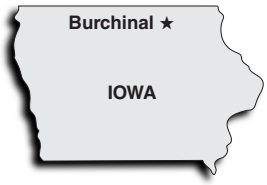
Five Star's Steel Annex

IOWA COOP OPTS FOR MORE SPEED AND CORN STORAGE AT BRANCH ELEVATOR



Five Star Cooperative
New Hampton, IA • 641-394-3052

Founded: 1916
Storage capacity: 25 million bushels at 16 locations
Annual volume: 55 million bushels
Annual revenues: $480 million
Number of members: 1,900
Number of employees: 142
Crops handled: Corn, soybeans, oats
Services: Grain handling and merchandising, hardware store, agronomy, petroleum, feed mills

Key personnel at Burchinal:
- Gene Toppin, location manager
- Scott Gudbaur, grain merchandiser

Supplier List

Aeration fans..... Sukup Mfg. Co.
Bin sweeps ..... Springland Mfg.
Bucket elevators.... Sukup Mfg. Co.
Catwalks ..... Tri-co Fabrication LLC
Contractor... Buresh Building Systems Inc.
Control system..... Hope Electric
Conveyors ..... Sukup Mfg. Co.
Distributor..... Schlagel Inc.
Elevator buckets ..... Maxi-Lift Inc.
Engineering ..... C&C Engineering
Grain dryer ..... Sukup Mfg. Co.
Grain temperature system.... TSGC Inc.
Leg belting..... Fenner Dunlop
Level indicators..... BinMaster Level Controls
Millwright... Buresh Building Systems Inc.
Motors ..... Leeson, Toshiba International
Speed reducers ..... Dodge
Steel storage..... Sukup Mfg. Co.
Surge tank..... Meridian Mfg.
Truck scale..... Cardinal Scale Mfg.
Tower support system ..... Tri-co Fabrication LLC

Five Star Coop's Burchinal location added two new 550,000-bushel steel tanks, a 110,000-bushel wet bin, 4,700 bph grain dryer, and a receiving pit in 2012. Aerial photo by JH Photography, Spencer, IA.

When Five Star Cooperative decided to upgrade its Burchinal, IA branch location, it essentially built a new grain elevator adjacent to its 770,000-bushel facility.

The project, which began in April 2012 and was completed in time for the fall harvest, included two new 550,000-bushel steel corrugated tanks, a 110,000-bushel wet tank, a 4,700-bph grain dryer, and a 900-bushel receiving pit.

Operations Manager Wayne Steven says the new steel tank facility will be used for corn, and the existing facility will handle soybeans.

"We needed more speed and space for unloading corn, and we had the land at the existing site for the new steel tanks," Steven explains. "We took down a chemical storage building because we weren't using it much," to make way for the new construction.

Five Star Coop selected Buresh Building Systems, Inc., Hampton, IA (641-456-5242), as the general contractor for the project. Buresh previously had done work at several Five Star locations. "They do a good job," says Steven. "We're very satisfied. It's made our life a lot easier. Any time you can increase your speed and capacity, it makes a big difference."

Gene Toppin, left, is the Burchinal location manager. Wayne Steven is the operations manager. Photos by Jerry Perkins.

He declined to say how much the project cost.

Next year, Steven says, Five Star plans to add storage at its Scarville, IA location

similar to the Burchinal project but a little smaller. Also, the coop's Ionia and Galbraith, IA locations will add storage.

Grain Storage

Sukup Manufacturing Co., Sheffield, IA (641-892-4222), supplied the steel tanks, material handling equipment, grain dryer, and receiving buildings.

The two larger steel tanks are each 90 feet in diameter; 95 feet, five inches to the eaves; and 119 feet, seven inches to the peak.

These flat-bottom tanks have outside stiffeners and a zero-entry Springland 12-inch bin sweep.

A Tri-States Grain Conditioning grain temperature monitoring system was installed, with 15 cables in each tank.

A BinMaster rotary level indicator was installed on the wet bin, which stands 42 feet in diameter and 88 feet tall. It is wired to make it automatic by Hare Electric, Fertile, IA (641-797-2722).

Both the larger steel tanks and the wet tank are aerated, with 60-hp centrifugal Sukup fans with 1/7 cfm per bushel. There are four roof exhausters per bin, 2-hp each, and 31 18-inch vents.

Grain Flow

Incoming grain goes over an electronic Cardinal 70-foot pit-type truck scale. Samples are taken by a JaHam automatic truck probe and tested by a DICKEY-john moisture meter/grain analyzer.

Ground-level view of Five Stars new 1.2-million-bushel steel annex.

Trucks then empty into a mechanical receiving pit which in turn empties into a drag conveyor feeding three Sukup legs.

A 125-hp Leeson Electric motor is used for the 195-foot-tall, 15,000-bph receiving leg and a 75-hp Leeson motor for the 8,000-bph dry and wet legs.

Maxi-Lift 14x7 CC-MAX elevator buckets are installed on the wet and dry legs, 530 on the 170-foot-tall wet leg and 606 on the 195-foot-tall dry leg, all on 8-inch centers. The receiving leg has 543 Maxi-Lift 18x8 buckets on 9-inch centers.

A Schlagel eight-hole swing-type distributor is automated electronically.

Sukup 23,000-bph overhead drag conveyors carry grain out to storage. Tanks empty onto above-ground Sukup 10,000-bph drags running back to the receiving leg.

Trucks are loaded out of a 16-foot-diameter, 5,000-bushel Meridian overhead bin or out of side spouts.

A new Sukup tower dryer with a capacity of 4,700 bph is fired by propane and has performed very well, Steven says.

Jerry Perkins, associate editor

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