

## Sietsema Farm Feeds finds efficiency in new process control system

By a Feedstuffs Staff Editor

Sietsema Farm Feeds LLC relies on a new feed mill process control system to provide manufacturing efficiencies to its 6,000-ton-per-week operation in Howard City, Mich.

The Sietsema feed mill was built by Wagester & Lease in 2003 and operates using Comco's AutoPilot4Feed control system.

A project of this magnitude needs to be organized from the onset. By involving the customer, Wagester & Lease and Comco were able to work together to develop a Functional Requirements Document that dictated how the facility was going to operate and be controlled. From this document, the control system was developed.

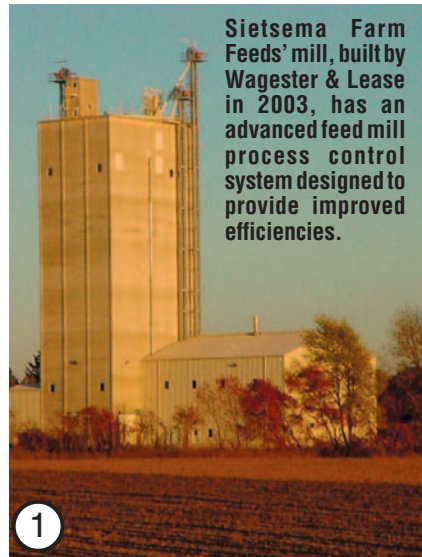
"The key is listening to and working with the customer from the beginning," said Comco vice president of marketing Doug Decksheimer. "This ensures a smooth design and installation process. Follow that up with good customer service and support, and you have a successful project and a very happy customer."

For the project, Comco designed and built the PLC panels, which contain an Allen Bradley SLC 505 PLC and remote inputs/outputs (I/O). Five PCs running Windows XP Pro are used as workstations for batching, receiving, pellet mill and loadout, and one is for the facility's manager.

The mill is fully automatic with one truck receiving pit feeding 24 grain and ingredient bins. A hammer mill can grind into three ground grain bins. The main ingredient bins feed a major scale and a minor scale with the salt bin feeding both for better accuracy.

There is a separate scale that can be fitted with up to four tote bags. Two micro systems each have 12 bins for small additions. A soy flush facility cleans out the micro scales transfer conveyor. Hand adds feed directly into the five ton mixer.

Up to five metered liquids are controlled into the main mixer, and after



Sietsema Farm Feeds' mill, built by Wagester & Lease in 2003, has an advanced feed mill process control system designed to provide improved efficiencies.

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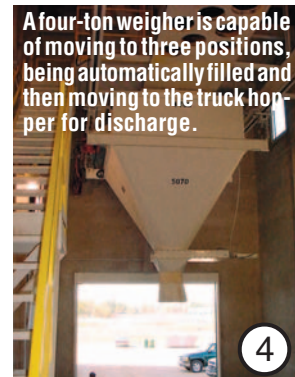
The system, supplied by Comco, includes wireless pocket PCs so employees can run monitor operations without being attached to the control room.

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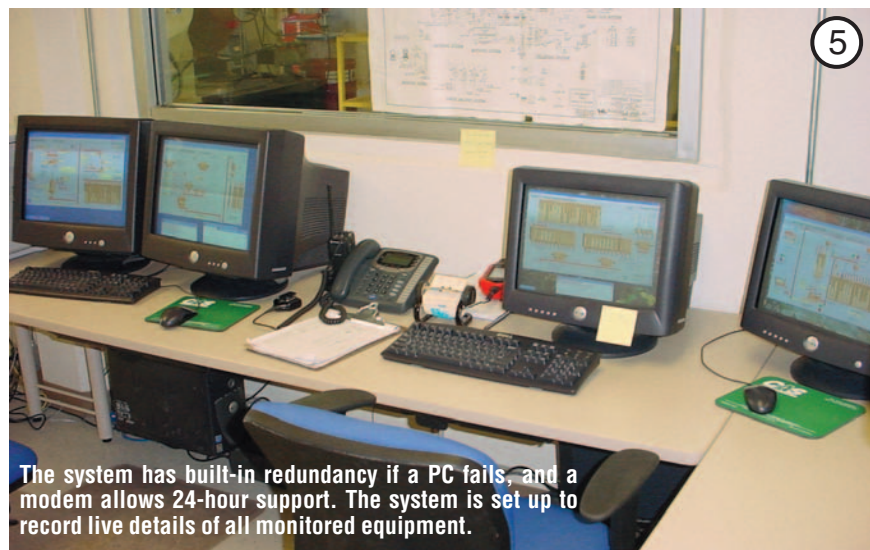
The Sietsema Farm Feeds mill is fully automatic with a one-truck receiving pit feeding 24 grain and ingredient bins.

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A four-ton weigher is capable of moving to three positions, being automatically filled and then moving to the truck hopper for discharge.

4



The system has built-in redundancy if a PC fails, and a modem allows 24-hour support. The system is set up to record live details of all monitored equipment.

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mixing, batches are transferred to one of two pellet bins or two bulk mash bins.

The pellet mill is a normal arrangement of feeder, conditioner, Sprout pellet mill, cooler and crumbler. The control system is fully integrated and fully automatic. The operator only has to click on the start button on the graphics, and if it is a product that has been made before, then only a click on confirm starts the process.

All control of pelleting is fully automatic with all parameters checked 10 times per second to monitor for plugs, temperature, amps, etc.

The downstream fat coater also is fully automatic as the fat level is taken from the formula. Pellets are then routed to one of 16 finished feed bins with automatic swap from bin to bin on a high level.

In addition, Sietsema employees are able to operate the facility through handheld wireless pocket PCs. This allows the operators to maximize the running time of the facility and monitor ongoing operations without being attached to the control room.

Loadout orders at the facility are automatically sent from the office commercial computer. Although there is a loadout operator, loadout is controlled as automatically as possible.

A moveable four-ton (weigh lorry) weigher is moved to one of three positions, automatically filled and then moved to the truck hopper for discharge. Filling and discharging the moveable weigher is repeated for larger loads. On completion, the system sends the weight information to the commercial computer, which prints out the loading tickets and declaration. All information transfer is seamless, Comco said.

Four loadout bins have variable speed dischargers, which gives the facility the ability to blend two base products together into the weigher, the company said. For this, Comco said AutoPilot4Feed has a product type called "blended," which is defined as X% of product A and Y% of product B. As AutoPilot4Feed controls the whole mill, quality is ensured by the system's weighing accuracy, optimized pellet

mill control and minimizing of any operator errors.

The system also has built-in redundancy should a PC fail, and a modem allows 24-hour support if needed. The modem may be used to install modifications, thus minimizing the cost of any changes.

Comco said Asset Master NT was installed at the Sietsema facility. This is a maintenance package that seamlessly ties into the I/O used in the control program. It records live details of all monitored equipment as well as tracks sub assemblies, suppliers and maintenance details. From it, reports for preventative maintenance schedules based on actual equipment usage can be generated. Over time, a history can be recorded of each item as maintenance is done and repairs are made to estimate and adjust its efficiencies. There is also the ability to log spare parts.

Comco provides electrical and batch control systems as well as liquid application systems. The company is based in Saskatoon, Sask., and has an office in Singapore. ■