

Stacking Food Grade Beans

Robotic palletizer increases production for small seed company



Falk's Seed Farm Plant Manager Lome Amundson (left), Owner/General Manager Jim Falk and Andrew Falk observe their Columbia/Okura robotic palletizer.

Falk's Seed Farm
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Key Personnel

- Jim Falk, Owner/General manager
- Lome Amundson, Plant manager

Company Highlights

- Certified oats, wheat, soybean seed production and packaging.
- Contract soybean seed production and packaging.
- Research farming.
- 1,000 acre family-owned production farm.

Located in west-central Minnesota, Falk's Seed Farm is a small, diversified seed company with an intense interest in research, development and customer satisfaction.

"Our focus is to be on the cutting edge of new products that provide profits to our growers and fit the needs of our customers," says Jim Falk, owner/general manager of Falk's Seed Farm.



"This is a family business where the owners still go out and get their hands dirty farming the land."

Diversified Operation

Falk's Seed Farm does business in four areas: certified seed production, contract soybean seed production, edible soybean production and research farming.

Since the advent of Roundup Ready soybeans, Falk's certified soybean production has dropped significantly. Now oats and wheat seed is more important. Some foundation soybean seed is still produced for the Minnesota Crop Improvement Association (MCIA).

CASE STUDY

To offset the decline in certified public variety production, Falk increased contract production and expanded into producing edible soybeans for export.

"As we expanded, it became obvious that manually palletizing sacks was our bottleneck," Falk says. "After extensive research and a lot of frustration, I realized that the only way to solve my palletizing problem was with a robot."

Robotic Palletizer

Non-robotic palletizing systems are too big and clumsy with too many moving parts, even though they are well designed, Falk concluded. The robotic palletizers intrigued him.

At the PACK EXPO in Chicago, Falk and his son Andrew observed several robotic systems on display. They eventually selected the A700 Medium Speed Robotic Palletizer by **Columbia/Okura LLC**, Vancouver, WA (360-735-1952/www.columbia-okura.com).

In March, 2001, Falk Seed installed a new four axis, multi-articulated robot as part of a warehouse expansion project. The week-long installation and start-up went smoothly, Falk reports. Prior to start-up, Falk supplied package sizes and stacking patterns to Columbia/Okura technicians who pre-programmed the robot.

"The precision of bag placement is within millimeters, so the pallets look great," Falk says. "It's really rewarding to be the first U.S. seed company to use this robot."

Precise, well-formed pallets are especially important for loading export containers with edible soybeans. There is little room for error when fitting pallets of 30kg bags into the container's confined space.

"Manually stacking those larger bags was hard work," says Falk. "After a while, the stack became rather ragged and were difficult to load." Now the robot routinely places 500 bags per hour to form a tight stack within millimeters of perfection.