduction efficiency and profits. Harvestores have been proven to be the best storage system to preserve forage quality.

> Get Less Dry Matter Loss With a Harvestore

Research from the U.S. Dairy Forage Research Center confirms that there is less dry matter loss from forage stored in a Harvestore versus bags and bunkers. This forage also exhibited more nutrient value based upon the cow's production of fat-corrected milk (FCM). (For details on this study, see "Research Shows Benefits Over Bags and Bunkers.")

Furthermore, Kansas State University reports the dramatic differences in dry matter loss between a Harvestore, bag and bunker.

	Harvestore	Bags	Bunkers
Dry matter loss %	3 – 8 %	12+ %	12 – 25 %

K. Bolsen, Kansas State University

> Haylage Comes Only From A Harvestore!

Forage stored at 40 to 55% moisture is known as haylage. Harvestore introduced haylage to livestock producers over 67 years ago. While many refer to all stored forage by this name, true "haylage" comes only from a Harvestore.

Harvestore haylage has many benefits, but none more important than maintained feed quality and minimal dry matter losses. Harvestore structure owners have been able to reduce storage loss and waste at feeding time and get their animals producing closer to their genetic potential.

> A Harvestore for High Moisture Grain

High moisture grain generally refers to grain with a kernel content of 22 to 28% moisture that has undergone natural fermentation in a storage structure that reduces the access of air to the feed. (See the chart below for optimum moisture levels.) High moisture grain has a pleasant fermented aroma and palatability that livestock noticeably prefer.

Optimum moisture levels for high moisture grain:

Shelled Corn	28%
Corn and Cob Mix	30 to 35%
Sorghum Grains	28%
Small Grains (barley/wheat)	28%

Advantages to feeding high moisture grain are:

- Ability to harvest earlier and reduce field losses
- Ability to plant later maturing hybrids
- Eliminate drying costs
- Carbohydrates more readily digested
- Improved livestock feed conversion rates

> Compare Bag, Bunker and Harvestore Storage Costs with StoragePro

StoragePro® is a computer program used to calculate and analyze real-life feed storage costs. By providing an impartial analysis, StoragePro allows producers to use data from their own farms to calculate all the costs associated with the use of a Harvestore System, as well as concrete bunkers, concrete stave silos or storage bags. Producers can enter their own costs for construction, maintenance, spoilage and routine operating expenses to give an overall annual cost for each storage option.

The first step in controlling feed costs is knowing what they are. CST's local authorized Harvestore dealers can help by providing a StoragePro analysis for your operation.

A Harvestore System Provides Cutting-Edge Technology

A Harvestore System contains many features that make it the best choice for storing quality forage and high moisture grain. Using only the best materials and stringent construction guidelines, a Harvestore System can return greater lifetime value than plastic bags or bunker silos.

Push-Button Fill Doors

- Opens and closes fill doors with the push of a button
- Eliminates the strenuous job of climbing the structure

Breather Bags

- Standard, unique feature in all Harvestore Systems
- Act as bladder for gas expanding and contracting within the structure
- Helps to minimize air in contact with feed

Multi-Purpose Design

- Forage or high moisture grain
- Expandable and movable
- Unloader flexibility
- Available up to 106 feet high
- New larger models available

Specially Made Bolts

- Designed to handle specific joint stress loads
- Acid-resistant bolt heads inside structure
- Smooth, rounded cap minimizes resistance to downward movement of feed

Urethane-Based Sealant

- A sealer specifically formulated for sheet joints
- Sealer cures in place to form a durable rubber-like gasket

Engineered Concrete Foundation

- Built to CST specifications on a monolithic footing
- Matched to specific soil strength
- First ring of glass-fused-to-steel sheets is attached to footing
- Steel unloader trough integrated into foundation for consistent and stable operation
- An overall unitized, engineered base to support structure

Two-Way Pressure Relief Valve

- Protects structure from excessive pressure or a vacuum inside the structure

Web Truss Stiffeners

- Increase structure's ability to resist wind forces
- Meets rigid design standards
- Exclusive, proprietary design

Glass-Fused-to-Steel Construction

- Molten glass fused to both sides of the steel sheets
- Hard, durable and long lasting
- Sheets designed to meet varying loading requirements from top to bottom
- Vitrium™ interior coating formulated to resist acids from fermented feeds
- Edges thermally coated with Edgecoat II™ – the only process in the world that provides optimum glass encapsulation on all four (4) sides of the sheet edges
- Smooth sidewalls allow feed to slide down easily

Expandable and Movable

- Many models can be made taller to increase capacity as your operation grows
- Structures can be taken down and moved by an authorized Harvestore dealer

Lightweight Aluminum Doors & Hatches

- Gasketed with flexible seals
- Clamped tightly with "marine-type" handles

Unloaders

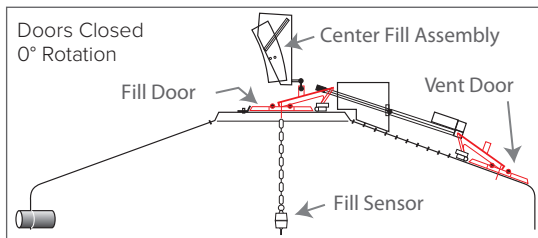
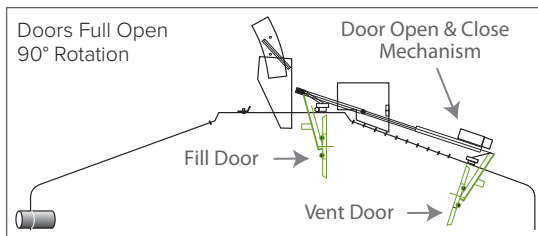
- Two Harvestore XL™ Unloader models available
- Designed with the latest technology to meet your operation's needs
- New Raptor Series Premium Cutter and Conveyor Chains
- New Gearbox



Push-Button Fill Doors. For Convenience and Safety.

Push-Button Fill Doors™ are a convenient option for Harvestore Systems. The Push-Button Fill Door system replaces the need for climbing to the top of a Harvestore structure and manually opening and closing the center fill and air exhaust door for normal fill operation.

Push-Button Fill Doors are simple to use – just push a button on the convenient ground level control panel. A touch of the OPEN DOORS button opens the center fill and vent door and positions the Model 135 center fill chute for filling. A series of indicator lights are illuminated to show doors are open, closed, in motion or when structure is full.



Automate with Harvestore

More and more farmers across the world are switching to automated feeding for improved storage, consistent feed quality, and increased efficiency along with an easier lifestyle. Harvestore XL Unloaders hook into all advanced automation systems. When combined with an automation system, owners can monitor arm pressure, oiling requirements and hours of operation – all remotely while enjoying family and not compromising on the quality of their feed.

Get more information on Harvestore XL Unloaders from the experts at your local authorized Harvestore dealer.

Research Shows Benefits Over Bags and Bunkers

A study conducted by the U.S. Dairy Forage Research Center confirmed that haylage stored in a Harvestore experiences less dry matter loss than haylage stored in bags and bunkers.

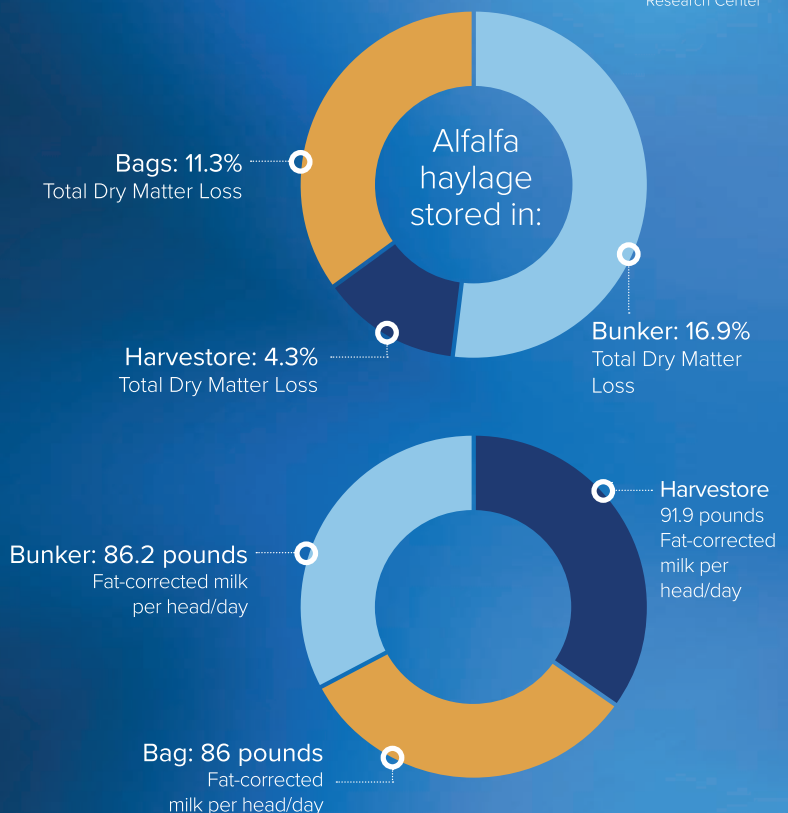
The study also showed that cows fed haylage from a Harvestore produced more Fat-Corrected Milk (FCM) than those fed from a bag or bunker. The milk components chart shows the differences between storage options.

Effect of Alfalfa Storage System on Intake and Milk Yield

Variable	Bag	Bunker	Harvestore	P>F
DMI, lb/d	53.1	52.9	52.9	0.93
Milk, lb/d	86.4	86.6	87.5	0.60
Milk/DMI	1.63	1.64	1.67	0.10
3.5% FCM, lb/d	86.0 ^b	86.2 ^b	91.9 ^a (+5.7 lbs)	<0.01
BW Gain, lb/d a,b (P<0.01)	0.40	0.73	0.93	0.13

Source: U.S. Dairy Forage Research Center, 2005

2005-2006 U.S. Dairy Forage Research Center





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“Convenience is the number one reason I chose Harvestore. I can fill any time and always feed fermented, excellent quality feed from the bottom. I have been farming with Harvestores for 28 years.”

ETC Farms



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“We installed a 17' x 70' and within 8-10 months production has gone up about 5lbs. per day. The only difference in our ration is the Harvestore. I am really happy with it. I am saving a ton of money not hauling, drying or paying the mill to store our dry corn. I wish I would have done this in 2000, instead of building a grain bin.”

Klitzke Dairy



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“The high moisture corn from our 20' x 50' is consistently the best quality we have seen. The cows have knocked me down trying to get to the corn. The Harvestore is fast filling, there are no doors to move, and there is little to no maintenance. No drying, grinding or extra handling. I wish we would have done it 10 years earlier.”

Lichte Dairy



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“We have much less waste than with bags or bunkers and the quality of the feed is superior. Harvestore structures are faster and easier to feed from than other methods. We push a few buttons and we are set. No diesel or gas engines to maintain or pour expensive fuel through for feeding. We can put up more feed in a day with Harvestores than with other systems; you put it in the structures and you are done.”

Schoepp Dairy

Harvestore BLUEPRINT Parts

Harvestore BLUEPRINT Parts are engineered and manufactured to strict tolerances so they perform under extreme conditions. Using the wrong part, or a part not engineered to meet the demands of the product, jeopardizes the entire operation and longevity of your Harvestore structure and/or unloader. Only CST's authorized dealers have direct access to the complete line of factory-specified Harvestore BLUEPRINT Parts.

- Cutter and conveyor chains for XL 200, XL 400 and Alliance Unloaders
- Chisel tip hooks
- Unloader cutter arms
- Unloader backbones and housings
- Gears, shafts and pinions
- Sprockets
- Breather bags
- Complete unloader remanufacturing kits



Rebuild Kits

Pre-owned structures are available from your authorized CST dealer. A pre-owned structure can be rebuilt to meet the same rigid structural design specifications as new structures.

Each pre-owned structure erected by an authorized dealer will be constructed with rebuild kits using Harvestore BLUEPRINT parts. The combination of genuine Harvestore BLUEPRINT parts and authorized Harvestore dealer service will ensure quality, satisfactory operation and longevity.

Talk to Your Authorized Harvestore Dealer

Harvestore Systems are designed and engineered for specific purposes. That's why it is extremely important to purchase a structure and service parts from an authorized CST dealer in the United States and Canada. Only an authorized dealer has the specialized equipment and timely, direct-from-the-factory knowledge to do the job right.



Each Harvestore System is customized to meet the needs of your farm. Diameters, depth of footings, the detailed trough and floor design for the unloader...even the sequence and thickness of glass-fused-to-steel sheets will vary from structure to structure. Construction or repairs performed by anyone other than authorized Harvestore dealers can lead to faulty operation or structural failure.

Manufacturer warranties are only applicable on products built by an authorized dealer to factory specifications.

To learn more about Harvestore feed storage structures, contact your local authorized dealer, visit harvestore.com or call 844-44-TANKS.



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