

Cargill's Arizona Feed Mill

MODERN SLIPFORM CONCRETE MILL RISES IN PLACE OF OLD-STYLE OUTDOOR PLANT

Cargill Animal Nutrition

Wayzata, MN • 952-984-1894

Milling capacity: 19.2 million tpy at 166 locations

Products: Full line of animal nutrition products

Number of employees: 9,000

Key personnel at Casa Grande:

- Bryan Wiebe, plant manager
- Brian Troop, production supr.
- Jason Martinez, warehouse/packaging manager

Supplier List

Aspirator Kice Industries Inc.
Bag closers Thiele Technologies
Bagging scales .. Thiele Technologies
Batch control system ... Repete Corp.
Bearing sensors Electro-Sensors
Bin level monitors ... Electro-Sensors Inc., Monitor Technologies LLC
Bin vents Donaldson Torit
Blenders Hayes & Stol Ind. Mfg. Co. Inc.
Bucket elevators.... Hayes & Stol
Cleaners LAW-MAROT-MILPRO Inc.
Contractor ... Vigen Construction
Conveyors Schlagel Inc.
Distributors Hayes & Stol
Dust filters ... Kice Industries Inc.
Electrical Creek Electric
Elevator buckets ... Maxi-Lift Inc.
Engineering VAA, LLC
Flaking mill Ferrell-Ross
Flow meters Buhler Inc.
Gates/diverters Hayes & Stol
Hammermill ... Carter Day/Jacobson
Hoppers Micada
Liquid level monitors ... BinMaster Level Controls
Magnets Eriez Magnetics
Manlift ... Schumacher Elevator Co.
Mixers Hayes & Stol
Motion sensors Electro-Sensors
Pellet cooler LAW-MAROT-MILPRO Inc.
Pellet crumblers Buhler Inc.
Pellet mill Sprout Bauer
Roller mill Ferrell-Ross
Scales Meier Sales
Screeners Buhler Inc.
Screw conveyors ... Mitchell Mill
Sewing conveyors Amark Packaging Systems
Sewing equipment American Newlong Inc.
Truck scales ... Mettler Toledo Inc.



Cargill Animal Nutrition's 200,000-tpy slipform concrete feed mill on the outskirts of Casa Grande, AZ. Photos by Ed Zdrojewski.



The old Eagle Milling feed mill on the Casa Grande site was entirely open air, made possible by a warm desert climate. Photo courtesy of Cargill Animal Nutrition.

When Cargill Inc. purchased the former Eagle Milling operation in 2006, it inherited an old-style feed mill at Casa Grande, AZ (520-836-2131), that could exist only in the desert Southwest. The entire milling operation – storage, equipment, controls – was outdoors, in the open air.

“That isn't as bad as it sounds,” says Plant Manager Bryan Wiebe, who moved to Casa Grande from an Agribands Purina facility in Canada shortly after the acquisition. “We only get rain three or four days out of the year.”





A series of eight Buhler flow controllers route product through the complex flow required for the large variety of animal feeds produced at Casa Grande.

Nevertheless, it's Cargill Animal Nutrition's policy to operate state-of-the-art feed mills whenever possible, so it was time for a replacement.

The division took bids from contractors on Cargill's preferred vendor list and awarded the \$20 million contract to Vigen Construction Inc., East Grand Forks, MN (218-773-1159).

Groundbreaking on the new 200,000-tpy slipform concrete mill took place in September 2008. After 124 weeks of construction, the new mill began production in April 2010. Cargill continued to operate the old mill throughout construction, but since April, the old mill has been torn down.

Diversified Operations

Eagle Milling had supplied a full range of animal feeds to customers throughout Arizona, so while beef and dairy feeds made up the bulk of production, the mill served a variety of small markets, as well, including bagged bird seed mixes.

Since 2006, Cargill has continued to serve all of Eagle Milling's markets, so the new mill operates a pelleted feed line, a textured feed line, three feed bagging lines, and a pressed block operation. "We do everything here except extruding pet food," Wiebe says.

The slipform concrete mill stands on a 72-foot-x-95-foot footprint and is 202 feet tall. In addition to a 275,000-square-foot warehouse for bagged ingre-

dients and bagged finished feeds, the slip contains 91 storage bins, including 63 grain and ingredient bins holding approximately 4,000 tons, 12 packing bins holding 250 tons, and 16 bulk feed loadout bins holding 550 tons.

Cargill sources as much corn locally as it can, grown under center pivot irrigation, but must rail in at least a third of the mill's supply on a Union Pacific branch line. The mill is set up to receive corn at 100 tpy. Incoming grains are cleaned on a pair of Law Marot

cleaners prior to storage or grinding.

Because of the variety of feeds produced at Casa Grande, the mill uses an 18-tph Jacobson/Carter Day hammermill, a 24-tph Ferrell Rosk double-stand roller mill, and a Ferrell Ross flaking system for reducing whole grains, depending on the end use.

Feed Production

All milling operations are under the control of a Repete automation system.

The mill includes three separate Hayes & Stolz mixers, a 4-ton double-ribbon mixer for textured feeds, a 3-ton single-ribbon mixer for mash feeds—most of which continues to pelleting, and a 1-1/2-ton mixer dedicated to medicated feeds. Most batches are set up for 3-minute runs. Microingredients are hand-added.

The pelleting line includes a 30-tph Matador Sprout pellet mill, Law Marot counterflow pellet cooler and two Buhler counterflow pellet coolers, one for coarse and medium textures and one for fine crumbles.

The facility's three bagging lines utilize Thiele scales and closers and can handle bags from 50 to 2,500 lbs. The plant has no robots, and workers stack bags on pallets manually.

Loadout bins are segregated for mash, pelleted, and textured feeds. Operators load trucks from two bays equipped with 80-foot Mettler Toledo scales.

Ed Zdrojewski, editor



Workers stack bags of bird seed coming out of one of three Thiele bagging lines.