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Precision planter offers definite benefits

By C. Lacombe & L. Baarda

A three-year study in southern Alberta suggests that planting canola with a precision planter in narrow 12" rows offers the best opportunity for emergence and yields.

Farming Smarter conducted the study in three locations – Lethbridge dryland, Lethbridge under irrigation and Cypress County dryland.



Experiment #1: Planters vs Air Seeders Seeding System:

- precision planter 12 inch spacing
- precision planter 22 inch spacing
- conventional planter (air drill 9.5 inch spacing)

Seeding rate:

- ultra-low (~0.8 lb/ac)
- very low (~1.6 lb/ac)
- low (~2.5 lb/ac)
- medium (~3.3 lb/ac)
- high (~6.7 lb/ac)

Experiment #2: Seed Placed liquid ammonia phosphate (10-34-0)

- 0 lb/ac P₂O₅
- 5 lb/ac P₂O₅
- 10 lb/ac P₂O₅
- 20 lb/ac P₂O₅
- 40 lb/ac P₂O₅

“While we’re still crunching all the data, it looks as though precision planting canola in 12-inch rows gives the best production results,” says Lewis Baarda, Farming Smarter On-Farm Research Lead.

The study took place over three seasons; 2016 – 2018 in all three locations. It set out to investigate possible effects of using a precision planter instead of an air drill. Farming Smarter wanted to find out if precision planting would impact emergence and crop stand uniformity.

Crop producers increasingly use Precision planters to seed canola acres, particularly in regions where they already use them for corn and soybeans. Precision planters provide superior depth control and seed distribution over conventional seeders, and may improve the proportion, uniformity and rapidity of canola emergence.

Typically, only 40 to 60% of canola seed sown will produce a plant, with even lower survival under poor conditions. Due to high seed cost, producers may see significant savings if precision planters can improve emergence.

They also studied seeding rates and row width and, finally, seed-safe rates of liquid phosphorous.

Over the course of the study, technicians conducted plant counts at key times to determine emergence, plant stand densities, productive stems at harvest and plant survival rates. They collected annual data on lodging, harvestability, greed seed, dockage and oil content.

Farming Smarter also collects environmental data and UAV imagery of its projects each year.

“The research results thus far have been very informative, showing important differences in seeder performance for growing canola. The superior depth control and precise seed placement provided by the precision planter resulted in consistently higher emergence, better establishment, and more uniform crop stands. Plots seeded with the planter are more uniform in spacing, staging, and overall crop stands,” says Baarda.

He adds that even at very high rates of liquid phosphorous the study did not see any adverse effects on the crop.

“It’s safe to say that recommended rates of liquid phosphorous would not create any problems with the

wider row spacing under normal conditions,” Baarda says.

The most significant outcome of the project seems to be the comparison between the seeders themselves. The Monosem precision planter set on 12” rows yielded significantly better than the planter on 20” rows or the conventional air drill in both trials.

Farming Smarter plans to compile the final report on this project by April 2019 and will post it on the project page on its website www.farmingsmarter.com. Two field experiments conducted at each site each year.