

Growth of a Terminal

EXPANSION HAS BEEN NONSTOP SINCE ILLINOIS FACILITY OPENED IN 2004



Ruff Bros. Grain Co.
Minonk, IL • 309-432-2333

Founded: 1991
Storage capacity: 16 million bushels at five locations
Annual volume: 37.5 million bushels
Annual sales: \$153 million
Number of employees: 27
Crops handled: Corn, soybeans
Services: Grain handling and merchandising, trucking

Key personnel:

- Jesse Ruff, president
- Brian Richard, terminal manager
- Cindy Bertsche, office manager
- Chris Skinner, scale operator
- Mark Loudon, merchandiser
- Mark Ruff, superintendent
- Ron Volk, outside maintenance

Supplier List

Aeration fans ... Decatur Aeration, AIRLANCO
Bin sweeps The GSI Group, Sukup Mfg. Co.
Bucket elevators The GSI Group, The Essmuller Co.
Catwalks Grain Flo Inc.
Cleaner InterSystems
Contractors ... Grain Flo Inc., D&L Smith Construction Co. Inc.
Conveyors The GSI Group
Distributor SchlageI Inc.
Elevator buckets Maxi-Lift Inc., Tapco Inc.
Grain dryers Zimmerman Grain Dryers
Grain temperature system Rolfes@Boone
Manlift Sidney Mfg. Co.
Steel storage The GSI Group, Behlen Mfg. Co.
Temporary storage LeMar Industries Inc.
Tower support system . Johnson System Inc.



Ruff Bros. Grain Co.'s 6-million-bushel loop track rail loading terminal on the Burlington Northern Santa Fe rail line outside of Toluca, IL. Photos by Ed Zdrojewski.

Ever since Ruff Bros. Grain Co. loaded its first 110-car unit train at its Toluca, IL rail terminal (815-863-5114) on the Burlington Northern Santa Fe (BNSF) in September 2004, the construction on the site has been virtually nonstop.

At that time, the brand new terminal (featured in the September/October 2004 issue of *Grain Journal*) boasted three corrugated steel tanks holding a total of 690,000 bushels, one receiving pit and leg, a bulk weigh loadout scale, and a 7,800-foot loop track off the BNSF main line.

Today, the facility has a total of 6 million bushels of storage, all in upright steel or two temporary storage rings. Ruff Bros. loads at least one train per week out of the terminal and has been known to load two or three in a week's time.

The majority of the work since 2004 has continued to be assigned to Grain Flo Inc., Heyworth, IL (800-842-4875), which built the original facility.

Construction of one 78-foot-diameter upright steel tank and both of the temporary storage piles was assigned to D&L Smith Construction Co., Graymont, IL (815-743-5763). "We've continued to use D&L on some smaller projects to continue our relationship with that company," comments President Jesse Ruff.

SKS Engineers Inc., Decatur, IL (217-877-2100), performed engineering work on the various projects.

Year by year, here's how the terminal at Toluca has grown since 2004.

2005

Ruff Bros. added two 75-foot-diameter and one 45-foot-diameter steel tanks, all from GSI, plus the first temporary storage ring.

The two larger tanks stand 90 feet tall at the eaves and have flat bottoms, inside stiffeners, 12-inch GSI sweep augers, and 13-cable Rolfes@Boone grain temperature monitoring systems. A pair of 50-hp New York Blower centrifugal fans provide 1/8 cfm per bushel worth of aeration.

The smaller tank, standing 75 feet tall at the eave, is used primarily for blending and occasionally as a wet holding tank. It is outfitted similarly to the larger tanks, except that the aeration fans are rated at 20-hp each and deliver 1/10 cfm per bushel worth of air.

All of the tanks are filled and emptied by 20,000-bph GSI drag conveyors.

The first of two LeMar center fill temporary storage piles standing 305 feet in



President Jesse Ruff and Terminal Manager Brian Richard.



Closeup of the smaller of two LeMar center fill temporary storage piles. This one is 250 feet in diameter and holds about 1 million bushels. Newest Weigh Tronix truck scale is in the foreground.

diameter and holding 1.5 million bushels. The pile has a 6-foot-tall perforated steel wall and a concrete pad. A set of three 50-hp and one 25-hp AIRLANCO centrifugal fans pull air up through the tarp-covered pile.

Loading and unloading are accomplished with 20,000-bph GSI belt conveyors, with the reclaim conveyor housed in a below-ground tunnel running beneath the loop track back to

the original 2004 leg.

2006

Projects for 2006 include the construction of two more 75-foot-diameter GSI storage tanks, a 54-foot-diameter GSI wet tank, a new receiving pit that feeds 20,000-bph Essmueller leg, two Zimmerman grain dryers, and the second of two LeMar center fill temporary storage piles.

The two 75-foot tanks are identical to the two constructed in 2004. The smaller tank, however, stands 89 feet tall, holding 180,000 bushels. To accommodate high-moisture grain, this tank is outfitted with four 40-hp New York Blower centrifugal fans capable of 1/5 cfm per bushel output.

All of the new tanks are filled by 20,000-bph GSI drags.

Ruff Bros. selected the Essmueller leg because it could be manufactured and shipped more quickly than GSI equipment that year. The 20,000-bph leg is outfitted with 20x8 heavy-duty Maxi-Lift Tiger Tuff buckets mounted on a 21-inch Georgia Duck belt. A Heck & Sons oil system is used for dust suppression in the 300-bushel receiving pit.

At the top of the leg, grain gravities into a three-way valve that can send it on to two GSI drags or to the existing bulkweigher.

The two natural gas-fired tower dryers are rated at 4,700 and 4,000 bph, respectively, at five points of moisture removal. Ruff comments that the company selected the Zimmerman product because employees ►

liked their unloading system.

The dryers empty into a 10,000-bph GSI dry leg, and the operator has the option of sending freshly dried grain through a 20,000-bph Inter-Systems gravity screener before sending it on to storage.

The second LeMar temporary storage system is similar to the first one but a little smaller, only 250 feet in diameter and holding about 1 million bushels.

In 2006, the company added a second truck scale, a 70-foot-long Weightronix pitless scale supplied by Walz Scale. The second scale allowed trucks to be weighed inbound and outbound by separate scales, eliminating a bottleneck for the drivers.

2007

In 2007 for the first time, Ruff Bros. built upright storage on the inside of the loop track, a 105-foot-diameter Behlen tank with 89-foot sidewalls holding 739,000 bushels, and a 59-foot-diameter Behlen tank with 90-foot sidewalls and holding 217,000 bushels.

These tanks have Sukup sweep au-



Two Zimmerman tower dryers installed in 2006, the left dryer rated at 4,700 bph and the other at 4,000 bph at five points of moisture removal.

gers, 14 inches on the larger tank and 12 inches on the smaller, and provisions for grain temperature monitor-

ing systems to be added in the future. Aeration is set at 1/8 cfm per bushel, with four 50-hp New York Blower centrifugal fans on the larger tank and 25-hp fans on the smaller one.

Because of the new tanks' relatively remote location, the company added a separate pit and leg, a 20,000-bph GSI model with 20x8 Tapco heavy duty buckets mounted on a 21-inch Goodyear belt.

Finally, the three-way valve was replaced with a six-hole Schlagel electronic rotary distributor.

2008

This year has seen the installation of two more Behlen tanks inside the track, standing 105 and 59 feet in diameter, respectively, and identical to the Behlen tanks constructed in 2007.

The company also added a 20,000-bph GSI reversing belt conveyor overhead running between the outside and inside sections of the terminal for increased flexibility in moving grain around the complex.

Ed Zdrojewski, editor