

2-million-bushel tank goes up in Ohio

SUNRISE COOPERATIVE eliminates a 1-million-bushel ground pile with Behlen's largest steel grain tank to date.

The employees running the Sunrise Cooperative rail terminal in South Charleston, OH (937-462-8341) are no strangers to operating huge corrugated steel grain tanks.

In 2019 and 2020, respectively, the farmer-owned cooperative installed two Behlen 131-foot-diameter tanks. The 2019 tank holds 1 million bushels of grain; the 2020 tank is a couple of rings taller and holds 1.2 million bushels.

In 2021, Sunrise took it to the next level with a new Behlen 157-foot-diameter tank holding 2 million bushels. To date, it's the largest tank Behlen has ever manufactured or produced.



Dan Roncolato

"Ten years ago, in 2011, we handled 6 million bushels of grain here," says Location Manager Dan Roncolato, who has been at South Charleston since 2011 after graduation from Wilmington College in Wilmington, OH. "Last year, we handled 13 million.

SUNRISE COOPERATIVE

Fremont, OH • 419-332-6468

Founded: 2007

Storage capacity: 33 million bushels at 12 locations

Annual volume: 80 million bushels

Annual revenues: \$1.1 billion

Number of members: 6,000

Number of employees: 415

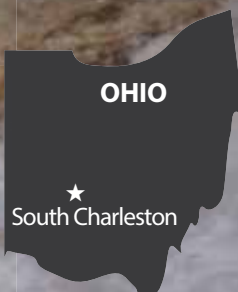
Crops handled: Corn, soybeans, soft red winter wheat

Services: Grain handling and merchandising, feed, agronomy, precision ag

Key personnel at South Charleston:

- Dan Roncolato, location manager
- John Kimley, operations manager
- Joyce Gragg, office manager

Sunrise
COOPERATIVE
Success grows here





The new Behlen 2-million-bushel tank at Sunrise Cooperative rail terminal in South Charleston, OH is the largest corrugated steel tank the manufacturer has built to date. Drone photo by Raines Photography, Wapakoneta, OH.

SOUTH CHARLESTON SUPPLIER LIST

- **Aeration fans** • Rolfes@Boone
- **Bin sweep** • Prairie Land Millwright
- **Catwalks** • Hawthorne-Seving; LeMar Industries
- **Concrete foundation** • Craig's Concrete Inc.
- **Contractor** • Elevator Services & Storage, Inc. (ESSI)
- **Conveyors (belt)** • AGI Hi Roller Conveyors
- **Conveyors (drag)** • Hawthorne-Seving, Inc.
- **Electrical contractor** • Area Electric
- **Grain temperature system** • Rolfes@Boone; Midwest Temperature Systems
- **Manlift** • Harris Companies
- **Millwright** • ESSI
- **Motors** • Toshiba International
- **Speed reducers** • Browning
- **Steel storage** • Behlen Mfg. Co.
- **Steel tank erector** • Wieber Steel Construction
- **Tower support system** • LeMar Industries

“As a cooperative, we try to be a front runner, which means doing what no one else is doing,” he continues. “The farmers are changing their operations, and we’re changing with them.”

Roncolato notes that in some places, the idea of a 2-million-bushel tank at an in-town location might draw some negative comments, but in this case, the project had the

full support of the South Charleston community. “This is a farm town,” he says. “The community has always supported us.”

“They were particularly glad to see the upright storage replace a 1-million-bushel temporary ground pile. As of this year, we’re not piling any grain on the ground here.”

As general contractor and millwright on the project, Sunrise hired Elevator Ser-

vices & Storage, Inc. (ESSI), Beaverdam, OH (419-643-5111). ESSI had built the previous two big Behlen tanks at South Charleston and supplied much of the grain handling equipment through its Hawthorne-Seving fabrication operation in Beaverdam.

“ESSI and Sunrise have a long relationship,” Rancolato says. “They give us the best service if we should have a breakdown at one of our elevators.”

To erect the tank, ESSI brought in Wieber Steel Construction, Altamont, SD (605-874-8247).

Groundwork on the project began in March 2021, as soon as the frost cleared the ground, and the tank was ready to receive grain in time for harvest in October 2021.

How Big Is It?

The mammoth 2-million-bushel Behlen tank stands 157 feet in diameter, 105 feet tall at the eave, and 147 feet 10 inches tall at the peak. It has a roof peak load of 100,000 pounds.

According to Roncolato, the 11-foot concrete stem wall alone utilizes 1,920 yards of concrete and is strengthened by 321,000 pounds of steel rebar. Due to soil conditions, the entire tank sits atop rammed Geopier aggregate piers. ▶



Ground-level view of two of the newer Behlen tanks built at South Charleston, including a 2-million-bushel tank at left from 2021 and a 1-million-bushel tank from 2020 at right. Ground-level photos by Ed Zdrojewski.

According to the manufacturer, it takes approximately 2,200 truckloads of grain to fill the tank. Assuming a yield of 200 bushels per acre of corn, it would take approximately 10,000 acres or between 15 and 16 square miles of farm ground to fill it. Inside the tank is enough space to fit 2,800 full-size pickup trucks or 1 billion golf balls.

The tank is outfitted with a flat concrete floor, outside stiffeners, a 15,000-bph Bin Gator zero-entry paddle sweep, and a 42-cable Rolfes@Boone grain temperature monitoring system with its new KTX mobile app.

Aerating this tank takes eight 125-

hp Rolfes@Boone centrifugal fans, with the assistance of 27 powered roof vents, producing 1/10 cfm per bushel of aeration. Because of the size of the centrifugal fans in a residential area, they are equipped with silencers.

The tank can be filled at 45,000 bph using two different overhead conveyors coming from different directions – a 30,000-bph AGI Hi Roller enclosed belt conveyor and a 15,000-bph Hawthorne-Seving drag conveyor.

The tank empties onto an above-ground Hawthorne-Seving 30,000-bph drag conveyor, which runs to an existing Haw-

thorne-Seving 30,000-bph shipping leg.

In addition to the big tank, Sunrise also added a Harris Companies manlift between two of the tanks in the steel complex.

Ed Zdrojewski, editor



Three of eight Rolfes@Boone 125-hp centrifugal fans equipped with silencers.



A new Harris Companies manlift being installed to run from ground level up to a Hawthorne-Seving catwalk.