



NEWSLETTER

November 2021

Canola Growers Recognize outgoing Carrie James with 17 years of Executive Leadership

This spring Carrie James officially retired as Executive Director of the Ontario Canola Growers Association. Carrie was the Executive Director for over 17 years and has helped the Board of Directors manage many different scenarios over her tenure. Carrie has worked hard to keep the organization moving forward during difficult times and was able to pass management of the organization over during a time of unprecedentedly high canola prices. Additionally, winter canola has made a significant comeback and is being grown in more southern areas of Ontario over the last few years.

“She has been a great asset to the organization and her wealth of experience will be missed by our Board of Directors” says Hubert Beaudry, OCGA Chairman. Former Director Ralph Voison noted “She was a pleasure to work with and those who worked with her for many years are going to miss her”. Carrie also managed the Ontario Innovative Farmers Association and has organized countless events during her tenure in which numerous farmers have participated and enjoyed. Carrie is relocating to Saskatchewan to be closer to family and enjoy her retirement.

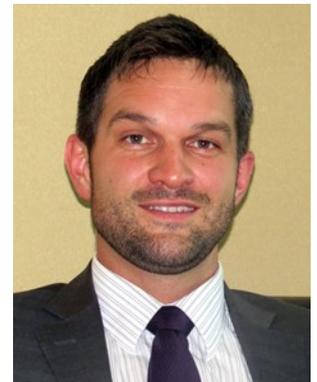
The OCGA has engaged Koeslag Consulting Inc. (KCI) under the leadership of Ryan Koeslag who will be acting as

Executive Director and manage the organization from Harriston, Ontario. “I’m excited to work with the OCGA and help keep the momentum Carrie and the Board have created as well as bring efficiencies through our collaborative office”. KCI manages several non-profit farm organizations including: Mushrooms Canada, Ontario Bean Growers, Ontario Institute of Agrologists and the Ontario Agricultural Commodity Council.

“Through this partnership we hope to collaborate and bring more value to the license fees farmers provide, all to the benefit of improving the crop and industry” says Hubert Beaudry. “We look forward to working with KCI in the future!”



Carrie James



Ryan Koeslag, P.Ag

Important Updates

- Complete Online Survey Request: www.ontariocanologrowers.ca
- Canola Challenge Winners on page 4!
- District Elections- November 29th, 30th, December 1st, 2nd at 7:00pm– Go to website for meeting links
- AGM Wednesday January 26th & Thursday January 27th, 2022- Alliston, Ontario
- AGM Invitation on page 3 (RSVP to ryan@ontariocanologrowers.ca)

Can I Plant Corn in Rotation After Canola?

Meghan Moran, OMAFRA Canola and Edible Bean Specialist

Planting corn after a crop of canola is generally not recommended, and the reason why has to do with beneficial fungi living in the soil. However, some studies and anecdotal experience in Ontario have shown that this rotation is not always problematic.

Arbuscular mycorrhizal fungi (AMF): Many crops we grow, including corn, have a symbiotic relationship with AMF in the soil. AMF colonize plant roots and form an extensive network of hyphae (thread-like filaments) that transports nutrients to the plant. The hyphae explore much more soil volume than plant root systems can, and mycorrhizal plants can absorb more phosphorous at lower concentrations in soil solution than nonmycorrhizal plants. In exchange for this vast nutrient highway, AMF depend on plants for their carbon nutrition. AMF are abundant in most soils, although cropping practices such as tillage and rotation can impact their associations with crops.

AMF Fun Facts

- *hyphae can extend more than 10 cm from root surfaces, which is 100x further than most root hairs*
- *hyphae can access smaller soil pores than roots + root hairs because they have a smaller radius (0.005 mm vs 0.15 mm)*
- *the volume of soil explored by roots with mycorrhizal associations can be up to 100x greater than nonmycorrhizal roots*
- *mycorrhizae can acidify the rhizosphere or excrete chelating agents to mobilize P and increase availability to plants*

Corn seedlings have small root systems and utilize AMF to explore more of the soil and obtain adequate phosphorous to satisfy early demand. Phosphorous (P) is not very mobile in soils and in the absence of AMF, corn seedlings may exhibit P deficiency; seedlings may be short with weak stalks and may be a darker shade of green or purple in colour. Typically, the main issue is delayed corn growth (Figure 1). Flax is another crop highly dependant on AMF.

Canola, like all Brassica plants (e.g. cabbage, broccoli, mustard), is nonmycorrhizal and does not utilize or host AMF. After a crop of canola, AMF networks in the soil will be reduced and the fungi have to re-colonize from spores (reproductive cells), which can take about 50 days in the

presence of a host. This is the key reason why corn after canola is not recommended.



Figure 1. A corn field in Manitoba in 2021 exhibiting two different stages of maturity, where the only difference in management from left to right is the previous crop. Corn following field peas in rotation (left) is at the tasseling stage, while the corn following spring canola (right) has not yet tasseled because of delayed growth related to lack of AMF in the soil. Photo Credit: Anastasia Kubinec.

Examples of Success and Failure: Deb Campbell, CCA with Agronomy Advantage Inc, has described seeing severely stunted corn following **spring canola** on 4 or 5 occasions. In these cases, the producers did not consider potential P deficiency or apply fertilizer to compensate for low AMF function. The worst case was corn following **cabbage**, where the field had high soil P levels but starter P was not applied with the corn.

With **winter canola**, there is ample opportunity to grow another crop after canola harvest. Oats are highly mycorrhizal and are the top recommended cover crop choice, but many crops and weeds support AMF. Soybeans are mycorrhizal but not as highly reliant on AMF, so this rotational crop works well for those interested in double cropping. One winter canola grower has had their highest yielding corn in rotation after canola, but most years there were double-cropped soybeans in between. These fields have sandy loam soils, high soil test P levels, and starter P fertilizer in furrow at corn planting. He also offered the reminder you will always have volunteer canola after harvest, and it may need to be controlled to establish a cover crop.

What is unclear with winter canola rotations, is if you can successfully grow corn in the spring if canola is winterkilled. Generally speaking, John Heard, soil specialist with Manitoba Ag, feels that high soil P levels and starter P

fertilizer have reduced our reliance on AMF in corn. Studies in Manitoba conducted by Dr. Don Flaten and Magda Rogalsky have shown that starter P narrows the yield and maturity penalty of corn grown after canola. Starter P treatments increased corn maturity in 2 of 3 years and increased corn biomass, with the greatest response in corn after canola. In these trials there was a 10% increase in corn grain yield where MAP (monoammonium phosphate) was banded at a rate of 53 lbs P₂O₅/ac, regardless of the crop rotation.

There are few examples in the literature of corn planted directly after terminating canola. In a weed control study in Indiana, published in 2020, winter canola seeded in September and terminated 2 weeks prior to planting corn did not decrease corn grain yield compared to fallow (fallow from September to spring) but there was no information on soil P levels or starter fertilizer. In a corn silage study conducted in the late 1990s in British Columbia, where corn followed corn, canola or summer fallow, the effect of previous crop on silage yield was greater for unfertilized corn compared to corn with P side banded at 60 lbs of P₂O₅/ac. Silage yields were similar following summer fallow and canola (note that fallow fields may also have low AMF), and in one year yields were lower after canola than they were in the corn-on-corn rotation.

Conclusion: The safest recommendation is to not plant corn after a Brassica crop because of the risk of P deficiency and delayed corn growth. If possible, grow something else between canola and corn to help re-establish AMF. It is difficult to know what conditions and

management practices will completely mitigate this rotational issue, but high soil test P levels and starter P in furrow or banded beside the corn seed will likely support early corn growth.

References:

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DeSimini SA, Gibson KD, Armstrong SD, Zimmer M, Maia LOR, Johnson WG (2020) Effect of cereal rye and canola on winter and summer annual weed emergence in corn. *Weed Technol.* 34: 787-793.

Bittman S, Kowalenko G, Hunt D (2000) Phosphorous Deficiency in Seedling Corn – Crop Rotation Considerations. *Better Crops.* Vol 84.

Thank you to John Heard, Deb Campbell, Ryan Benjamins and James Hammerton for sharing their knowledge and experiences for this article.



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—VISIT OUR WEBSITE TO JOIN THE DISTRICT MEETINGS—

WWW.ONTARIOCANOLAGROWERS.CA

District	Election Date
1	Mon, Nov 29 th , 2021 — 7:00 pm– Zoom link and phone number posted on website
2	Tues, Nov 30 th , 2021 — 7:00 pm– Zoom link and phone number posted on website
3	Wed, Dec 1 st , 2021 — 7:00 pm– Zoom link and phone number posted on website
4	Thurs, Dec 2 nd , 2021 — 7:00 pm– Zoom link and phone number posted on website

The elections will be held virtually via Zoom.
You will have the option to join your District's election by either computer or phone.



**Congratulations to Ontario's
2021 Winter & Spring Canola Challenge Winners!**

WINTER		Yield lbs/acre	Variety	Location
1st	Shawn & Emily Helmuth Luke Hartung — North Wellington Co-op	5133	Mercedes	Moorefield
2nd	Ian Toll Cory Cowan—AGRIS Co-op	4122	Mercedes	Blenheim
3rd	Harold & Wilma Fisher Ilona Holliday, Harriston Agromart	3878	Mercedes	Harriston
SPRING		Yield lbs/acre	Variety	Location
1st	JR McLaughlin Jeff Jacques, Harriston Agromart	4221	InVigor L255 PC	Palmerston
2nd	Peter Wiegert Chris Albert– FS Partners	3729	InVigor L345PC	Brampton
3rd	John Wiley T.Volk & W.Foster, Sprucedale Agromart	3712	InVigor 357	Meaford

Initial Canola Seasonal Summary - October 2021

Meghan Moran, OMAFRA Canola & Edible Bean Specialist

There were just over 31,000 acres of spring canola insured by Agricorp in 2021. County-level acreage data are not available at this time.

Snow cover disappeared earlier than normal in most regions. In the northwest, soil conditions were dry through spring and temperatures were warm through April and May allowing producers to finish seeding early. In the northeast, conditions were dry in early April followed by frequent rainfall in late April and early May, and temperatures remained cool. Planting began in mid-April in most regions but seeding deadlines for crop insurance were extended because a frost event terminated over 5,000 acres of canola in the northeast as well as some acres in the northwest. Later seeding of canola and other crops was challenged by extremely dry soil conditions.

As usual, flea beetle reached threshold in some fields and insecticides were applied. In the northeast, swede midge pressure was observed to be lower than usual and damage was limited to side branches, for the most part. As a result, insecticide application in the northeast was lower than usual. Researchers at University of Guelph reported that trap captures of swede midge in Elora were more than double what was observed in recent years, but swede midge emerging in closed containers from plants collected from fields were much lower than usual. The results are surprising and unexplained, so far. Producers in the northwest had a dry season contributing to significant insect pressure, including flea beetle, diamondback moth larva and grasshoppers. At this time they do not have swede midge in the northwest.

In recent years, some producers in areas south of Muskoka have had low yielding canola because of lack of rainfall and/or hot conditions. Early "stress bolting" was reported again this year in Bruce and Simcoe counties. Where this stress and consequent low yields are occurring year after year, and in combination with high insect pressure, producers are moving away from growing spring canola. In some regions producers are trying winter canola instead, which at this time has a lower risk of insect damage and drought stress. However, there are other potential risks with winter canola related to weather and pests such as slugs.

Final yield information from insured acres is not yet available. An updated seasonal summary will be available later in the year. Most producers across various regions have reported strong spring canola yields, including on re-seeded acres in the north. Harvest was somewhat delayed because of wet weather and may not be complete yet.

There were approximately 4,800 acres of winter canola seeded in fall of 2020 and insured by Agricorp. The majority of the acres were in Chatham-Kent and Essex Counties, followed by Wellington County, and lower acreage in Bruce, Grey, Huron, Perth, Lambton, Haldimand and Prince Edward Counties. Conditions were unseasonably warm through to the end of November and winter was relatively mild, so winter survival was strong. Warm conditions in early spring encouraged early bolting and flowering in the southernmost counties, which led to greater temperature stress when temperatures dropped again later on; this did not result in plant death or visible injury, just fewer flower buds. In areas north of Guelph the crop held off bolting and flowering until warmer temperatures arrived later in May, so flower buds were more numerous in these "northern" winter canola regions. Mercedes winter canola appears to handle temperatures dips below -4°C quite well during early flowering, although we have not yet observed the crop sustain more than a few hours at those temperatures.

Generally speaking, slugs are problematic in winter canola because it is planted following wheat and any residue left in the field provides an ideal habitat for slugs. Tillage and burying residue is the only way to manage slugs, but damage may still be observed in tilled fields when conditions are wet or in areas where there is some residue left on the surface. They may also come in from field edges and eat all the canola in a 1 to 3 foot perimeter of the field. Cabbage seedpod weevil were not observed during the typical spray timing early in the flowering period but were observed in some fields during late flowering. Weevils may have contributed to shatter losses, caused by the holes larvae make when they exit pods.

Yield reports received by OMAFRA were all above 3,300 lbs/ac, and were generally between 3,300 and 3,750 lbs/ac. Some producers enjoyed much higher yields, primarily in Wellington County. Hail, wind and hard rains between pre-harvest herbicide application and harvest caused significant shatter losses in some localized areas, mostly in Essex County. The majority of fields were harvested in mid-July and double crop soybeans were planted on some fields. For some, winter wheat and canola were mature at the same time, which is a logistical challenge. Slow harvest caused by lodging and green stems can be discouraging, particularly for producers that are new to canola. However, extremely high prices seem to make it worth the trouble. Over 10,000 acres of winter canola have been seeded this fall. Seeding no-till into wheat residue has led to significant losses to slugs in some fields; this practice is not recommended. Fall armyworm have also cleared off large areas of fields in southern counties. Extremely wet conditions may cause low or delayed emergence in some areas.



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