

Growing with Canola Agronomic Demonstration 2013

Partners: Alberta Canola Producers Commission
Canola Council of Canada
UFA
Andrukow Group
DOW AgroSciences
Bayer CropSciences
Dupont
Nexus Ag
BASF
County of St. Paul
Lac La Biche County
MD of Bonnyville
St. Paul Municipal Seed Cleaning Plant

Demonstration Information:

- Variety: L130
- Date Seeded: June 7, 2013
- Location: NE25-61-05-W4
- Soil Fertility (lbs/ac): N-105, P-28, K-20, S-22
- Fertilizer Applied: treatment specific
- Herbicides applied: Liberty

Trial Information:

This was the fourth year that the Canola Agronomic Demonstration was grown at LARA and the second year it was seeded at the LARA farm, Fort Kent. The trial was planted with a 12 foot ConservaPak seeder with 12" row spacing. The treatments demonstrated in the trial this year are summarized in Table 1.

The goal of the demonstration is to show the efficacy of current agronomic trends and to mimic common agronomic mistakes that can be made while seeding and managing canola. Observations were recorded throughout the year to determine variations between treatments and many producers braved the cool weather on July 19 to hear Murray Hartman speak about the demonstration and important canola issues of the day.

There were obvious trends between the check plot managed to current canola agronomic recommendations and the plots seeded at different depths and speed. Treatments 1 and 2 demonstrated that increasing the speed of seeding from 4 mph to 5.5 mph can have a significant impact on seedling emergence. Although this does not seem like a large increase in speed, the reduced emergence was visible throughout the growing season and could significantly impact production economics through reduced yields.

Increasing the seeding depth from 0.5" to 2" in treatments 3 and 4 showed that it is important to accurately check depth before and during seeding. There was a significantly noticeable reduction in seedling emergence when seeded at 2" deep and an even greater drop when speed was also increased from 4 mph to 5.5 mph (Figure 1). No significant differences were observed between the different seeding rates of 3 lbs/ac and 5 lbs/ac.

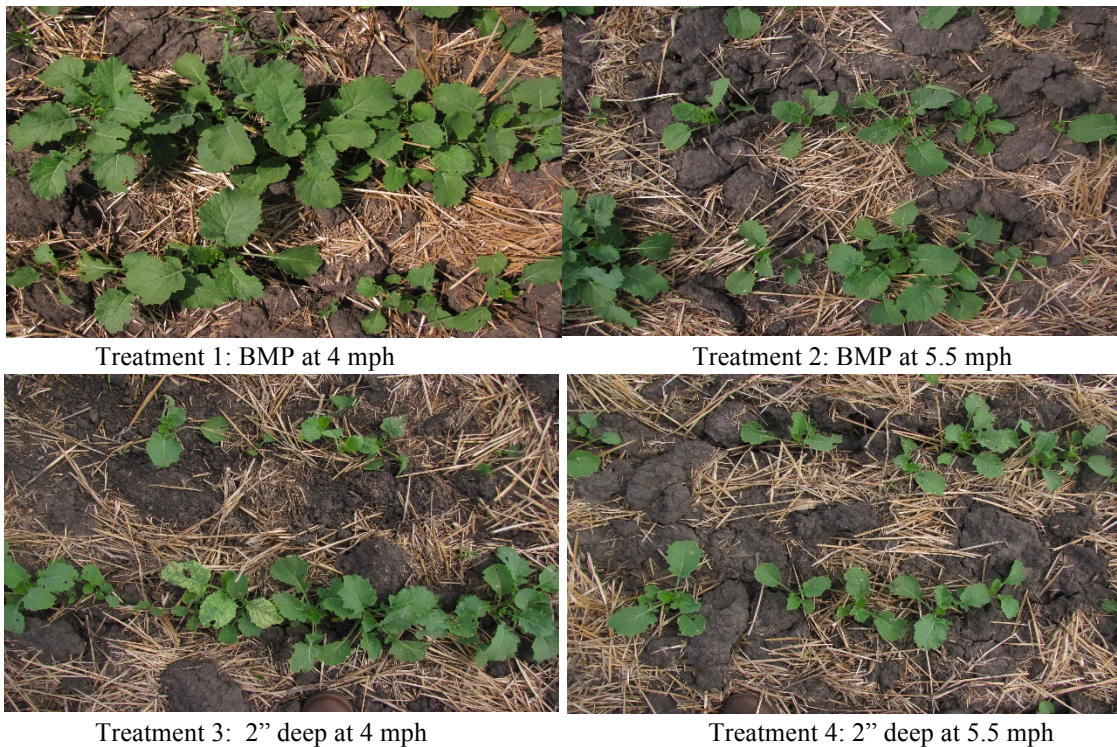


Figure 1. Canola Agronomic Demonstration, seeding speed and depth

A common issue with fertilizer application is the limited capacity of some seeders and fertilizer may be placed with the seed to increase the ability to apply to soil test recommendations. Consequently, a focus of the demonstration this year was on fertilizer application rate and fertilizer placement at seeding.

Treatments 7, 8 and 9 looked at different application rates of a fertilizer blend (29-7-5-6) compiled from spring soil test recommendations. When only 50% of the recommended blend was applied, a small reduction in vigour and seedling emergence was noticeable although nothing significant and as the growing season progressed, no difference could be seen. The only visible benefit to moving from 100% of recommended to 150% of recommended was an increase in seedling vigour.

To demonstrate the impacts of including fertilizer in the seed-row to increase application rates, plots were seeded to varying inclusion rates of urea, ESN, 11-52-0-0 and 29-7-5-6. In previous years the demonstration has shown interesting variations between treatments from emergence to harvest. In contrast, there did not appear to be many significant impacts of the fertilizer plots this year.

The plots seeded at no fertilizer with the seed had the poorest emergence and treatment 15 (40 lbs ESN with seed) had the highest emergence and vigour. The use of ESN (Environmentally Smart Nitrogen) slowly releases the available N to the soil making the N safe for the seed at higher application rates (Figure 2).



Figure 2. Canola Agronomic Demonstration, ESN with seed.

With increasing interest in the application of micronutrients after seeding, treatments 20, 21, 22, 24 and 25 looked at the impacts/benefits to the application of fertilizer/micronutrients after seeding. There were no noticeable differences between the treatments throughout the growing season and days to flower and days in flower were not affected. The only impact observed was a slight increase in herbicide damage noticeable in treatment 24, although this is likely unrelated to the application of the micronutrients.



Figure 3. Canola Agronomic Demonstration, micronutrient/fertilizer application after seeding

Table 1. Canola Agronomic Demonstration Treatment List, 2013

Treatment	Description
1	Best Management Practice, 4 mph
2	Best Management Practice, 5.5 mph
3	2" deep, 4 mph
4	2" deep, 5.5 mph
5	3 lbs/ac seed
6	5 lbs/ac seed
7	50% of recommended 29-7-5-6
8	100% of recommended 29-7-5-6
9	150% of recommended 29-7-5-6
10	No fertilizer with seed
11	20 lbs urea with seed
12	40 lbs urea with seed
13	60 lbs urea with seed
14	40 lbs ESN with seed
15	60 lbs ESN with seed
16	50 lbs of 11-52-0-0 with seed
17	75 lbs of 11-52-0-0 with seed
18	30% of recommended 29-7-5-6 with seed
19	50% of recommended 29-7-5-6 with seed
20	35 lbs of N at 5-6 leaf stage
21	200% rate of Alpine Mix* at 5-6 leaf stage
22	Boron at flowering
23	Liberty at 5-6 leaf stage
24	C3 with herbicide
25	100% rate of Alpine Mix* at 5-6 leaf stage

*Alpine Mix: 0.5 L Boron + 3 L CRNS + 1 L G22

