Ontario Canola Growers Association May 2018 Newsletter

Hubert Beaudry Farm Tour — Cache Bay (near Verner)
Wednesday, July 18, 2018

Pre-registration is required. Register at www.ontariocanolagrowers.ca

10 am to Noon —Tour of Hubert Beaudry's Farm System and Canola's Role in his Rotation

"I farm mostly no-till with min till on occasion when there's lots of residue or cold springs to speed up drying. My rotations include canola, wheat, flax, oats, barley, soybeans and hay. Soil type is mostly silt loam with some clay loam. I believe crop diversity and reduced mechanical activities promote good soil. And that good soils will produce better crops even in years of stress (droughts, wet years, compaction). Plus it's a great feeling to be passing on a great land base to the next generation that is healthy, alive and producing well." *Hubert Beaudry*

Lunch

1:00 to 3:00 pm — Compaction Demonstration and Workshop

Compaction caused by equipment crossing fields is a huge yield robber both this year and in years to follow. This demo will provide compaction measurements from equipment typically crossing fields as well as methods to reduce the soil compaction impact (reducing tire pressure in field, modifying axle loads, etc).
You'll be surprised at what you learn! ……...***Watch for further details at www.ontariocanolagrowers.ca***

Canada Post Publications Agreement #40013291

Evaluations of Nitrogen and Planting Equipment in Spring Canola

by Meghan Moran, OMAFRA Canola and Edible Beans Specialist

Spring canola yields have been strong in Ontario for the past two years, but are we meeting our yield potential? Are there ways to profitably increase yields?

In 2017, a canola agronomy trial was conducted by Deb Campbell, of Agronomy Advantage and Darcy Martin, on Darcy's farm in Kenilworth, Ontario. The trial was conducted at one site for one year, so further testing would be required to validate the results, but Campbell and Martin's work demonstrates some management practices farmers can consider trying on their own farms.

Agronomic treatments included the following:

- Seeding with a John Deere drill on 7.5" rows vs. Monosem twin row planter on 30" centers.
- Seeding rates of approximately 3, 4.75 and 6.25 lb/ac with the Monosem planter and 5 lb/ac with the drill.
- Nitrogen rates of 110 lbs actual N applied pre-plant, compared to split applications of 110 lbs pre-plant followed by 40, 78 or 115 lbs applied at full rosette.

The trial was planted May 15, 2017 with Bayer InVigor L233P. The field was chisel ploughed the previous fall and cultivated 2 times prior to planting. The various seeding rates were seeded in a north-south direction in strips 40' wide and 400' long, with the planted and drilled strips alternating every 40' (Figure1). Nitrogen treatments were applied across the plots an east-west direction. The whole trial received Proline foliar fungicide at 30% bloom and plots that had nitrogen applied in-crop received a second pass of fungicide. Data was collected throughout the season on rate of emergence, plant height, branching, stalk diameter, lodging, white mould and yield. Profitability comparisons were made across the various treatments.

It is suspected that rates of nitrogen commonly applied in Ontario canola may not be high enough to support yield potential. Canola requires approximately 3-3.5 pounds of nitrogen per bushel of grain produced. The yield goal for

Figure 2

this field was 75 bu/ac, so the highest nitrogen rate used in the trial reflects the 3 lb N/bu requirement. The form of nitrogen used in the trial was Amidas, a homogenous granular fertilizer containing urea and ammonium sulfate (7:1 N to S ratio). Other forms of nitrogen can be applied in crop, such as urea and liquid nitrogen.

Canola Emergence: Conditions were moist in the spring, leading to excellent emergence rates. Nearly all plots had approximately 100% emergence 28 days after planting. In contrast, Ontario emergence rates are typically 60-75%.

At 8 days after planting, plots seeded with the Monosem planter had reached greater than 30% emergence, while those seeded with the drill had lower than 20% emergence. In addition, the final number of plants/ft^2 ranged from 11.7 – 12.9 in the plots seeded at 4.75 lb/ac with the Monosem planter compared to 12.4 – 17.4 plants/ft^2 seeded with the drill at 5 lb/ac. Although final plant stands were similar, the more precise placement of seed with the planter resulted in faster emergence and more consistent stands compared to the drill.

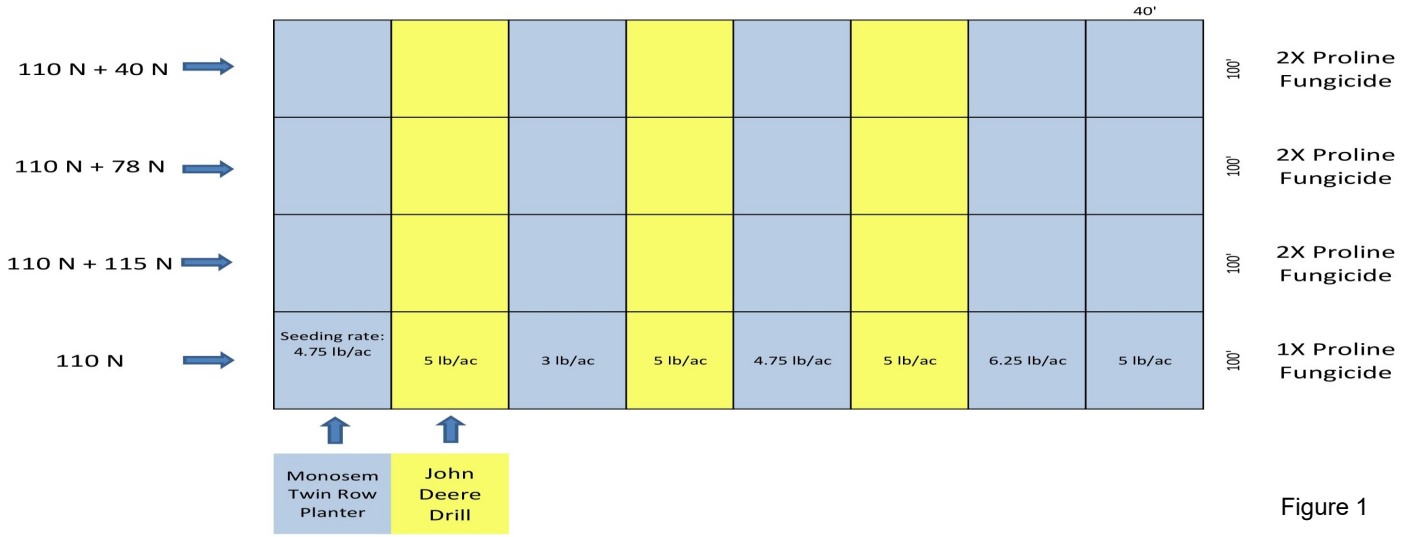


Figure 1

Canola Development: The twin rows planted on 30" centers with the Monosem planter didn't fully close and the wide rows were visible throughout the season (Fig 2). Lack of canopy closure may impact competition with weeds, although significant differences in weed density were not noted between plots.

Significant differences in number of branches, stalk diameter and lodging were measured between the drilled and planted plots, likely due to row width rather than planting equipment itself. Wider rows resulted in thicker plant stalks and more branches. Drilled plots generally had a lot of thin stemmed plants and greater lodging (Fig3). Overall, differences in days to flowering and maturity between wide and narrow rows were small.

Table 1: Average lodging score for drilled and planted canola across 4 different nitrogen rates.

	Average Lodging Score (1-10)	
Nitrogen Rate (total lb actual N/ac)	Drill (7.5" row space)	Planter (twin row on 30" centers)
110	5.3	3.7
10 + 40	5.3	3.7
110 + 78	7.0	4.7
110 + 115	6.7	4.0

Score of 1 = vertical plants, score of 10 = plants lying flat.

Number of branches and stalk diameter were not significantly different across the various rates of nitrogen; however lodging increased as the rate of nitrogen increased, as expected (Table 1). An additional application of fungicide in plots that received in-crop nitrogen did not appear to mitigate lodging.

Yield Results: Plots were harvested with a Claas Lexion 750 with an auger head, and an extended pan and knives on either side of the header. There were no significant differences in yield based on seeding rate. It is well documented in scientific literature that a canola stand can meet yield potential at populations ranging from 5 to 20 plants/ft^2. In addition, the yield of plots seeded with the drill did not differ from yield of Monosem planted plots.

There were some statistically significant yield differences across nitrogen rates (Table 2). Plots with only 110 lb/ac of nitrogen applied pre-plant yielded lower than all other plots. There were no significant differences between yields at all other nitrogen rates. Unfortunately a treatment of 110 lb/ac of nitrogen split applied was not included for comparison to 110 lb/ac applied pre-plant, so the results do not indicate whether higher yields were achieved because of the higher amount of nitrogen or because of the timing of application.

Table 2: Average canola yield by nitrogen rate

Nitrogen Rate — pre-plant + in crop (lb actual N/ac)	Average Yield (bu/ac)
110	67.1 A
110 + 40	73.6 B
110 + 78	79.9 B
110 + 115	75.4 B

Yields were pooled for all drilled and planted plots at the same nitrogen rate. Yields followed by the same letter are statistically the same.

The 15 Most Profitable Plots: The cost of inputs was tracked for each plot, and profitability calculated based on the yield within each plot. A general evaluation of profitability was conducted by looking at the 15 most profitable plots out of the 32 plots in the trial.

Disregarding the cost of purchasing new planting equipment, there were no differences in profitability of planted vs drilled plots in general. However, three of the plots that used a 3 lb/ac seeding rate were included in the 15 most profitable plots. The ability to lower seeding rates using a planter without lowering yield is an opportunity to increase profits.

Figure 3

Of the 15 most profitable plots, three were fertilized with just 110 lb N/ac pre-plant and had only one application of fungicide. These plots represent some of the lowest input costs in the trial and combined with decent yields this can provide good returns for producers. However, we know that additional nitrogen led to higher yields on average, and in many cases the additional yield was enough to pay for more nitrogen. Six of the 15 most profitable plots received 110+78 lb N/ac, and 4 received 110+115 lb N/ac. In this trial, plots with higher rates of nitrogen consistently yielded more and were more profitable.

The general trend from trial results was that lower seeding rates and higher nitrogen rates improve profitability. However, it can be difficult in spring canola to find a balance between yield and profitability. The #1 most profitable plot had the lowest input cost and the 2nd most profitable was the highest yielding plot at 87 bu/ac.

As a reminder, this data represents one trial at one location in 2017. Replication of this project would provide more confidence in the results. Future trials could include higher rates of nitrogen all applied pre-plant, and lower rates of nitrogen split applied to better evaluate the best nitrogen management strategy for canola.

Growing Forward 2 AAC agricultural adaptation council Ontario Canada

The Complexities of Clubroot: Stewardship of Resistant Varieties

by Meghan Moran, OMAFRA Canola and Edible Beans Specialist

A clubroot survey was conducted in 2016 and 2017 across Ontario. Clubroot-positive samples were analyzed to determine the predominant pathotype (strain) of clubroot in each infested field. Clubroot has been detected in most major canola growing regions of Ontario including Temiskaming, West Nipissing, as well as Bruce, Grey, Dufferin and South Simcoe counties. Pathotype assessments, conducted by Dr. Mary Ruth McDonald's research team at the University of Guelph, identified the majority of clubroot-positive samples from Ontario as P2, but P5 and P8 were also identified. In Alberta, the predominant pathotype has historically been P3, with P5 and P8 also present. In Quebec, P2 and P5 have been identified.

Knowing the pathotype present in each field is important when selecting clubroot resistant varieties. Most clubroot resistant varieties provide protection against a few different pathotypes, but it is important to confirm the variety matches the pathotype in the field. That may be easier said than done as some seed companies do not provide information on what pathotypes their varieties are resistant to.

It is also important to monitor what pathotype is present in a field because it may shift over time. While there is often one predominant pathotype in a given field, there will be a population of spores of different pathotypes present. Dr. McDonald, a plant pathologist and clubroot expert, says "the population can shift quickly when a selection pressure is applied, i.e. a clubroot resistant variety." Similar to the way glyphosate resistant weeds will eventually proliferate if we repeatedly apply glyphosate herbicide to a field, repeated use of one clubroot resistant variety will control some clubroot pathotypes but will allow proliferation of other pathotypes present in the field.

A shift in the pathotype population can result in the clubroot resistant variety becoming no longer useful on a particular field. The variety will then be susceptible to disease symptoms in that field. In fact, once clubroot is present in a field, every time a resistant variety is grown is one less time the same genetics can be used successfully in the future on that field. Unfortunately, seed companies do not share information on the genetic backgrounds of clubroot resistant varieties. If we could rotate the genetic sources of clubroot resistance when choosing varieties we might be able to decrease the selection pressure on the clubroot population. This is similar to how we rotate herbicides to reduce selection pressure on the populations of weeds in the field.

The best time to start using a resistant variety is actually before you have clubroot. Regular farming operations contribute to the spread of clubroot from field to field. Dr. McDonald warns that it is likely inevitable we will see many new infestations in Ontario canola each year. In Alberta there were approximately 12 cases of clubroot in 2003, more than 400 cases by 2008, and almost 2000 by 2014. "Waiting until clubroot symptoms are seen in a field, or until a field is highly infested, and then using a resistant cultivar greatly increases the risk that resistance will be overcome sooner rather than later" says Dr. McDonald. She adds, "now that we know clubroot is present across Ontario, there is value in farmers using resistant varieties before clubroot shows up on their farms."

All Ontario canola growers should begin to manage for clubroot now and consider good stewardship of clubroot resistant varieties. Integrated pest management strategies, long crop rotations (canola once every 3-5 years), controlling Brassica weed species and volunteer canola, minimizing soil movement, and the use of resistant varieties are all required to manage this disease. These IPM practices can be put in place now to limit the impact of clubroot in our province. For more information about clubroot visit www.clubroot.ca and www.fieldcropnews.com.

Winter Canola / Double Crop w/Soybeans Tour
Thursday, June 21, 2018

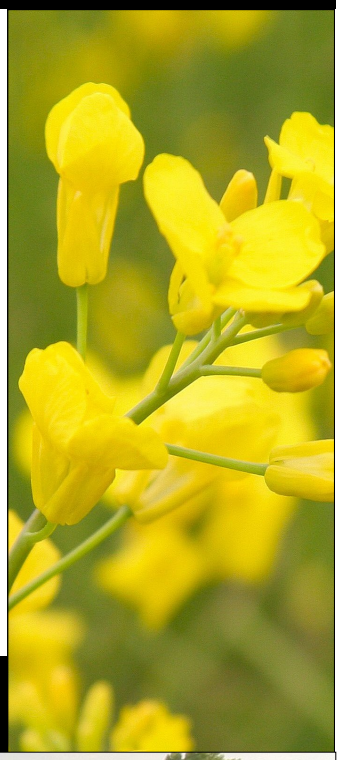
Winter Canola Tour

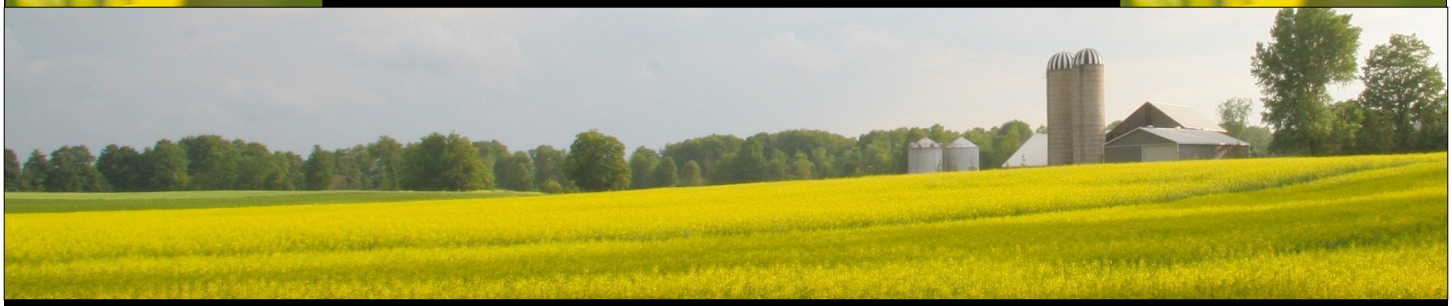
Ag Canada Research Station
Harrow, Ontario

Dr. Eric Page
will provide a tour of his research trials
where he is achieving
winter canola yields of 5400 lbs/ac
and then double cropping with soybeans
with yields of 50-65 bu/ac.

Thursday, June 21, 2018
1:00 to 3:00 pm
2585 Essex County Rd 20, Harrow
(meet at front entrance)

Pre-registration is required — limited space
Go to www.ontariocanolagrowers.ca to register





Canola Challenge 2018 — Bring in the Winning Yield!

Canola Challenge 2018 Prizes

1st place winner – $2,000 cash

2nd place winner – $1,000 cash

3rd place winner – $ 750 cash

4th, 5th and 6th winners – $500 cash

Give it a try this year.

You could be the 2018 winner!

How Do You Enter ?
What are the Rules?

1. Complete "Intent to Participate" form and submit by **Aug 15, 2018**. The form is available at www.ontariocanolagrowers.ca.
2. Work with a supporting agronomist.
3. Minimum 10 acre canola plot.
4. Record yield from 1 acre of your field. Must be recorded by weigh wagon and verified by your supporting agronomist.
5. Record your cropping and yield information and submit by Oct 15, 2018.

Ontario Canola Growers
2018 Research Projects

Winter Canola — This project will examine the interaction of crop residue type and tillage intensity to identify how winter canola best fits into Ontario crop rotations and management practices that will improve seedling establishment.	Dr. Eric Page Ag Canada Harrow Research Station
Clubroot — Goals: 1) assess the distribution of clubroot and the pathotype, 2) identify canola cultivars that are resistant to Ontario pathotypes\ 3) identify rotation crops and cover crops that reduce the population of the pathogen in soil over time 4) develop and test strategies to deal with small areas of infestation in a field, or areas where resistance has eroded.	Dr. Mary Ruth McDonald University of Guelph
Swede Midge — "Improved management of swede midge with biological and chemical control tactics" This project will study the distribution of the swede midge parasitoid, Synopeas myles, across Ontario, as well optimal SM treatment spray application methods to ensure insecticides are employed with maximum efficacy and minimal risk to SM parasitoid and pollinators.	Dr. Rebecca Hallett University of Guelph
Winter Canola Variety Trials — Ongoing winter canola variety trials with Mercedes, Inspiration, and CC17070	Dave Hooker Ridgetown College — U of G
Winter Canola — Planting winter canola into standing corn	Matt Porter Trent University

Upcoming District 1 and 4 Elections

Elections for Committeemen for District 1 and 4 for the 2019-2021 term will be held in Dec 2018. Announcement of the election dates and details will be provided in future newsletters and posted on our website at www.ontariocanolagrowers.ca

District 1 — Counties of Huron, Perth and Bruce
District 4 — Counties of Timiskaming, Nippising, Algoma and Sudbury

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