Ontario Canola Growers Association April 2019 Newsletter

Hello everyone! What a winter we just had. Record snowfall and cold weather was the order for much of northern and eastern Ontario this past few months while the south of the province experienced the cold but not as much snow.

And then came the news of Canadian canola trade being halted by China. This is certainly a concerning situation for farmers about to put seed in the ground and the entire canola industry. With crop inputs already purchased, limited choices for other financially viable crop options, plus canola's valued place in rotations, farmers are left in a tight spot. We're hopeful that the Canadian government will continue to press hard and be successful in their efforts to meet with China to discuss this matter soon.

In the meantime the Canola Council of Canada and the Canadian Canola Growers Association are working continuously with the Canadian government to get this resolved while also investigating further diversification of Canada's canola markets for the long term.

Over the winter, I appreciated hearing several of my northern neighbours share that they intend to plant more canola acres this coming season. Some of the reasons they mentioned were lower swede midge populations last year and the fact that the canola rotation has been spread out the past few years so growers are once again planning on growing more acres this year. It was encouraging to hear this. Canola has its challenges but when I look at the return per acre, canola can be a very competitive crop and also offers a timely planting date for winter wheat especially when the fall weather turns wet in October like last year.

This year OCGA will continue funding research for swede midge with Dr. Rebecca Hallett as well as club root management research with Dr. Mary Ruth MacDonald from the University of Guelph, a winter canola variety trial with Dave Hooker from Ridgetown and a winter canola crop rotation trial with Dr. Eric Page of Ag Canada in Harrow. There are well over 1,000 acres of winter canola in the ground throughout the province and I hope that the results will be positive so that canola acres can spread to the southern part of the province where spring canola struggles with the hotter temperatures. In the northern areas some winter canola has been seeded in hopes of it bolting before the swede midges emerges so that the crop can get ahead of the pest.

This summer Holmes Agro in Orangeville will be hosting our canola production tour on July 9th . The trials at these tours are always interesting to attend so growers can see the potential of different varieties, under intensive management practices.

In closing, I would like to thank Craig Reid for his contribution to OCGA, and the board of directors for working with me to represent Ontario Growers and its members.

Like many farmers I'm looking forward to the spring, so that I can get out and get the 2019 crop in the ground!

I wish everyone a great, safe and productive summer in 2019 and I hope to have a chance to talk with many of you at our Crop Tour on July 9th.

Hubert Beaudry,
President,
The Ontario Canola Growers Association

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Should I Always Apply Boron at Flowering?

by Meghan Moran, OMAFRA Canola and Edible Beans Specialist

Boron application at flowering is a common practice for Ontario canola growers. Canola has a higher requirement for boron than crops like wheat and barley, so it make sense to give canola a shot of this micronutrient. Timing the application during reproductive stages makes sense too, because boron deficient plants have been shown to express slow growth of pollen tubes, to have fewer pollen tubes, and to have reduced rates of pollen germination.

It is also common to have dry conditions during flowering in June and July, which will reduce boron availability. Boron is highly mobile in soil, and concentrations fluctuate with leaching and mineralization. It is primarily taken up by roots through mass flow, so there will be less plant uptake of boron when soils are dry. Mineralization of boron from soil organic matter is also reduced when conditions are dry. Soils with low levels of organic matter, or those with very high pH (>8.0) may also have reduced boron availability.

Levels of boron in soil are often less than 1 ppm so it is difficult to measure accurately. In fact, there is no accredited soil test for boron, although tissue testing can be used to identify deficiencies. Canola will utilize approximately 0.35 kg B/ha during the season, but removal rates are only about 0.10 kg/ha.

Flowers are sensitive to many stresses, and it is frequently stated that boron can reduce the impact of heat stress on yield. Temperatures above 28°C can cause flower and pod abortion and significantly reduce the number of pods a plant produces. However, research conducted in Ontario over the last decade has shown that boron is inconsistent in alleviating heat stress. The University of Guelph has reported that heat stress causes greater yield loss when it occurs at 3 days after first flower compared to 14 days after, although both can reduce yield. In their trials, foliar boron had no impact on yield when there was no heat stress present. When yields were negatively impacted by high temperatures, boron treatments were only beneficial in some cases.

Thirty-three boron strip trials were conducted by OMAFRA and numerous Ontario farmer cooperators from 2008 to 2011. Foliar boron applied at 0.3-0.5 lb/ac during early flowering stages resulted in yield increases 24 times out of 33 (73%), but there were also yield losses 21% of the time. Overall, there were only economic advantages to applying boron 36% of the time. A similar small plot trial conducted across eastern Canada by Dr. Bao-Luo Ma (AAFC Ottawa Research and Development Center) and collaborators resulted in yield increases 4 out of 10 times where boron was applied at flowering.

There is a fine line between deficient and toxic levels of boron. The Canola Council of Canada recommends foliar applications of boron at rates of 0.3 to 0.5 lb/ac. They indicate the lower rate may be safest, and care should be taken to prevent overlaps to avoid issues with toxicity.

While visible symptoms of boron deficiencies are rare, transient deficiencies may occur under dry conditions. If conditions are dry during flowering, the plant may not be taking up enough boron and there may be advantages to applying boron in the early flowering stages. If heat and moisture are non-issues in a given season and your soils are not prone to boron deficiencies, it may be best to save your money and skip the foliar boron application.

Canola Crop Tour
Tuesday, July 9, 2019 — Holmes Agro, Orangeville

Canola Crop Tour

Tuesday, July 9, 2019

10:00 am to 2:00 pm

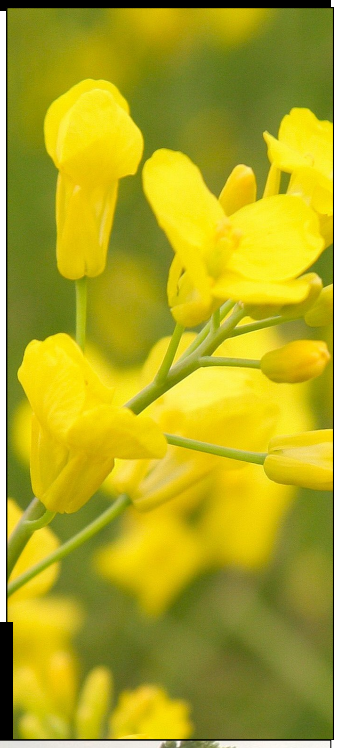
Holmes Agro, Orangeville

- 2 varieties throughout trial - one w/ clubroot resistance
- Lumiderm vs Prosper seed treatment
- Row widths: 7.5 inch, 15 inch, twin row
- Nitrogen and Sulfur Trials — split app vs 1 pass w ESN

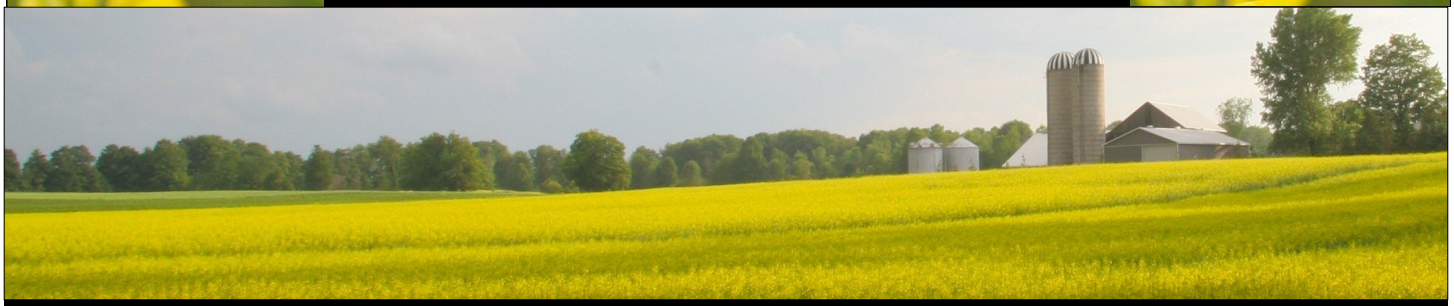
Canola Learning Stations on:

- Sprayer optimization.
- Pests– demos on scouting, identifying and thresholds.
- Fertilizing for medium or high yields and the economics.

Watch for further details at www.ontariocanolagrowers.ca



Pre-registration is required — no registration cost.
Go to www.ontariocanolagrowers.ca to register



Canola Challenge 2019 — Bring in the Winning Yield!

Canola Challenge 2019 Prizes

1st place winner – $2,000 cash

2nd place winner – $1,000 cash

3rd place winner – $ 750 cash

4th, 5th and 6th place winners – $500 cash

Give it a try this year.

You could be the 2019 winner!

How Do You Enter ?
What are the Rules?

1. Complete “Intent to Participate” form and submit by **Aug 15, 2019**. 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, 2019.

Soil pH and Liming Considerations for Canola Growers

Jake Munroe, OMAFRA Soil Fertility Specialist
Meghan Moran, OMAFRA Canola and Edible Beans Specialist

Correcting soil pH problems is one of the first steps in good soil management. It may also be advantageous for those battling clubroot disease of canola.

If you have soil sampled recently and found that pH is low, you should act on it. Soil pH affects the availability of a wide range of nutrients in soil; if it is too low or too high, nutrients are less available to crops. If pH drops too low, e.g. below 5, aluminum toxicity can become an issue. Acid soils can also negatively impact nodulation of forage legumes, persistence of perennial forages and growth of sensitive plants, such as wheat.

Raising soil pH may also be beneficial in fields with clubroot disease. In a greenhouse trial in Alberta, clubroot galls did not form in solutions with a pH of 7.3, but root galls formed readily at a pH of 6.5. Clubroot spore germination and disease development can be inhibited at pH above 7.2, but it is not a silver bullet. Raising pH may be less effective in preventing disease development if spore counts in the field are high, so early detection through intensive scouting and soil sampling for clubroot remains critical.

There are two values to key in on when reading a soil test:

Soil pH tells you if lime is needed. Typically, if you have wheat or field vegetables in rotation, lime is beneficial when soil pH is below 6.1 on medium or lighter textured soil. For clays and clay loams, it is needed when pH is below 5.6 (see Table 9-4 in Publication 811). A pH below 5.5 can substantially reduce canola yields.

Buffer pH tells you how much lime is needed**.** The lower the buffer pH value, the more lime will be required to raise the pH to a desired level. For example, soil with a buffer pH of 6 requires **two to three times the lime** of a soil with a buffer pH of 6.5 (Table 1). Clay and organic matter provide what's called "reserve acidity," which is a supply of hydrogen ions held by soil particles. This is why heavier textured soils tend to have a lower buffer pH and require more lime to increase soil pH.

Table 1. Limestone requirements to correct soil acidity based on soil and buffer pH (adapted from Table 9-5, Publication 811)

	Ground limestone required -t/ha (ton/acre) Based on Agricultural Index of 75.			
Buffer pH[1]	**Target soil pH**			
	7	**6.5[2]**	**6.0[3]**	**5.5[4]**
7	2 (0.9)	2 (0.9)	1 (0.5)	1 (0.5)
6.9	3 (1.3)	2 (0.9)	1 (0.5)	1 (0.5)
6.8	3 (1.3)	2 (0.9)	1 (0.5)	1 (0.5)
6.7	4 (1.8)	2 (0.9)	2 (0.9)	1 (0.5)
6.6	5 (2.2)	3 (1.3)	2 (0.9)	1 (0.5)
6.5	6 (2.7)	3 (1.3)	2 (0.9)	1 (0.5)
6.4	7 (3.1)	4 (1.8)	3 (1.3)	2 (0.9)
6.3	8 (3.6)	5 (2.2)	3 (1.3)	2 (0.9)
6.2	10 (4.5)	6 (2.7)	4 (1.8)	2 (0.9)
6.1	11 (4.9)	7 (3.1)	5 (2.2)	2 (0.9)
6	13 (5.8)	9 (4.0)	6 (2.7)	3 (1.3)
5.9	14 (6.2)	10 (4.5)	7 (3.1)	4 (1.8)
5.8	16 (7.1)	12 (5.4)	8 (3.6)	4 (1.8)
5.7	18 (8.0)	13 (5.8)	9 (4.0)	5 (2.2)
5.6	20 (8.9)	15 (6.7)	11 (4.9)	6 (2.7)
5.5	20 (8.9)	17 (7.6)	12 (5.4)	8 (3.6)
5.4	20 (8.9)	19 (8.5)	14 (6.2)	9 (4.0)
5.3	20 (8.9)	20 (8.9)	15 (6.7)	10 (4.5)
5.2	20 (8.9)	20 (8.9)	17 (7.6)	11 (4.9)
5.1	20 (8.9)	20 (8.9)	19 (8.5)	13 (5.8)
5	20 (8.9)	20 (8.9)	20 (8.9)	15 (6.7)
4.9	20 (8.9)	20 (8.9)	20 (8.9)	16 (7.1)
4.8	20 (8.9)	20 (8.9)	20 (8.9)	18 (8.0)
4.7	20 (8.9)	20 (8.9)	20 (8.9)	20 (8.9)
4.6	20 (8.9)	20 (8.9)	20 (8.9)	20 (8.9)

[1] Buffer pH in Ontario is measured using the Shoemaker, MacLean and Pratt (SMP) buffer. Other jurisdictions may use different buffers, which will give similar but not identical results.

[2] Lime if soil pH is below 6.1

[3] Lime if soil pH is below 5.6

[4] Lime if soil pH is below 5.1

Figure 1

Once you have determined your target pH and the lime requirement, it's time to compare products.

Limestone quality is determined by how well the lime can neutralize acidity and how finely it's ground. These values are combined into what's called the Agricultural Index. OMAFRA lime guidelines are based on an Ag Index of 75. It is essential to compare prices of lime based on relative Ag Index values.

For example, a product that costs $20 per ton with an Ag Index of 95 is a better deal than a product that costs $15 per ton with an Ag Index of 65 (see inset below).

The choice between calcitic and dolomitic lime is simple: if your soil test level for magnesium is below 100 parts per million, use dolomitic lime; if it is higher, use either type.

If you work with a lab or ag retailer to have grid or zone soil sampling done on your fields, the same principles apply for soil pH and liming, just at a finer scale. Prescriptions are based on soil variability and can allow for a more accurate (and potentially cost-effective) lime application across the field.

A multi-pronged approach is required to grow canola successfully in soils that harbour clubroot. Long rotations and clubroot resistant varieties are critically important, as well as controlling volunteer canola and Brassica weeds (mustard, yellow rocket, shepherd's purse, etc) within 1 or 2 weeks of their emergence. Managing soil acidity is another tool. A pH above 7.3 may inhibit clubroot disease development, but it may not be 100% effective and it will not prevent the disease from spreading through soil movement. Knowing the pH of your fields may guide where you choose to plant canola or which fields are a good target for liming.

Application Rate = 6 t/ha (based on buffer pH 6.2 and target pH of 6.5)

Lime 1	**Lime 2**
Price $20/t	Price $15/t
Ag Index: 95	Ag Index: 65

Amount of lime to apply = recommended amt. x (75/Ag Index of lime)

= 6 t/ha x (75/95)	= 6 t/ha x (75/65)
= 4.74 t/ha	= 6.92 t/ha
4.74 t/ha x $20/t	6.92 t/ha X $15/t
= **$94.80/ha**	**= $103.85/ha**
✓	✗

6 Steps to Manage and Prevent Clubroot

by Jay Whetter, Canola Council of Canada

The first step in managing clubroot is to minimize the chance of introducing clubroot to the farm in the first place. Cleaning equipment and vehicles before entering a field - even spending 15 minutes removing loose soil – will reduce the chances of spreading clubroot spores. All people entering a field, regardless of the crop being grown, should have disinfected rubber boots or wear disposable booties over their footwear. All seed (not just canola) should be cleaned and treated to prevent introduction of clubroot on dirt tag.

In one case in Alberta in 2017, the field had been in hay for many years and this was its first crop of canola. But the farmer had broken up the hay using a tillage tool that must have been contaminated with clubroot-infested soil. "Once clubroot is in a field, it can get established quickly in a year with good moisture conditions," says Dan Orchard, agronomist with Canola Council of Canada (CCC).

If clubroot is present in a field, take measures to prevent the disease from reaching yield loss levels in future canola fields. To prevent the buildup:

1. **Grow a clubroot-resistant (CR) variety**. Certainly do this when clubroot is confirmed on your farm (either through plant symptoms or soil DNA test). CR varieties are also recommended when clubroot is confirmed or even suspected in your community or region. "If you don't know whether clubroot is in your area, CR varieties can be a useful prevention tool," says Clint Jurke, CCC Agronomy Director. "The risk of using a CR too early and contributing to breaking of the resistance is small compared to the risk from using a susceptible (non-CR) variety early and having the disease escalate quickly to very costly levels."

   Resistance breaks when the clubroot pathotype population in a field shifts to those pathotypes that overcome a particular CR trait. If there is no clubroot present at all, there is no selection occurring and no risk of breaking CR at all. If the field has very low levels of clubroot, the CR variety will prevent most infection and keep spore levels lower for longer. On the other hand, if clubroot is present at low levels and the grower uses a susceptible variety, clubroot spore loads can build very quickly to the point where the risk of breaking the CR trait, when those varieties are finally deployed, can be very high.

   Even with CR varieties, keep scouting. Clubroot pathotype populations will adapt to resistance sources. Rotation to other CR sources may be required to keep the disease down.

2. **Rotate out of canola** for at least two years. Evidence from three rotation studies done in Canada (two at Normandin, Quebec, one in Alberta) suggests that two years between host crops (canola, mustard or any brassica vegetable) is the minimum rotation to manage clubroot spores in a field. "The value of rotation cannot be overstated," Orchard says. After two years without canola on a field, spore levels can drop by 90 per cent. Growing canola once every 3 or 4 years is beneficial for both clubroot and swede midge population management.

3. **Control weeds and volunteer canola** as these can promote spore buildup in non-canola years in the rotation. Clubroot infection can occur within 1 or 2 weeks of emergence. Brassica weeds, including wild mustard, shepherd's purse, yellow rocket and stinkweed are also clubroot hosts.

4. **Contain diseased patches** as long as possible. Reduce tillage where possible and take measures to isolate affected areas. One method is to seed the patch to perennial ryegrass. This will stop soil movement out of the patch, and a patch left for five years or more will greatly reduce the viable spores left within this patch. Another potential option is adding lime to increase soil pH. Ongoing work shows clubroot-reducing benefits from liming, but further research will determine required rates and whether this could pay off across whole fields.

5. **Designate separate field entrances and exits**. Given that 90 per cent of fields identified with clubroot show symptoms at field entrances first and that these areas tend to be the most heavily infested, having a separate exit means equipment isn't leaving from the most infested area of the field. This will reduce the amount of spores picked up on the way out. The exit, if possible, should be far away from the entrance and preferably on higher and drier ground.

6. **Scout diligently for clubroot** in every canola field. Check plants for clubbed roots, particularly in areas of the field that are wet, where plants look wilted or nutrient deficient, and around the field entrance. Random searches for galls in high-risk areas of a field will improve the chance of finding patches that are small enough to manage. High-risk areas include field entrances but also low moist areas where soil runoff can deposit spores and where infection is most likely (due to the moisture). Have soils tested for clubroot at a disease diagnostic lab. Early detection and integrated disease management will mitigate the chances of significant yield loss.

Ontario Canola Growers
2019 Research Projects

Winter Canola — In its 2nd of a 3 contract, this project is studying the interaction of crop residue type and tillage intensity to identify the best rotation options for winter canola in Ontario crop rotations as well as management practices that will improve seedling establishment.	Dr. Eric Page Ag Canada Harrow Research Station
Clubroot — Annually renewed project with the following 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 pathogens 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 — This the 3rd year of a 3 year project researching the distribution of the swede midge parasitoid, Synopeas myles, across Ontario, as well as 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 planting date and variety trials with Mercedes, Inspiration, and CC17070.	Dave Hooker Ridgetown College — U of G

District 2 Elections

The election for District Representatives for the 2020/21/22 term for District 2 (Essex, Kent, Lambton, Elgin, Middlesex, Oxford, Haldimand Norfolk, Brant, Niagara, Hamilton Wentworth, Waterloo, Halton and Wellington) will be held in December 2019.

If you are interested in becoming involved in OCGA as a District Representative or have any questions about what the role of a District Representative would entail, please contact Carrie James at 519 986 3519.

The election date and details will be posted on our website at www.ontariocanolagrowers.ca.

Ontario Canola Growers Association

Directors and District Representatives

*** denotes OCGA Director

District 1 Counties of Huron, Perth and Bruce			
Mike Christie* **	**519 372 8543**	**christiegrains@gmail.com**	**Tara**
Ralph Voisin * **	**519 379 1265**	**ralph9@wightman.ca**	**Hanover**
John Gibner	226 963 1053	jgibner@pandh.ca	Port Elgin
Jeff Kobe	519 373 2440	jckobe@bmts.com	Port Elgin
Diederik Vermue	519 881 9177	dvermue@hotmail.com	Paisley
District 2 **Counties of Essex, Kent, Lambton, Middlesex, Oxford, Haldimand Norfolk, Brant, Niagara, Hamilton Wentworth, Waterloo, Halton, & Wellington**			
Steve Lake * **	**519 993 7568**	**lake.steve@gmail.com**	**Elora**
Kurtis Schill — Vice President* **	**519 897 0644**	**kurtis_schill@outlook.com**	**Palmertson**
Carl Brubacher	519 820 4516	carlottefarms@sympatico.ca	Arthur
Brad Martin	519 343 3035	bradm@sonicwaves.ca	Gowanstown
Jonathon Sammons	519 938 7023	sammonscustomfarming@hotmail.com	Melanchthon
Mike Schill	519 321 9834	schillfarms@hsfx.ca	Arthur
District 3 **Counties of Peel, Grey, Dufferin, Simcoe, Durham, Northumberland, Victoria, Peterborough, Hasting, Lennox & Addington, Frontenac, Lanark, Leeds, Renfrew, Ottawa Carlton, Grenville, Dundas, Russell, Stormont, Prescott, Glengarry, Parry Sound and Manitoulin**			
John Kidd * **	**519 925 6453**	**kiddfarms@gmail.com**	**Melancthon**
Jennifer MacDonald * **	**519 372 6839**	**hbmarksales@wightman.ca**	**Markdale**
Jeff Curry	519 375-0308	jeffcurry@gmail.com	Owen Sound
Jennifer Doelman	613 649 2440	ddsfarmag@gmail.com	Douglas
James McKinlay	519 599 6236	jmckinlay@bmts.com	Ravenna
Brian Wiley	519 359 1571	btwiley@ymail.com	Meaford
District 4 **Counties of Algoma, Nippising, Rainy River, Sudbury, Thunder Bay, and Timiskaming**			
Hubert Beaudry, President * **	**705 492-8058**	**h.beaudry@persona.ca**	**Cache Bay**
Will Runnalls* **	**705 6501135**	**w9501runnalls@hotmail.com**	**Thornloe**
Simon Cloutier	705 622 3644	rockyridgebison@gmail.com	Earlton
Frank Delorme	705 499 6764	fdelorme@coopregionale.com	Verner
Tanja Gahwiler	705 679 3242	tanja.gahwiler@gmail.com	New Liskeard
Denis Jibb	705 648 5761	dennisj@ntl.sympatico.ca	New Liskeard
Bob Miller	705 648 1912	no email	Earlton
Terry Phillips	705 648 0380	tphilfam@hotmail.com	New Liskeard