

Putting Milmine on the Map

TOPFLIGHT GRAIN ADDS 850,000-BUSHEL RAIL LOADING ANNEX ON NORFOLK SOUTHERN

TopFlight Grain Co.
Monticello, IL • 217-762-2163

Founded: 1998
Storage capacity: 24.5 million bushels at 15 locations
Annual volume: 38-40 million bushels
Annual revenues: \$250 million
Number of members: 2,700
Number of employees: 50
Crops handled: Corn, conventional and non-GMO soybeans, soft red winter wheat
Services: Grain handling and merchandising, agronomy, trucking

Key personnel:

- Scott Docherty, general manager
- Eric Clements, operations manager
- John Carr, Milmine plant manager
- Rick Chestnut, superintendent
- Chris Hood, assistant superintendent
- Kelly Curry, outside operations

Supplier List

Aeration fans..... The GSI Group, Caldwell Mfg.
Aeration system Brock Grain Systems
Bearing sensors ..4B Components Ltd.
Bin sweeps... Sudenga Industries Inc.
Bucket elevators.....The GSI Group
Bulk weigh scale Compu Weigh Corp.
Catwalks LeMar Industries Corp.
Cleaners..... Intersystems
Concrete contractor..... Mulford Concrete Inc.
Contractor GROWMARK Grain Systems
Distributor..... Union Iron Works
Dust collection system.. AIRLANCO
Elevator buckets Maxi-Lift Inc.
Fall protection Fall Protection Systems Corp.
Grain dryer Zimmermann Grain Dryers
Level indicators..... BinMaster Level Controls
Manlift.....Schumacher Elevator Co.
Millwright..... TCR Systems LLC
Motion sensors.. 4B Components Ltd.
Rail construction .. AmeriTrack Rail Construction Inc.
Samplers Gamet Mfg. Inc.
Steel storage.....The GSI Group
Tower support systemLeMar Industries Corp.



Aerial view of TopFlight Grain Co.'s rail terminal at Milmine, IL, with newest steel annex section at lower left. Aerial photo by Steve Huey, Pekin, IL.



Closeup view of the newest construction at the Milmine elevator, including five corrugated steel tanks, four legs, a tower dryer, and bulk weigh loadout system for origin weights. Ground level photos by Ed Zdrojewski.

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Key personnel from left: TopFlight Operations Manager Eric Clements, General Manager Scott Docherty, and Milmine Plant Manager John Carr.



More key personnel from left: Superintendent Rick Chestnut, Milmine Operations Manager Chris Hood, and Kelly Curry, grain operations.

Tiny Milmine, IL, a collection of not much more than a dozen houses about 25 miles east of Decatur, IL, is so small that it doesn't even show up on some Illinois road maps.

TopFlight Grain Co.'s latest addition to its grain elevator there, however, may be enough to make it a destination of choice, at least for producers in much of central Illinois.

"We did a survey of the volumes at all of our 15 grain locations," says General Manager Scott Docherty. "We looked at where we were short on space and at places where we could build without being landlocked by in-town locations.



It turned out we could purchase enough land for a major expansion at Milmine and route trucks in and out without having to go through town."

In addition, he says, the Milmine elevator was located along a Norfolk Southern main line, with enough space to build extra siding track to handle trains up to 75 cars, for shipping grain to the big processors in Decatur or to the southeastern feed markets.

Annex Project

In 2011, TopFlight built a large steel annex at Milmine consisting of about 850,000 bushels of upright storage, two receiving pits, four legs, a 40,000-bph bulk weigh loadout system, two gravity screeners, and a 5,000-bph grain dryer.

After taking bids on the huge project, the cooperative selected GROWMARK Grain Systems, Bloomington, IL (309-557-6000), as general contractor.

"It was our first project with GROWMARK," says Operations Manager Eric Clements. "They had the time and the expertise for a large project like this. They were able to complete everything in 12 months. Also, they were willing to have a project manager (Matthew Johnson) on site full-time."

Groundbreaking took place in September 2010, with the project finishing up in September 2011 for a confidential cost.

Other major contractors on the project:

- Springfield Electric Supply Co., Springfield, IL (217-788-2100), supplied electrical systems for the project.
- VAA LLC, Plymouth, MN (763-559-9100), performed engineering

work.

- Mulford Concrete Inc., Hampton, IA (641-456-5200), supplied 4,000 yards of concrete and poured it on-site.

- Stokes Excavating, Shirley, IL (309-275-9400), did site excavation and road building.

- Ameritrack Railroad Contractors Inc., Frankfort, IN (765-659-2111), performed rail construction.

- TCR Systems, Decatur, IL (217-877-5622), served as millwright.

- Atchison Electric Inc., Sullivan, IL (217-728-7328), served as electricians on the project.

Steel Storage

GROWMARK brought in Cross Country Construction, Elbow Lake, MN (218-685-6410), to erect two new GSI corrugated steel tanks. The larger of the two, intended for dry grain storage, stands 90 feet in diameter, 88 feet tall at the eaves, and 113 feet tall at the peak, holding 515,000 bushels. The smaller tank, intended as a wet bin, holds 315,000 bushels standing 72 feet in diameter, 85-1/2 feet tall at the eaves, and 105 feet tall at the peak.

These flat bottom tanks have outside stiffeners, 16-inch Sudenga sweep augers, BinMaster level indicators, and Rolfes@Boone grain temperature cables, 16 in the 90-foot tank and 12 in the 72-foot.

A set of four 30-hp Caldwell centrifugal fans on the dry tank provide an estimated 1/10 cfm per bushel of aeration to the dry tank through in-floor ducting, while two 40-hp GSI centrifugal fans provide an estimated 1/7 cfm per bushel of aeration for the wet tank.

In addition, the project included construction of 6,000-bushel and 10,000-bushel hopper tanks for storage of fines and a 4,000-bushel overhead



Overhead view of a 40,000-bph Intersystems gravity screener and 40,000-bph Compu-Weigh bulk weigh loadout scale.



Rooftop equipment visible includes a 20,000-bph, head sections of three GSI legs, top section of a PMI (Schumacher) 650-lb.-capacity manlift, eight-hole Union Iron Works double distributor, and 20,000-bph Intersystems gravity screener.

hopper tank for loading trucks, as well as a 30-foot diameter, 30,900-bushel hopper tank for holding off-grade grains.

Grain Handling Equipment

On the south side of the annex, GROW-MARK installed a pair of 1,000-bushel enclosed mechanical receiving pits.

Through a series of valves, these pits can



New natural-gas-fired 5,000-bph Zimmerman tower dryer in foreground and AIRLAN-CO baghouse dust control system to the rear.

send grain to three of four new GSI legs—a 20,000-bph receiving leg, a 20,000-bph dryer wet leg, and a 20,000-bph dry leg, both of which can double as receiving legs. The fourth leg is the rail shipping leg rated at 40,000 bph.) The 20,000-bph legs are outfitted with 20x8 Maxi-Lift heavy-duty low-profile buckets mounted on 22-inch belts. The 40,000-bph leg has two rows of buckets on a 44-inch belt.

The receiving and dryer legs empty

grain into a Union Iron Works eight-hole rotary double distributor. The operator has the option of routing grain through a 20,000-bph Intersystems gravity screener below the distributor.

From there, grain runs out an overhead 40,000-bph GSI belt conveyors to the wet tank or via either of two 20,000-bph drag conveyors to the dry tank.

The wet tank empties onto an above-ground 20,000-bph GSI drag conveyor running to the wet leg. This leg, in turn, feeds into a natural-gas fired Zimmerman 5,000-bph tower dryer. Clements notes that TopFlight operates Zimmerman dryers at most of its locations and likes their performance.

The shipping leg delivers grain to a 40,000-bph Intersystems screener, which in turn, deposits it into a CompuWeigh 40,000-bph bulk weigh loadout scale equipped with a Gamet sampler.

Loadout operations are under the control of CompuWeigh's GMS 4000 Grain Management System, which includes the optional SmartRead railcar RF tag reader, as well as SmartLoad and Super SmartLoad, which allow the bulkweigher to run, while the next car is brought into position by preloading the weigh hopper and lower garner. Workers atop railcars are protected by a four-railcar-length Fall Protection Systems trolley unit.

Ed Zdrojewski, editor