

# Multiple Trains Per Week

MINNESOTA COOP BUILDS TO HAVE ENOUGH CORN ON HAND TO FILL UNIT TRAINS



**LaSalle Farmers Grain Co.**  
Madelia, MN • 507-642-3276

**Founded:** 1920

**Storage capacity:** 2.8 million bushels at two locations

**Annual volume:** 12.6 million bushels

**Annual revenues:** \$50 million

**Number of members:** 625

**Number of employees:** 45

**Crops handled:** Corn, soybeans

**Services:** Grain handling and merchandising, full-service agronomy, feed, petroleum, LP gas

#### Key personnel:

- David Peters, general manager
- Rob Love, grain division manager
- Jim Bauer, superintendent
- Mark Johnson, assistant superintendent

#### Supplier List

<b>Aeration system</b> .....	Alanco Environmental Mfg.
<b>Bucket elevator</b> .....	Schlagel Inc.
<b>Bulk weigh scale controls</b> ...	Compu-Weigh Corp.
<b>Catwalk</b> .....	Warrior Mfg. Co.
<b>Cleaner</b> .....	InterSystems Inc.
<b>Concrete tank builder</b> ..	Hoffmann Inc.
<b>Conveyors</b> .....	Schlagel Inc.
<b>Distributor</b> .....	Schlagel Inc.
<b>Elevator buckets</b> .....	Tapco Inc.
<b>Fines tank</b> .....	Micada Tanks
<b>Grain temperature system</b> ...	The Boone Group
<b>Leg belting</b> .....	Goodyear Tire & Rubber Co.
<b>Level indicators</b> ...	4B Components
<b>Millwright</b> ..	J&D Construction Inc.
<b>Plant controls</b> ...	Control Stuff Inc.
<b>Scale software</b> ..	Vertical Software Inc.
<b>Speed monitors</b> ...	4B Components
<b>Tower support system</b> ...	Warrior Mfg. Co.
<b>Truck scale</b> .....	Fairbanks Scales



*LaSalle Farmers Grain Co.'s rail terminal near Madelia, MN, including a new 700,000-bushel Hoffmann jumpform concrete tank on the left side of the facility. Photo courtesy of Hoffmann Inc.*

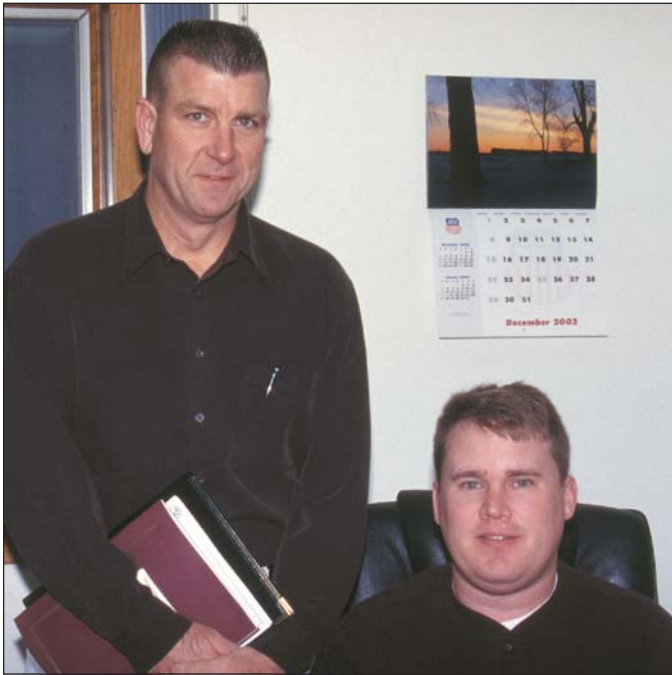
LaSalle Farmers Grain Co. has had the ability to load 100-car shuttle trains on the Union Pacific from its rail terminal at the east end of Madelia, MN since the mid-1990s. Upgrades made in 2002, including the addition of 700,000 bushels worth of new upright storage and a doubling of grain receiving capacity now enables the cooperative to load three or four trains every week.

LaSalle Farmers Grain had two main goals with the \$2.85-million project, says Grain Division Manager Rob Love.

"First, we needed to increase our receiving and storage capabilities at Madelia East,"

he says. "We already had 950,000 bushels there, and we added another 700,000. It takes 400,000 bushels to load a shuttle train. We wanted a bigger cushion and more flexibility. Now, we can schedule three or four trains a week and not have to worry about having enough grain on hand.

"Second, we wanted to make the elevator operation more efficient, to facilitate customer service as well as making it user-friendly" Love continues. "We've added new electrical controls, all PLC-based. Now we can run the entire elevator from one of three workstations, in the scale room, in the grading lab, and from



*General Manager David Peters (standing) and Grain Division Manager Rob Love. Photo by Ed Zdrojewski.*

the loadout tower.”

In addition to these benefits, the Madelia facility has increased its grain receiving capability from 20,000 to 40,000 bph, which allows it to take in corn and soybeans simultaneously. Previously, the elevator could receive one commodity or the other, but not both at the same time.

And, the addition of a new truck scale back several hundred feet from the receiving pits has improved truck traffic flow through the facility.

### **Storage Boost**

The centerpiece of the 2002 construction at Madelia is a new 700,000-bushel jumpform concrete tank. The cooperative hired Hoffmann Inc., Muscatine, IA (563-263-4733), a jumpform concrete tank specialist, to construct the tank. “Hoffmann did another tank for us at Madelia in 1995, and the workmanship was excellent,” says Grain Division Manager Rob Love.

The millwright work was handled by J&D Construction, Montevideo, MN (320-269-2101), a subcontractor to Hoffmann.

Construction got underway in August 2001 and took about a year to complete. LaSalle Farmers Grain faced some challenges before construction could get underway, including the demolition of an old flat storage warehouse and the sinking of 150 concrete pilings sunk 60 feet deep, which were required due to unfavorable soil conditions.

The new Hoffmann tank stands 90 feet in diameter and 130 feet tall. The flat-bottom tank is equipped with an 8-foot-x-8-foot Bobcat door at ground level to admit a skid steer loader, which eliminates the need for a bin sweep. The tank also is equipped with a 16-cable Boone grain temperature system, which was installed by Carver Company, and 4B Autaset level indicators.

Aeration ducting is flush with the floor level, so a skid steer loader can drive over it. Four 60-hp Alanco fans are capable of delivering 1/10 cfm per bushel worth of aeration, and the tank also is equipped with 10 roof exhausters.

In addition to these features, the tank also is equipped with a grain ladder.

### **Grain Handling**

J&D, working in conjunction with LaSalle Farmers Grain and Hoffmann, designed and installed the grain handling system to integrate the new storage while enhancing grain movement throughout the facility.

New equipment includes a new 1,600-bushel enclosed mechanical pit, the third at Madelia, which is outfitted with Oil Commander mineral oil-type dust suppression equipment.

The pit feeds grain into a 20,000-bph Schlagel leg, which effectively doubles the facility’s receiving capacity. Two older 10,000-bph legs remain in use.

The new leg is outfitted with a single row of Tapco 20x8 heavy-duty, low-profile buckets, mounted on a 21-inch Goodyear belt. At the top, the leg feeds grain into a 20,000-bph InterSystems gravity cleaner, then to a three-way diverter. One route from the diverter goes directly into the new tank. The other route sends grain to a 20,000-bph Schlagel reversing drag conveyor, which can carry grain over to the main concrete house or can carry it from the concrete house to the new tank.

Grain from the new tank is reclaimed onto a 20,000-



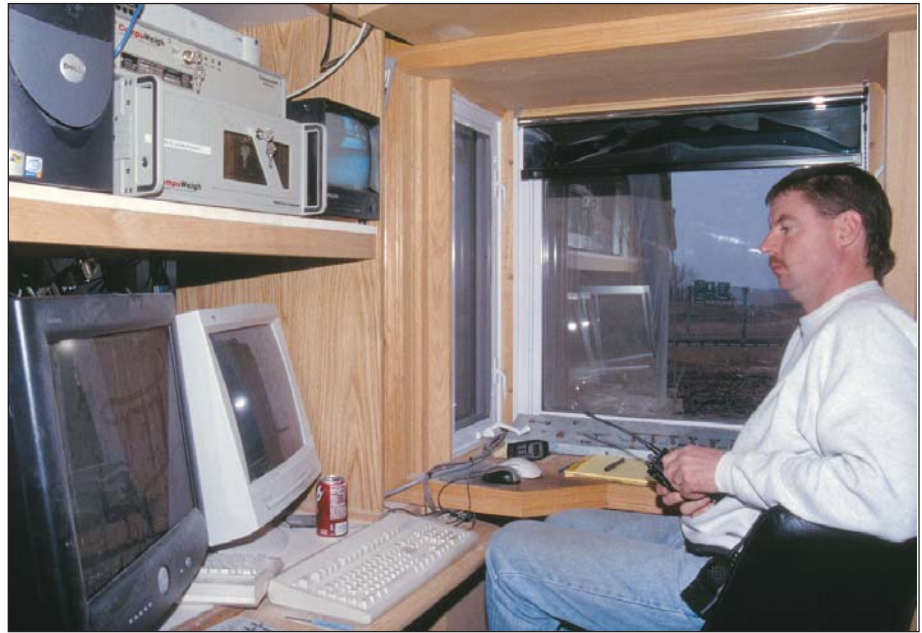
*20,000-bph reversing drag conveyor runs from the elevator’s original concrete house out to the new tank. Also visible is a new 20,000-bph leg and 20,000-bph gravity cleaner. Photo courtesy of Hoffmann Inc.*

bph Schlagel drag conveyor, which travels through an 8-foot-x-8-foot below-ground tunnel back to the new leg.

Before reaching the receiving pits, incoming truckers now stop for weighing on a new 70-foot Fairbanks pit-type truck scale located 350 feet to the east of the elevator. The scale operation, which includes traffic lights, is under the control of ScaleTrac software. An operator in the scalehouse IDs the truck and enters the information onto a PC workstation. The software then keeps track of the gross and tare weights and grades and sends a receipt to the trucker via remote printer, before the truck leaves the property. ScaleTrac data is downloaded into the coop's accounting software system nightly.

### **More Automation**

Prior to 2001, the Madelia facility utilized the original electrical switching equipment dating back to the original concrete elevator's construction in 1975. This was completely replaced with new Allen-Bradley switch gears and PLC-type controls from Control Stuff Inc., Cologne,



*Superintendent Jim Bauer utilizes new CompuWeigh software to load railcars at rates up to 60,000 bph. Photo by Ed Zdrojewski.*

MN. Equipment can still be operated manually in the case of a PLC failure due to lightning strike or other cause.

In addition, the existing CompuWeigh GMS-3000 software on the facility's bulk weigh loadout sys-

tem was upgraded to the supplier's GMS-4000 package. This has helped boost the scale's capacity and reduce load times, Love says.

*Ed Zdrojewski, editor*

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