

HARVESTTIME: Marion Calmer (left), Fred Eby and Randy Cochran harvested corn earlier this fall with this 20-row, 12-inch corn head near Perry in central Iowa. The ultra-narrow-row head can pick corn in any direction in a field.



Ultra-narrow-row corn

By ROD SWOBODA

A 60-ROW planter specially built to plant corn in 12-inch row widths attracted a lot of attention at the 2012 Farm Progress Show in late August at Boone. So did the 20-row, 12-inch corn head that harvests the ultra-narrow rows.

Most corn in Iowa is planted in 30-inch rows at 35,000 or so kernels per acre, and in a good year many farmers can grow 200-bushel yields. Stine Seed Co., which had the planter on display, believes the next step is ultra-narrow rows if farmers are to consistently get 300 bushels or better. Stine planted 2,500 acres this year in 12-inch rows in central Iowa, testing its new corn hybrids developed for high-population densities. They put 51,000 seeds per acre into the ground and ended up with a harvest stand of about 49,000 plants.

The narrow-row corn head was displayed at the Calmer Corn Heads exhibit. Marion Calmer built the unit for Stine; it's the world's first 12-inch corn head. Calmer,

Key Points

- More corn growers are taking a look at row spacing and plant populations.
- The potential exists to harvest more bushels per acre with narrow-row corn.
- New developments in corn hybrids, machinery and management stir interest.

who farms at Alpha in western Illinois, invented the first 15-inch-row corn head in 1995 and has since grown all his corn in 15-inch rows. With its corn genetics developed for narrow rows, Stine this year asked him to build the 12-inch head.

In 12-inch rows, if corn is spaced 12 inches apart in a row, you end up with exceptional equidistant spacing or close to it — essentially a square box with a plant on each corner. This 12-by-12-inch spacing creates 43,560 plants per acre. "I honestly believe it takes the right genetics in a corn plant to make the yield increase happen in that high population," says Calmer.

The 12-inch corn head Calmer built for Stine has 20 rows and is 20 feet wide. Stine also has two more 12-inch narrow-row corn heads. One is a 20-row head and one a 30-row head, both built by Stine mechanic Randy Cochran and his helpers. These two corn heads are licensed by Calmer.

Calmer says, "We're excited and optimistic to see the results this year with narrow-row corn. Even in a drought, it's performed well compared to wide rows. For the future, if farmers are to grow 300-bushel corn year in and year out, they'll have to do it in narrow rows. We're not going to do it by putting two ears on a stalk. We'll do it by having more plants, more factories per acre, with a decent-size ear on them. Ever since I began growing corn in 15-inch rows 17 years ago, I've been looking for someone to breed hybrids with genetics to better suit narrow-row corn."

Wallaces Farmer visited with Stine farm manager Fred Eby and his crew as they harvested 12-inch-row corn recently near Perry in central Iowa. Calmer was also on hand. The narrow-row head uses a single gathering chain design Calmer invented, and each row has a gearbox. The head uses Calmer BT Chopper snapping rolls — a knife roller that chews cornstalks into small pieces as stalks enter the head.

There is more crop residue produced with a high plant population, notes Eby. To reduce the amount of residue going through the combine, the stalk-chopping rolls help. The combine was going about 2.6 mph through the ultra-narrow rows. In 30-inch rows you may be able to drive faster, but in 12-inch rows there are a lot more corn ears and stalks coming into the machine, with many more plants per acre.

Also noteworthy is ear size with high populations. You may anticipate small ears or blank stalks in an extremely dry year like 2012. There was an ear on every stalk in

the field at Perry, and they weren't small, averaging about four-tenths of a pound.

"However, you can't produce these results with just any corn hybrid," says Eby. "You have to plant a hybrid that performs well in high populations."

The high-population hybrid planted at Perry, Stine 9733, is shorter and narrower, with leaves growing upright to catch more sunlight. The tassel isn't huge. "I think plant architecture is critical for high populations," says Calmer. "You can't merely bump up the number of kernels you plant per acre and expect a hybrid to do well in narrow rows. You need the right hybrid."

Good results in a dry year

The field at Perry had an impressive yield considering it received very little rain this summer. The yield monitor was averaging 242 bushels per acre. One of the things Eby and Calmer see in narrow rows is the ability of corn plants to shade the ground faster and more thoroughly, so you don't lose moisture and don't have so much heating up of the soil. "The plants get a chance to drink water out of their own glass," says Calmer. "Whereas in 30-inch rows, every plant is competing with another plant within the row, as they're spaced closer in the rows." In 12-inch rows at Perry, plants were about 10 inches apart.

Calmer only planted 200 acres in the mid-1990s. "I was blown away when I learned how many acres Stine planted in 2012 in these ultra-narrow 12-inch rows," he says. "But it all comes down to yield and economics. With the right attitude, careful planning and management, I really believe more farmers could make more money by growing corn in rows narrower than 30 inches."

■ November issue: Analyzing harvest results, narrow-row vs. wide-row corn



GOOD EARS: This field was planted at 51,000 kernels per acre in 12-inch rows. "It's an impressive hybrid for such a high population," says Marion Calmer (left). "And in a dry year, it yielded well," adds Fred Eby. "There's a nice-size ear on every stalk."