

Handling Higher Yields

MICHIGAN COOP ADDS STEEL AND CONCRETE STORAGE, THIRD RECEIVING PIT



Cooperative Elevator Co.
Pigeon, MI • 989-453-4500

Founded: 1915
Storage capacity: 20 million bushels at nine locations
Annual revenues: \$250 million
Number of members: 1,023
Number of employees: 142
Crops handled: Corn, soft red and soft white winter wheat, soybeans, dry edible beans
Services: Grain handling and merchandising, agronomy, seed, petroleum, dry edible bean processing

Key personnel at Elkton:

- Pat Anderson, CEO
- Mike Janowicz, vice president-bean and grain
- Al Licht, location manager
- Matt Jurges, operations manager

Supplier List

Aeration fans.....Rolfes@Boone
Bin sweepsThe GSI Group
Bucket elevatorThe GSI Group
Catwalk..... LeMar Industries Corp.
Concrete tankHoffmann Inc.
ContractorElevator Services & Storage, Inc. (ESSI)
ConveyorsHi Roller Conveyors, The GSI Group, Tramco Inc.
Distributor.....Hayes & Stolz Ind. Mfg. Co. Inc.
Dust collection system..Hawthorne Systems
Elevator buckets Maxi-Lift Inc.
Grain temperature system.... Rolfes @Boone
Millwright.....ESSI
Speed reducersBrowning
Steel storage.....The GSI Group
Steel tank erectionWieber Steel Construction LLC
Tower support system Hawthorne-Seving
Truck scale..... Mettler Toledo LLC



New construction at Cooperative Elevator Co. in Elkton, MI includes, from left, a third receiving pit, 30,000-bph GSI receiving leg, 285,000-bushel Hoffmann jumpform concrete silo, and a 1-million-bushel GSI corrugated steel tank. Photos courtesy of Elevator Services & Storage, Inc., Portrait photo by In Focus Photography, Pigeon, MI.

Like most of the Midwest, Michigan's Thumb region experienced a severe drought during the summer of 2012. But thanks to improved genetics, producers in the region produced a bumper crop of corn and soybeans, in spite of the unfavorable weather.

"The crop turned out better than expected," says Mike Janowicz, vice president-bean and grain for Pigeon, MI-based Cooperative Elevator Co., who has been in the grain and dry edible bean industry since 1977 and with the coop since 1993. "We had a record handle on beans and corn. Our speed of handling definitely helped."

Helping to achieve that speed were improvements made in 2012 to the cooperative's largest elevator at Elkton, MI, with 5.6 million bushels of upright storage. In addition to grain handling, the Elkton facility also loads shuttle trains on the Huron & Eastern Railroad, a short-line with connections to the CSX at



Mike Janowicz



Facility's third receiving pit empties onto a 30,000-bph Tramco drag conveyor that inclines up to a GSI receiving leg.

Flint, MI, and operates a dry edible bean processing plant.

Among the 2012 improvements was the addition of an annex on the north side of the facility that includes a 1.045-million-bushel corrugated steel tank and a 285,000-bushel jumpform concrete wet tank. The coop also added a third receiving pit, bringing

the facility's receiving capacity up to 60,000 bph, and an outbound truck scale to speed up the flow of traffic.

To power all that additional capacity, Cooperative Elevator actually had to build its own 7.5-kv electrical substation on-site. The cooperative buys its electricity from Detroit Edison but owns

the substation itself.

Cooperative Elevator hired Elevator Services & Storage Inc. (ESSI), Beavercreek, OH, as general contractor. "They've been building one bin per year for the last five years with us," Janowicz says. "They're good to work with, and they get done on time."

ESSI brought in Hoffmann Inc., Muscatine, IA, to construct the concrete silo. Wieber Steel Construction LLC, Altamont, SD, erected the big GSI tank.

Work on the project began early in March, and the coop began filling the new silo and tank with corn late in September.

Grain Storage

The million-bushel GSI tank stands 135 feet in diameter, 75 feet tall at the eave, and 111 feet tall at the peak. The flat-bottom tank is outfitted with outside stiffeners, a GSI Series II 16-inch sweep auger, and a 35-cable grain temperature monitoring system from Rolfes@Boone.

A set of six 30-hp Rolfes@Boone centrifugal fans provide 1/10 cfm per bushel of aeration through in-floor ducting, with the assistance of 15 roof exhausters. ►



Pair of Hi Roller enclosed belt conveyors take grain to and from the facility's existing concrete house out to new tanks. The conveyors are mounted on a two-level LeMar catwalk.

The jumpform concrete silo stands 58 feet in diameter and 131 feet tall, with a flat concrete floor, another 16-inch GSI sweep auger, and a nine-cable Rolfes@Boone temperature system. This silo has four Rolfes@Boone 40-hp centrifugal fans providing 1/10 cfm per bushel with five roof exhausters.

Grain Handling

The ESSI crew constructed a 1,000-bushel enclosed mechanical receiving pit adjacent to the existing two, which are located between the main concrete house and the new concrete silo.

The pit deposits grain onto a 30,000-bushel Tramco drag conveyor running to a new 30,000-bph GSI leg, which runs up the side of the new concrete silo. The leg is equipped with two rows of Maxi-Lift 16x8 CC Max low-profile buckets mounted on a 36-inch belt.

At the top, the leg deposits grain into a four-duct Hayes & Stolz electronic rotary distributor. The distributor can send grain in two directions—onto a 30,000-bph Hi Roller enclosed belt conveyor running out to the new steel tank or onto a 30,000-bph Hi Roller belt running back to existing storage. Another 40,000-bph Hi Roller belt carries grain out from existing equipment to the new annex, as needed. The two Hi Rollers are mounted on a unique two-level LeMar catwalk.

The two new tanks empty onto a series of 40,000-bph Hi Roller enclosed belts running back to the main concrete house. The steel tank has an above-ground tunnel to house the Hi Roller, while the tunnel beneath the concrete silo is below ground.

In addition to the annex, Cooperative Elevator also installed a second 80-foot METTLER TOLEDO pit-type scale, which serves outbound trucks. The coop utilizes its own in-house scale automation system, which allows suppliers to look up weights and grades via an Internet web site.

Janowicz says the next addition, probably in 2013, will be a 10,000-bph grain dryer adjacent to the concrete silo. He notes that the site has room for five additional million-bushel tanks.

Ed Zdrojewski, editor