

Information for Feed Mill Operations Professionals

FEED EQUIPMENT

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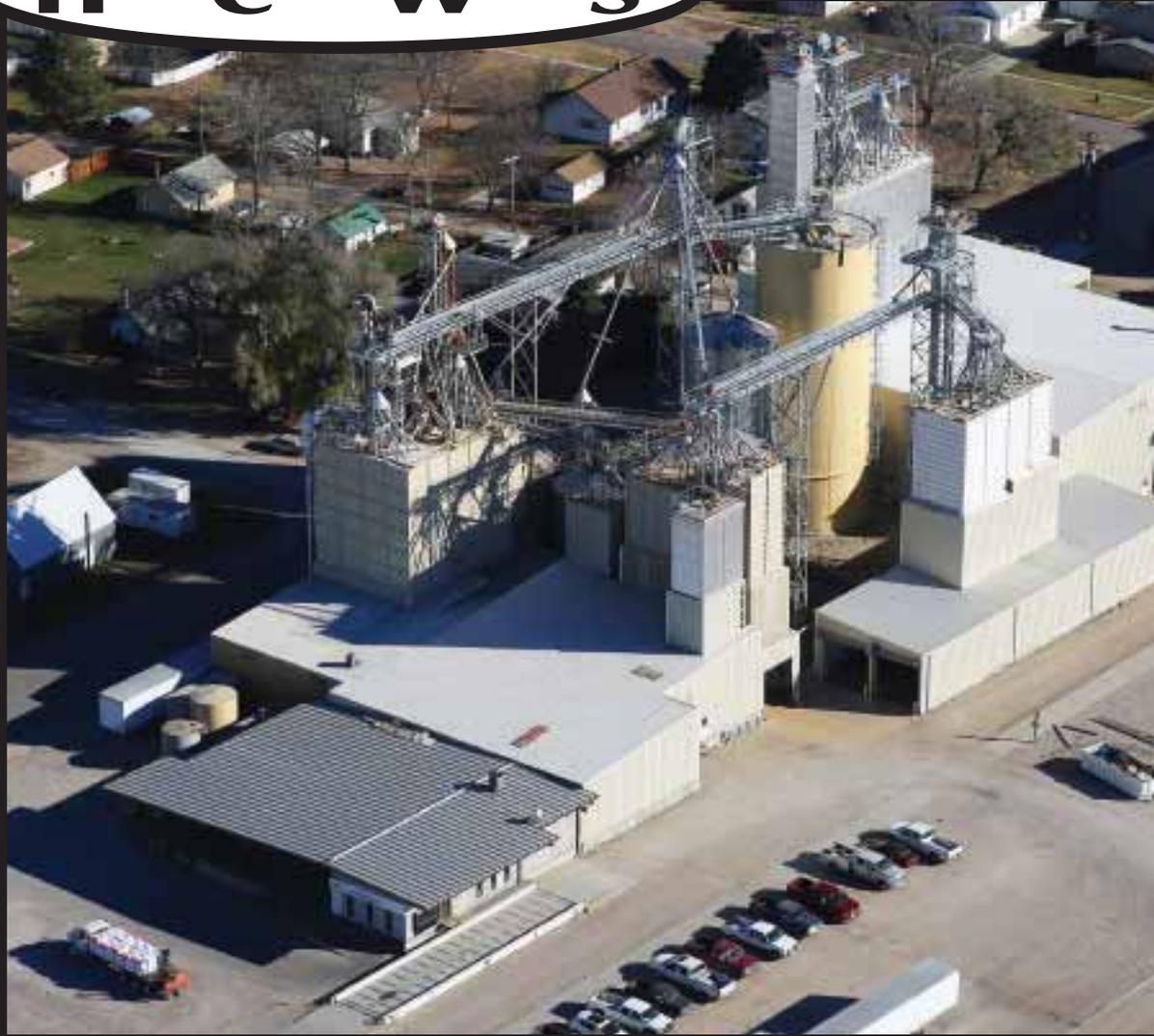
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Aerial photo by Dakota Aerials, Yankton, SD

FEATURING:

Farmers Ranchers Co-op

Ainsworth, NE

Feeding Cattle in Three States

NEBRASKA CO-OP BUILDS A NEW FEED MILL AS OLD MILL TOPS OUT ON CAPACITY



Farmers Ranchers Co-op Association

Ainsworth, NE • 402-387-2811

Founded: 1917

Feed production capacity: 68,000 tpy

Feed products: Beef feeds

Annual revenues: \$50 million

Number of active members: 2,871

Number of employees: 100+

Services: Feed, grain handling and merchandising, energy, agronomy

Key personnel:

- Kent Taylor, general manager/ CEO
- Rocky Sheehan, feed department manager
- Bill Worden, feed mill manager
- John McIntosh, mill operator

Supplier List

Automation system.....Easy Automation Inc.

Bag closerEagle Simplex

Bagging systemImeco

Contractor.....EBM Construction Inc.

Conveying Systems.....Schlagel, Inc.

HammermillAndritz Inc.

Microingredient system.....Easy Automation Inc

MixerScott Equipment Co.

PalletizerGenaire

Pellet dryer.....Bühler Aeroglide

Pellet mill.....Andritz Inc.

Screeners.....EBM Manufacturing

Square bins.....Scott Equipment Co.

Steel storage.....Laidig Systems Inc., Chief Agri



Farmers Ranchers Co-op Association's new feed mill in Ainsworth, NE, the second of two on the South Main Street site. Photo courtesy of EBM Construction Inc.

When Farmers Ranchers Co-op Association first built a feed mill in Ainsworth, NE, in 1978, it was designed to produce 150 tons of mostly beef feeds per day. As of 2015, it was producing 350 to 400 tons per day round the clock.

Today, the cooperative serves ranchers over a vast area including north central and northwest Nebraska, as well as large parts of South Dakota and Wyoming, which explains much of the growth.

"The 38-year-old mill was still in good shape, and it's still in operation," says Rocky Sheehan, director of feed operations and a 25-year veteran of the cooperative. "But we had completely outgrown it."

Even more challenging than producing

enough feed to meet demand was trying to staff six days a week of night shifts.

In 2015, the board approved the construction of a second feed mill at the South Main Street site, which began producing its signature 7/8-inch-x-3-inch range cubes at the end of October 2016.

"Now, both mills can produce 600 to 800 tpd of feed, and we're loading 25 trucks per day with both bulk and bagged feeds," says Sheehan.

General contractor on the 13-month, \$18 million construction project was EBM Construction Inc., Norfolk, NE (402-371-2945). "EBM has been working with us since 1980," says Operations Manager Bill Worden, who



Two Böhler Aeroglide dryers replace conventional pellet coolers at the Ainsworth mill. They are designed to increase range cube shelf life by removing all water activity. Photo courtesy of EBM Construction Inc.

has been with Farmers Ranchers for 29 years. “They’ve always done good work, and we can always call on them and get whatever we need day or night.”

Unique Features

The second mill on the site has a couple of unique features, according to Worden. One is its two pellet lines dedicated to the manufacture of range cubes.

Another is the use of Böhler Aeroglide cube dryers rather than conventional pellet coolers. The dryers are 55 feet long, 15-1/2 feet wide, and 17 feet tall mounted 30 inches off the floor, which were unloaded and installed with a permanent 5-ton overhead bridge crane. The 3-million-BTU dryers are aspirated with 70-hp worth of heated, forced air and operate at 20 tph.

Worden says the dryers, fed directly from the pellet mills, remove moisture from the cubes, increasing their shelf life to a year by removing all water activity.

Finally, the project included construction of a 33-foot-diameter, 80-foot-tall Laidig steel tank for storage of distillers dried grains (DDGs). The tank is equipped with a 45-degree steel hopper bottom with a Laidig auger designed to prevent the product from caking into a solid mass, a frequent problem with DDGs, and eliminating the need to enter the tank for cleanout.



From left: Bill Worden, feed operations manager; Rocky Sheehan, feed department manager; and Kent Taylor, general manager. Photo by Jennifer Beel.



Farmers Ranchers’ 7/8-inch-x-3-inch range cubes compared to conventional feed pellets. Photo courtesy of EBM Construction Inc.

Mill Specifications

The new all-steel mill and adjacent warehouse add 13,000 square feet of space under roof to the Ainsworth complex, with the mill itself standing on a 110-foot-x-78-foot footprint. The manufacturing plant is topped by 26 steel feed ingredient bins holding approximately 780 tons total. Storage also includes four 25-ton mash feed bins above the pellet mills, as well as eight 24-ton and four 50-ton finished feed bins above the truck loadout bay.

All mill operations are under the control of an Easy Automation system.

Incoming whole grains are reduced on a 25-tph Andritz Sprout hammermill before being sent to feed ingredient storage.

Ingredients are mixed in a Scott 255 cubic feet, four-ton double-ribbon mixer in an average of four minutes per batch. Microingredients are added to the mixer from a 12-bin Easy Automation microingredient system.

Mash feed is molded into range cubes on a pair of Andritz Sprout 20-tph pellet mills.

The new mill loads feed trucks six hours a day through overhead spouts equipped with EBM Gentle Roll screeners.

Approximately 5% of the mill’s output is bagged on an Imeco bagging system with Eagle Simplex bag closers. A Genaire robotic stacker loads bags onto pallets.

“We can now do the same production in 10 hours that used to take us 24 hours on the old mill by itself,” says Sheehan.

Ed Zdrojewski, editor