

## Planter precision pays off for canola

Planters produce vigorous canola stands, and in some trials, higher economic returns

March 27, 2018

by Lee Hart



Darren Feitsma near Ponoka, Alta., seeding canola with precision planters.

*Photo: Courtesy Crop Guard Services*

Darren Feitsma says using a precision planter for canola is producing a very uniform, robust crop stand on his central Alberta farm. His seeding rate is about half of what he might use with an air seeding system, yet with higher seed emergence rates and good nutrient uptake, yields are comparable.

He has found over the past 10 years a planter works best in a minimum-till cropping operation. He makes a pass with a heavy harrow when banding fertilizer preferably in the fall and spring seeds the crop with a 38.5-foot-wide Case IH 1240 planter.

“The planter produces a very vigorous, healthy and uniform canola stand,” he says. A lower seeding rate helps to reduce seed input costs, but he’s also found the evenly spaced crop appears stronger and healthier. He doesn’t see as much disease pressure or insect damage.

“Sometimes at heavier seeding rates you can get a bunch of plants too close together with thinner stems and I feel they are just more susceptible to disease,” he says. “But when you have a stand with stems about the size of your thumb, those plants are making better use of the nutrients and if there is any disease or insect pressure they are better able to withstand that pressure.”

Feitsma crops about 4,600 acres of grains and oilseeds near Ponoka, Alta., about an hour south of Edmonton. Along with his own farm, he also operates the custom farming Crop Guard Services, which includes seeding, spraying, crop fertility and some harvesting services. He first began trying precision planting equipment for canola about 10 years ago. He now uses the precision planter for all his canola and many of his customers are requesting it too.

Feitsma has the Case IH planter set on 15-inch row spacing. It is set to place seed at about a  $\frac{3}{4}$ -inch depth. The actual seeding rate depends on seed size and weight and to some extent his risk tolerance.

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*The Crop Guard Air Box system helps keep the seed metering disk free from plugging.  
photo: Courtesy Crop Guard Services*

His experience, on 15-inch row spacing is not to seed more than 200,000 seeds per acre. A 1,000 kernel weight seed count weighing four to five grams, for example, means roughly about 150,000 seeds or about two pounds of seed per acre. According to the charts that should put seven to 12 seeds per square foot.

“If you don’t mind a few sleepless nights you can go as low as about 100,000 seeds per acre,” Feitsma says half jokingly. That low seeding rate doesn’t leave much room for losses from insect damage or frost. “I have done it but it is more stressful. I have done it and still got a 50-bushel-per-acre yield, but to be more comfortable I usually aim to seed somewhere between 150,000 and 180,000 seeds per acre. I find if I get over that 200,000 seeding rate the crop stand is too dense and I end up with a lot of thin stems.”

At a field travel speed of about seven miles per hour, he also estimates with the precision planter he’s getting an average 90 per cent canola seed emergence rate. He attributes that to the seeding system. Seeds are shallow placed, but the seed trench closes over top of the seed and he particularly likes the Chevron wide packer wheel system on the Case IH planter. It not only packs the seed row, but if the soil is a bit wet, with the 6.5-inch-wide packer wheels he can still keep working, whereas some of the dual packer wheel systems will plug and even pull seed out of the ground.

Feitsma did have to deal with one complication with the precision planter. He found sometimes the seed treatments on canola seed would flake off and plug the small seed holes on the metering disk. “So we designed and built an air system attachment that keeps

the metering disk clear of debris,” he says. He outfitted his own precision planter but also markets the Crop Guard Air Box that works well with Case IH and Monosem planters. For more information search it out on YouTube, contact Feitsma at 403-357-7236, or reach him by Twitter at @cropguardairbox.

### **Research favouring planters**

Feitsma’s positive experience with precision planters for canola reflects the separate preliminary field research trials being conducted by Farming Smarter, an applied research organization in southern Alberta. That three-year project, which wraps up in 2018, has been comparing canola crop performance using a precision planting system versus a conventional air seeding system. For the Farming Smarter trials they have been using a Monosem precision planter.

They’ve looked at the precision planter at both 12- and 20-inch row spacing, while the air seeding equipment was on 9.5-inch row spacing. At pretty well all measuring points of the study, the Monosem planter on 12-inch spacing produced the top results.

“We are very excited about what this research has shown us so far,” says Daniel Donkersgoed, in a recent Farming Smarter newsletter. “There is still another year to go, but it appears there is potential for vacuum planters to be an optimum canola seeding tool. A planter on 12- inch spacing, might allow producers to reduce seeding rates and still achieve high yields, although higher phosphorus rates may be required.” Donkersgoed and Lewis Baarda Farming Smarter on-farm research project manager provided an update on precision seeding trials at the Farming Smarter recent annual conference.

Over the 2016 and 2017 growing seasons the vacuum or precision planter produced the highest yields of any of the treatments when set for a six- to seven-bushel-per-acre seeding rate, with fairly high rates of seedrow phosphorus. That's just yield. But on the economic analysis side, the crop seeded with the planter produced the highest net return when set at the three- to four- pound-per acre seeding rate — the lower seeding rate produced a slightly higher economic return than at the six- to seven-pound seeding rate.

The objective of the study is to evaluate the potential of precision planters, says Baarda. In recent years, farmers have been adjusting air seeding systems to be more precise with canola seeding depth and spacing. So FS launched a three-year project to properly compare an air seeding system with a precision planter.

Surprisingly there wasn't much difference among any of the seeding treatments when it came to crop emergence. Seed placement varied, says Baarda with the planter being much more uniform in placing canola seed at the desired depth with proper spacing between seeds. "With the air drill the seeds seem to bounce around much more, so we found seeds at varying depths," he said. "We thought that would really make a difference in crop emergence, but we were surprised that it really didn't." There was a slight variation among the seeding treatments, three different row spacings at five different seeding rates, but in the end statistically not a huge difference. All systems, on all spacings, at all seeding rates came in with about a 50 to 55 per cent canola seed emergence.

Seeding rates, ranged from a low of about one pound per acre to a high of about six to seven pounds per acre. Three other rates in between ranged from two to four or three to five pounds of seed per acre.

While emergence was about the same, yield was a different story. At all seeding rates the Monosem planter on 12-inch spacing produced the highest yield (top being in the 55- to-65-bushel per acre range). The air seeding system ranged from 45 to 55 bushels per acre, and the vacuum planter on 20-inch spacing was consistently lower in the 35- to 45-bushel range.

They also evaluated varying rates of liquid phosphorus placed with the seed ranging from zero to 60 kg/ha. "We were concerned there might be considerable seedling damage at the higher rate," he says. "And there was some reduction in emergence above the 40 kg/ha rate, but not as much as we feared."

Overall the highest yield of the different treatments was associated with the Monosem planter on 12-inch spacing, even with the 60 kg/ha phosphorus rate.

On the economic side, regardless of the seeding and fertilizer rates, the vacuum planter on 12-inch spacing produced the highest return with the air drill coming in second and the vacuum planter on 20-inch spacing third. In this research project the highest net return was pegged at about \$650 to \$675 per acre produced by the precision planter on 12- inch spacing. Learn more at the Farming Smarter website.