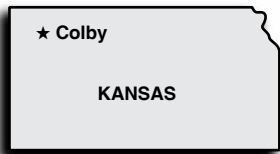


Fall Crop Expansion

NEW STORAGE, DRYER, CLEANER ALLOW HEADQUARTERS ELEVATOR TO BRING CORN IN HOUSE



★ Colby

KANSAS

Cornerstone Ag LLC
Colby, KS • 785-462-3354

Founded: 2000

Storage capacity: 6.2 million bushels at three locations

Annual volume: 20 million bushels

Annual revenues: \$100 million

Number of employees: 17

Crops handled: Hard red winter wheat, corn, sorghum, soybeans

Services: Grain handling and merchandising

Key personnel:

- Eric Sperber, CEO/general manager
- Scott King, operations manager
- Jeff Finley, superintendent

Supplier List

Aeration fans.....AIRLANCO

Aeration/unloading system.. North American Equipment Co.

Bearing sensors..... CMC Industrial Electronics

Bin sweep..... GSI

Bucket elevators..... InterSystems

Catwalk..... LeMar Industries Inc.

Cleaner Ferrell-Ross Roll Mfg.

Concrete tanks.....McPherson Concrete Storage Systems, Inc.

Contractor HABCO Inc.

Control systems Watson Electric Inc., Arrow Automation Inc.

Conveyors (belt).....Hi Roller Conveyors

Conveyors (drag) InterSystems

Distributor..... InterSystems

Dust filters.....Donaldson Torit

Elevator buckets Maxi-Lift Inc.

Grain dryer...GSI/Zimmerman Grain Dryers

Grain temp system...Rolfes@Boone

Level indicators..... BinMaster Level Controls

Millwright..... HABCO Inc.

Motion sensors CMC Industrial Electronics

Tower support systemLeMar



New storage at Cornerstone Ag LLC's headquarters elevator in Colby, KS includes huge new 700,000-bushel jumpform concrete tank at left and two smaller jumpform tanks to the right of the new 30,000-bph leg. Photos by Ed Zdrojewski.

For years, Cornerstone Ag LLC, Colby, KS, handled its relatively small fall harvest at a small grain elevator near downtown. Its big rail-loading terminal on the Union Pacific at the southeastern edge of town was largely a wheat elevator.

“Corn continues to gain acres in northwest Kansas,” says Eric Sperber, CEO and general manager of the venture, who came to Cornerstone 10 years ago from a nearby ethanol plant. (Cornerstone Ag is a joint venture involving Cargill, CHS, and Frontier Ag Inc.) “We needed to do a better job serving the truck markets with corn.”

That meant moving fall crop handling out of the downtown location, which had little room for expansion. (That location remains in service for overflow bushels.)

That also meant adding about 1.2 million bushels of upright storage at the venture's main elevator to handle fall crop without interfering with wheat storage and handling, as well as related grain handling equipment and the facility's first-ever grain dryer.

Cornerstone awarded a contract on the estimated \$11 million project to HABCO Inc., Salina, KS (785-823-0440), and McPherson Concrete Storage Systems, Inc., McPherson, KS (800-999-8151). Both contractors were involved in the previous expansion at Colby, which was completed in 2008. Work on the project began early in 2014 and was completed shortly before *Grain Journal* visited in February 2015.

Also involved closely in the construction were Watson Electric Inc., Salina (785-827-2924), and Arrow Automation Inc., Salina (785-488-3530), which designed and installed the electrical and automation systems.

CEO and General Manager Eric Sperber





Long-distance view of the 10-million-bushel-plus rail terminal at the edge of Colby.

Jumpform Storage

McPherson Concrete constructed three jumpform concrete tanks including a 94-foot-diameter behemoth that was the contractor's largest at the time. That tank, which holds 725,000 bushels, stands 124 feet tall.

It has a flat bottom, 16-inch GSI X-Series sweep auger, 18-cable Rolfes@Boone grain temperature monitoring system, and BinMaster level indicators. A set of six AIRLANCO 50-hp centrifugal fans provide 1/9.3 cfm per bushel of aeration with the assistance of 10 roof exhausters.

The middle-sized tank is 72 feet in diameter and 120 feet tall holding 400,000 bushels. It has a GSI X-Series bin sweep, 12-cable temperature system, level indicators, and four 50-hp centrifugal fans providing 1/8.5 cfm per bushel on coarse grains with the help of six roof exhausters.

The smaller tank, which is used at least part of the time as a wet tank, stands 48 feet in diameter and 120 feet tall and has a KanalSystem floor with center sump provided by North American Equipment Co. This tank is outfitted with seven temperature cables, level indicators, and a pair of 50-hp centrifugal fans providing 1/7.5 cfm per bushel for aeration and unloading, with the help of three roof exhausters.

Handling Systems

With the emphasis on moving fall crop handling out to the rail terminal, the new tanks now have their own receiving system. That includes a new 1,000-bushel mechanical receiving pit feeding a 30,000-bph InterSystems receiving leg. The leg is outfitted with two rows of Maxi-Lift 18x8 Tiger-Tuff buckets mounted on a 40-inch belt on 9-1/2-inch centers. A 20,000-bph Ferrell-Ross drag scalper installed adjacent to the pit allows for grain cleaning, before the grain can go anywhere else.



Newly expanded office building includes another 3,500 square feet of space.

The leg deposits grain into an eight-hole InterSystems rotary distributor. From there, it can run out to the new storage via 30,000-bph overhead InterSystems drag conveyors.

The three tanks empty grain onto a series of Hi Roller 48,000-bph Hi Life enclosed belt conveyors in below-ground tunnels for return to the new leg and main elevator. The wet tank also sidedraws into an InterSystems wet leg equipped with 12x8 Tiger-Tuff buckets mounted on a 14-inch belt.

This leg is the only means of loading the new 6,000-bph Zimmerman tower dryer, which is fired by natural gas through a new pipe running from a gas main 3-1/2 miles to the north. "We had to get several easements to complete the project," says Sperber. "That wasn't cheap, but we also looked at propane, and that wasn't cheap, either."

The dryer empties into the reclaim belt conveyor system or directly into the 30,000-bph receiving leg.

In addition to all of the grain storage and handling equipment, Cornerstone also added a 3,500 square foot addition to its single-story office building. The new space includes three private offices, general workspace, conference room, and an ADA-certified restroom.

Ed Zdrojewski, editor



New 6,000-bph Zimmerman tower dryer is the first at the Colby terminal.