

Something Old, Something New

MINNESOTA COOP FINDS ADD-ON ANNEX MORE ECONOMICAL THAN REBUILDING



Meadowland Farmers Coop's new 2.9-million-bushel annex at Walnut Grove, MN is shown in the lower left part of the photo. A portion of the older sections, including a flat storage building, are upper right. Aerial photo by JH Photography, Spencer, IA.



Meadowland Farmers Coop
Lamberton, MN • 507-752-7352

Founded: 1919
Storage capacity: 32 million bushels at nine locations
Annual volume: 50 million bushels
Annual revenues: \$336 million
Number of members: 7,500
Number of employees: 130
Crops handled: Corn, soybeans, hard red spring wheat, oats
Services: Grain handling and merchandising, feed, agronomy, energy, convenience store

Key personnel at Walnut Grove:
• Mike Trosen, general manager
• Pete Valentin, grain division manager

• Joe Doubler, location manager
• Mason Cornnick, assistant manager

Supplier List

Aeration fans..... Airlanco, GSI
Bearing sensors.....CMC Industrial Electronics
Bin sweeps Union Iron, GSI
Bucket elevators..... Schlagel Inc.
Bulkweigher..... CompuWeigh Corp.
Catwalks Warrior Mfg. LLC
Cleaner Baasch & Sons Inc.
Concrete GBI
Concrete silos SMA, LLC
Contractor SMA, LLC
Control system..... Jake's Electric
Conveyors (belt)... Hi Roller Conveyors
Conveyors (drag) Schlagel Inc.
Distributor..... Schlagel Inc.

Dust collection Camcorp Inc.
Electrical contractor.....Anderson Electric
Elevator buckets Tapco Inc.
Engineering .. VAA, LLC; SMA, LLC
Grain dryer..Zimmerman Grain Dryers
Grain temperature system..... CMC Industrial Electronics
Manlift..... Liftco
Millwright..... SMA, LLC
Office building Behlen Mfg. Co.
Roof system NIJAC Roofing & Insulation
Steel storage..... GSI
Steel tank erection Cross Country Construction
Tower support system.. Warrior Mfg. LLC
Truck probe Gamet Mfg. Inc.
Truck scales..... Vandeborg Scales

View of the new annex at Walnut Grove, including propane tanks to fuel the new 7,000-bph Zimmerman tower dryer at right. Ground-level photos by Ed Zdrojewski.

In recent years, Meadowland Farmers Coop looked seriously at replacing its 1950s-era rail loading elevator on the east edge of Walnut Grove, MN (507-859-2101).

However, other than the ability to handle speed of dumping, that elevator remains functional. So instead, the coop decided to build a new 2.9-million-bushel standalone concrete and steel workhouse just to the south of the original facility.

That turned out to be the more economical choice, says General Manager Mike Trosen, who joined Meadowland early in 2017 from Country Pride Cooperative in South Dakota.

“We’re still using most of the old section,” Trosen says. “But Meadowland was looking at what the patrons would need 10 years down the road. Our facility is designed to be here for our members for a long, long time.”

Meadowland took bids on the \$19 million project and awarded a design-build contract to SMA, LLC, Monticello, MN (763-295-4367).

“SMA rose to the top due to their years of experience. They had done some projects for us at our headquarters elevator in Lamberton,” says Pete Valentin, grain division manager, who has been with the Meadowland for his entire 28-year career in the grain industry. “They delivered everything on time, on budget, and except for a few minor details, everything worked as designed.

Also participating in the project:

- VAA, LLC, Plymouth, MN (763-559-9100), performed structural engineering.

- Jakes Electric, Clinton, WI (608-295-2470), supplied and programmed the automation systems.

- Anderson Electric, Lamberton, MN (507-752-6191), served as electrical contractor.

Construction began early in February 2017 and was completed by mid-December.

Annex Specifications

Grain storage in the new annex



consists of a four-pack of 495,000-bushel slipform concrete tanks with an interstice plus an 850,000-bushel corrugated steel tank.

The concrete tanks stand 74 feet in diameter and 130 feet tall. The flat-bottom tanks include 14-inch Union Iron sweep augers and eight-cable CMC Grain Ranger™ grain temperature monitoring systems. A set of four 40-hp Airlanco centrifugal fans provide 1/10 cfm per bushel of aeration through in-floor ducting with the help of six 2-hp roof exhausters.

The GSI corrugated steel tank is 105-feet in diameter, 98 feet tall at the eave, and 127 feet tall at the peak. It has a flat floor, 14-inch GSIX-Series sweep auger, and 24-cable CMC grain temperature monitoring system. Four 50-hp GSI centrifugal fans provide 1/10 cfm per bushel of aeration, the same level as in the concrete tanks.

Truck traffic is routed onto inbound and outbound Vandeberg 80-foot pit-type scales utilizing AgVantage scale automation. Incoming trucks also are sampled with a Gamet Apollo probe.

From the inbound scale, trucks are routed to one of three enclosed 1,300-bushel receiving pits. Each pit feeds its own Schlegel 20,000-bph receiving leg equipped with a single row of Tapco 20x8 heavy-duty buckets mounted on 22-inch belts.

The legs deposit grain into an eight-duct Schlegel electronic SwingSet distributor, with triple inlets. In turn, this sends grain to two of the concrete tanks via gravity spouts. A set of Schlegel 40,000-bph drag conveyors carries grain to the rest of the concrete tanks, a 40,000-bph Hi Roller enclosed belt feeds the steel tank, and a 20,000-bph

Schlegel drag goes to the interstice bin.

Another distributor duct feeds a 60,000-bph Hi Roller Hi Life enclosed belt conveyor, which in turn deposits it onto a 34,000-bph Hi Roller belt going out to the older part of the facility. The older section of the elevator includes an existing CompuWeigh bulk weigh loadout system that loads unit trains of up to 110 cars on a loop track accessible to the BNSF Railway, Canadian Pacific Railroad, and Union Pacific Railroad.

The storage tanks in the new annex empty onto a 40,000-bph Hi-Roller enclosed belt reclaim conveyor in a below-ground tunnel, which sends grain back to the three receiving legs.

The annex also includes a 10,000-bph natural gas-fired Zimmerman tower dryer fed by an 18,000-bph Schlegel wet leg. Valentin reports that it worked very well after it was fired up toward the tail end of the 2017 harvest.

Ed Zdrojewski, editor



Driver is parked on a Vandenberg outbound scale while the truck's tare weight is measured. Inbound scale is to the right.



General Manager Mike Trosen (seated) and Grain Division Manager Pete Valentin.



Three enclosed receiving pits, left, with 20,000-bph Schlegel bucket elevators and distributor to the right.



Rooftop view of the Schlegel eight-duct SwingSet triple distributor.