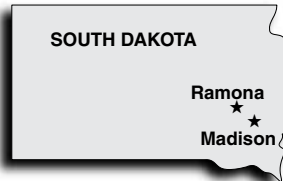


# Two Tanks at Two Locations

SOUTH DAKOTA COOPERATIVE ADDS STORAGE, HANDLING, DRYING EQUIPMENT



**Madison Farmers Elevator Co.**  
Madison, SD • 605-256-4584

**Founded:** 1908  
**Storage capacity:** 8 million bushels at two locations  
**Annual volume:** 18.5 million bushels  
**Annual revenues:** \$104 million  
**Number of members:** 1,100  
**Number of employees:** 16  
**Crops handled:** Corn, soybeans  
**Services:** Grain handling and merchandising, feed, agronomy

**Key personnel:**

- Mark Stoller, general manager
- Penny Hughes, controller
- Pat Miller, grain buyer
- Steve Krause, operations manager
- Ron Thuringer, weighmaster
- Todd Williams, Ramona elevator mgr.

**Supplier List**

- Aeration fans**.....The GSI Group  
**Bearing sensors**..... 4B Components Ltd.  
**Bin sweeps** .....The GSI Group  
**Bucket elevator**.....The GSI Group  
**Catwalks** .... LeMar Industries Corp.  
**Contractor** ..... Elevator Works Inc.  
**Conveyors (belt)**.....Hi Roller Conveyors  
**Conveyors (drag)** .....Schlagel Inc.  
**Distributor**.....Schlagel Inc.  
**Elevator buckets** ..... Maxi-Lift Inc.  
**Engineering** ..... VAA LLC  
**Grain dryer** ..... Zimmerman Grain Dryers  
**Grain temperature system**.... TSGC Inc.  
**Millwright**..... Elevator Works Inc.  
**Motion sensors**.. 4B Components Ltd.  
**Steel storage**.....The GSI Group  
**Steel tank erection** ..... Goens Construction  
**Tower support system** .....LeMar Industries Corp.



*Madison Farmers Elevator Co.'s headquarters elevator in Madison, SD, on a day when a lot of grain is moving. New tank is in the center foreground of the cluster of steel tanks. Photo by Tom Kommes.*

Madison Farmers Elevator Co., Madison, SD, in 2010 installed nearly identical 500,000-bushel corrugated steel GSI tanks at each of its two locations.

But that's where the similarity ends.

At the cooperative's 7.3-million-bushel headquarters elevator in Madison, which has been undergoing nearly annual expansions since 2003, the idea was to increase unloading

capacity at harvest. Madison Farmers not only added storage but replaced drag conveyors with enclosed belt conveyors.

"Corn acres across the state are up, especially to the west of here," says General Manager Mark Stoller, who has been with Madison Farmers since 2001 except for a one-year "sabbatical" with Consolidated Grain & Barge Co. in Indiana. "We're seeing dryland yields of 150 bushels per acre out



*Closeup of the new GSI 500,000-bushel tank at Madison showing sidedraw and overhead 20,000-bph Hi Roller enclosed belt conveyor. Photos by Ed Zdrojewski.*

in Wall, SD (central part of the state).

“Farmers are getting better at what they do,” he continues. “Around here, they would be disappointed with a 150-bushel yield.”

Thirteen miles to the northwest, at Ramona, SD (605-482-8291), the idea was simpler – take a tiny 200,000-bushel branch elevator and bring it into the 21st century, in terms of storage and receiving capacity. The new tank at Ramona dwarfs the rest of the facility.

To build the \$3.2 million project, Madison Farmers took bids and awarded the contract to Elevator Works Inc., Lamberton, MN (507-752-7884), after cooperative board members visited several of the contractor’s recent projects and were impressed with the work done.

Several other suppliers also had major roles at the two locations.

- VAA, LLC, Plymouth, MN (763-577-9100), performed structural engineering services.

- Peterson Contractors Inc., Reinbeck, IA (319-345-2991), did the



*New 10,000-bph Zimmerman tower dryer under construction at Madison early in May 2011.*



*New GSI 500,000-bushel steel tank and 15,000-bph GSI leg at Ramona, SD.*

ground improvement at Ramona.

- Wiesner Construction, Clear Lake, SD (605-874-2733), poured the concrete foundations for the steel tanks.

Work began in March 2010 and was completed by the end of September.

#### **Madison Project**

Elevator Works constructed a 500,000-bushel GSI tank at Madison standing 90 feet in diameter and 86 feet tall at the eaves.

The flat-bottom tank has outside stiffeners, a 16-inch GSI sweep auger, ▶



*Overall shot of the branch elevator at Ramona.*

and a 20-cable TSGC grain temperature monitoring system.

A pair of 54-hp GSI centrifugal fans provide 1/10 cfm per bushel worth of aeration.

A 20,000-bph Hi Roller enclosed belt conveyor with 30-inch Scandura belt carries grain out to the new tank from existing equipment. The tank empties onto an above-ground 40,000-bph Hi Roller Hi Life conveyor with a 42-inch Scandura belt, which runs back to existing elevating equipment.

This year, Madison Farmers is adding a 10,000-bph natural gas-fired Zimmerman tower dryer at the Madison elevator. The dryer was under construction, when *Grain Journal* visited Madison Farmers early in May 2011. Stoller notes that the Zimmerman dryer replaces an old dryer that had worn out. J&D Construction Inc., Montevideo, MN (320-269-2101) is installing the dryer.

### **Ramona Project**

Madison Farmers faced a challenge in constructing a 500,000-bushel tank at its Ramona branch location that it didn't face in Madison – poor soil conditions



*General Manager Mark Stoller.*

for heavy construction.

Rather than putting down standard pilings to prepare the site for the new tank, Peterson Contractors installed 272 “Geopiers” to serve as support for the tank. This less expensive alternative involved drilling 11-foot-deep holes into the soil and filling them with compacted fill material. The 11-foot depth was selected because that was the start of a layer of “better” soil to support the weight of the tank. Stoller notes that this technique would not be able to work everywhere.

The GSI tank at Ramona is almost identical in design to the tank at Madison, except that it is outfitted with a pair of 60-hp GSI centrifugal fans designed to deliver 1/8 cfm per bushel worth of aeration. “We don’t have a dryer at Ramona, so this allows us to store grain up to 16% or 17% moisture,” Stoller remarks.

Adjacent to the tank, Elevator Works installed a 700-bushel open-air mechanical receiving pit. This feeds into a 15,000-bph GSI leg standing 144 feet tall and outfitted with 16x8 Maxi-Lift Tiger-Tuff buckets mounted on an 18-inch Scandura belt.

The leg’s head section deposits grain into a four-hole Schlagel electronic rotary distributor. Currently, only two of four holes are used, one sending grain via gravity into the new tank, the other onto a 15,000-bph overhead Schlagel drag conveyor running back to existing storage. Stoller notes that the Ramona site has plenty of room for more storage to be built as needed, so eventually, the extra holes will be used.

The new tank empties into an above-ground GSI drag conveyor running back to the new leg.

*Ed Zdrojewski, editor*