Shifting Markets

COOPERATIVE ADDS RAIL TERMINAL TO TAKE ADVANTAGE OF BNSF RAIL LINE

Frenchman Valley Farmers Cooperative
Imperial, NE • 800-538-2667

Founded: 1912
Storage capacity: 40.8 million bushels at 22 locations
Annual volume: 72.6 million bushels
Annual revenues: $695 million
Number of members: 1,628
Number of employees: 300
Crops handled: Corn, soybeans, red winter wheat, millet, milo
Services: Grain handling and merchandising, feed, fertilizer, petroleum

Key personnel:
- Mark, Friehe, Culbertson and McCook branch manager
- Ryan Schultz, grain division manager
- Craig Beguin, operations manager

Supplier List

Aeration fans.....AIRLANCO
Bearing sensors..... KASA Controls
Bin sweeps.....The GSI Group
Bucket elevators..... The GSI Group
Bulk weigh scale.....C&A Scales
Catwalks.... LeMar Industries Corp.
Cleaner..... Triple/S Dynamics, Inc.
Concrete tank.. McPherson Concrete Storage
Contractor/millwright.....Frisbie Construction Co. Inc.
Control system.....KASA Controls
Conveyors.....Hi-Roller Conveyors
Conveyor belting..... Goodyear Conveyor Belt Products
Distributor.....Schlagel, Inc.
Dust collection system..... AIRLANCO
Elevator buckets..... TAPCO Inc.
Grain dryer..... Zimmerman Grain Dryers
Grain probe.....Gamet Mfg. Co.
Grain temperature system..... KASA Controls
Level indicators..... BinMaster Level Controls
Magnets.....Bunting Magnetics Co.
Manlift.....Schumacher Elevator Co.
Motion sensors..... KASA Controls
Samplers.....Gamet Mfg. Co.
Steel storage.....The GSI Group
Tower support system.....LeMar Industries Corp.
Truck scale.....MidAmerica Scale, Inc.
Temporary storage system.....LeMar Industries Corp.

Frenchman Valley's new rail terminal in Culbertson, NE includes four McPhereson Concrete silos holding 280,000 bushels each. Photo by Lori Beguin.

When the Frenchman Valley Farmers Cooperative looked to expand beyond local truck markets, a new rail shuttle-loading terminal with an 8,800-foot loop track gave the 22-location cooperative that ability.

The terminal at Culbertson, NE, with 2.32 million bushels of storage, was constructed to give the coop access to a Burlington Northern Santa Fe (BNSF) main line, says Mark Friehe, branch manager for both the new elevator and a coop elevator at McCook, NE.

"Having a rail terminal in Culbertson gives Frenchman Valley access to Gulf and coastal rail markets we haven't had in the past," Friehe says. "The advantages in pricing and rail rates will give our patrons the best opportunity to get a better premium for their grain."

Construction on the $18 million facility (308-278-2410) was started in June 2012, and it was completed in time for fall harvest in August 2013. Frisbie Construction Co., Inc., Salina, KS (785-536-4288), served as the main contractor on the project.

"We chose Frisbie Construction because of their reputation for quality and the ability to take on project as large as Culbertson," says Friehe, who has been with the coop for 18 years.

Mark Friehe, Frenchman Valley McCook and Culbertson branch manager, and Ryan Schultz, Frenchman Valley grain division manager. Photo courtesy of Frenchman Valley. Farmers Cooperative.

The shuttle terminal at Culbertson includes an 8,800-foot loop track. Photo by Lori Beguin.

Besides the BNSF connection, the new shuttle site also is served by the Nebraska, Kansas & Colorado Railway, which also connects with several other Frenchman Valley locations and will provide the ability to ship grain from these locations, Friehe adds.

"The facility at Culbertson isn't built for long-term storage," Friehe says. "We will try to turn the facility as much as possible and with improving yields, we will be able to turn the facility more frequently."

Storage

The terminal's 2.32 million bushels of storage includes four McPherson Concrete jumpform concrete tanks, a GSI corrugated steel tank, and a 1-million-bushel ground pile.

The four McPherson tanks are 60-feet in diameter and hold 280,000 bushels each. Each of these flat-bottom tanks stand 120 feet tall, with aeration being provided by two 50-hp AIRLANCO centrifugal fans and three 2-hp roof exhausters at 1/10 cfm per bushel on coarse grains. The tanks are equipped with 10,000-bph GSI bin sweeps for cleanout.

The GSI corrugated steel wet tank is 59.7 feet in diameter and holds 200,000 bushels. The flat-bottom tank stands 80 feet tall at the eave and 96 feet tall at the peak. The tank has outside stiffeners and is emptied into a below ground GSI 10,000-bph drag conveyor.

Neither the concrete nor steel storage tanks are equipped with temperature monitoring systems because of the expected quick turnover rate, Friehe says.

Storage also includes a 600-foot diameter, 1-million bushel LeMar temporary storage pile. The system has 8-foot perforated steel walls, a GSI 80-foot-tall support tower, and a clay-based floor. Currently, the temporary storage is emptied out by front-end loaders, but future plans call for a conveyor to be installed under the pile. ►

A separate scalehouse is equipped with two MidAmerica scales and Gamet probe. Photo by Alex Lord.

Grain Movement

Incoming trucks are weighed on a 80-foot MidAmerica Scales pitless scale adjacent to the shuttle site's office building. A Gamet Apollo truck probe takes a sample for grading at the inbound scale. An adjacent MidAmerica truck scale with a kiosk printer system is used for outgoing trucks.

The terminal has three receiving pits — two 800-bushel mechanical receiving pits for trucks and a rail receiving pit. All three pits feed two 17,000-bph GSI receiving legs equipped with 20x8 TAPCO buckets on 21-inch belts.

The receiving legs deposit grain into a 12-duct Schlagel swingset electric distributor. From there, grain travels via GSI 20,000-bph enclosed belt conveyors to either concrete, steel, or temporary storage. Grain can also be run through a 20,000-bph Triple/S Texas Shaker grain cleaner prior to going to storage.

Wet grain can be sent via 10,000-bph wet leg to a continuous flow Zimmerman dryer, rated at 10,000-bph for taking three points of moisture off of corn. The dryer is fired by three propane storage tanks totaling 86,000 gallons that also serve as a terminal site for coop's customers.

The concrete and steel storage tanks empty onto 60,000-bph above-ground GSI belt conveyors running back to the receiving legs and a 60,000-bph GSI loadout leg equipped with three rows of 20x8 TAPCO buckets. The loadout leg feeds a 60,000-bph C&A bulk weigh scale with extended upper and lower garners (3,300 bushels each). The scale utilizes C&A software. Workers atop railcars are protected by a Fall Protection Systems' trolley unit that runs the length of 2-1/2 railcars.

According to Friehe, the bulk weigh scale is set up to run 28,000-bushel batches and a railcar can be filled in under four minutes.

In addition to rail loadout, Frisbie built two 5,000-bushel steel square hopper bins located above the receiving pits for truck loadout.

Alex Lord, associate editor

A C&A Scales bulk weigh scale with an extended upper garner for rail loadout. Photo by Alex Lord.