

The Municipal Agricultural Connection



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Rural
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Are you checking your fields for Clubroot?

Have an interesting topic you want discussed in the Newsletter or municipal meeting? Send suggestions to Asst. Agricultural Fieldman Tanis Ponath, asb@mdwainwright.ca or 780-842-4454

If you haven't already been doing so, now is a good time to be checking your canola fields for clubroot. James and myself will be completing the annual clubroot survey from August through to September. One to two fields are randomly selected from each township in the M.D. and plants are pulled for inspection at the main entrance of the field.

Disease Overview

Clubroot is a serious soil-borne disease of canola, mustard and other crops in the cabbage family as well as cruciferous weeds. Clubroot affects the roots of the plants exhibiting club-like appearances which inhibits the

plants ability to absorb nutrients.

The clubroot pathogen overwinters in the soil as resting spores. In the spring, secretions from roots of various plants will cause the resting spores to germinate into zoospores. The zoospores have the ability to travel short distances to seek out potential hosts. The clubroot pathogen cannot grow unless there is a living host present. Once the spores have found a susceptible plant they infect the plant through the root hairs. From there, cells will multiply and enlarge, forming clubs or galls. Once microbes in the soil begin to decompose the roots, millions of resting spores are released into the soil and the cycle will begin again.

Resting spores can survive in the soil for up to 20 years until a suitable host is planted. The longevity of spores is the key factor contributing to the seriousness of the clubroot disease, especially under short crop rotations.

What to Look for:

There are few different symptoms to look for when scouting for clubroot. Most of the symptoms look very similar to the symptoms of other diseases and environmental stresses. That's why it is important to physically inspect plants and not scout from the truck. Depending on the growth stage symptoms can vary. Infection at the seedling stage can result in wilting, stunting, yellowing and even death of canola plants in the late rosette to early podding stage. Infection at later crop stages can show pre-mature ripening. It is more common for symptoms to show at the main field entrance however, this might not always be the case and there could be isolated incidences throughout the field.

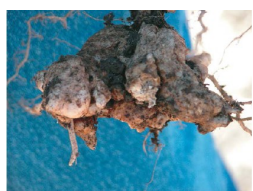
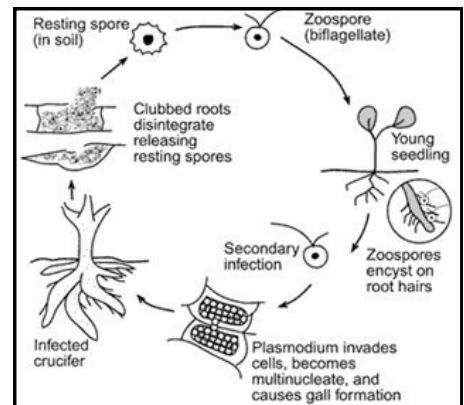


Figure 2. Very severe clubroot on canola.



Figure 3. Severe clubroot galls or "clubs" on canola root.



Figure 4. Moderately infected canola root.



Figure 5. Patchy, premature ripening.



Figure 6. Decayed clubroot galls and whitish stem appearance.

ATTENTION FARMERS

If Strychnine Is An Essential Management Tool On Your Farm Make Your Voice Heard And Get Involved In The Consultation Process

Consultation on the Proposed Registration Cancellation of Strychnine and Its Associated End-use Products

Health Canada is proposing to cancel the registration of Maxim 2% Liquid Strychnine Concentrate, and to require the removal of ground squirrels use from the label of S.A.R.M Gopher Poison R.T.U. Strychnine is a registered pesticide used by growers to control ground squirrels. Following a scheduled re-evaluation under the Re-evaluation Program, Health Canada's Pest Management Regulatory Agency is consulting Canadians on the proposal to cancel the use of strychnine for ground squirrel control due to effects on non-target animals. This review identified environmental concerns in the potential poisoning of non-target animals, including species at risk such as the swift fox and burrowing owl. There is concern mitigation measures would not be practical.

CONSULTATION ON STRYCHNINE – How to get involved

<https://www.canada.ca/en/health-canada/services/consumer-product-safety/pesticides-pest-management/public/consultations/proposed-re-evaluation-decisions/2018/strychnine.html>

Bertha armyworm is a real risk for 2018

Scott Meers, Insect Management Specialist

With some bertha armyworm pheromone monitoring sites now showing above the first warning threshold (and one now above the second warning threshold of 900 moths) it is time to review what this means.

A trap adjacent to a particular field does not necessarily reflect the risk in that field. In fact in a study conducted in Minburn County during the last large outbreak the field adjacent to a trap with a catch in excess of 1500 moths was never sprayed. Many fields in the area were well above larval thresholds and were indeed sprayed. In addition that year there were many traps that exceeded the first (300 moths) and second (900 moths) and even some at the highest warning level (1200+ moths) warning thresholds. There was a widespread outbreak in that area.

So what does it mean when an **individual trap is low** when all around it are higher? It could mean the pheromone was not handled properly prior to setting out. Also, we have seen traps set up adjacent to pastures with lower counts while nearby ones adjacent to last years canola with higher counts. In our recent study looking at trap density we saw an effect of trap placement relative to last years canola but because we hadn't set out to measure this we couldn't provide statistical evidence of the phenomenon.

What does it mean when **one trap goes really high** when others around it remain low. It could mean that the trap was put in just the right place to catch a high local population. It could also be an unexplained anomaly as we often see.

Over the past several years there have been times where a trap has had high counts but no outbreak has occurred. It is one of the hazards of a pheromone system, we don't have all the answers as to why and how certain traps react the way they do. In our experience a lone trap over 300 moths usually does not result in an outbreak. Rather some fields approach thresholds and the odd one may be over. More often localized spots within fields approach a threshold.

When an area starts to get a mixture of traps near 300 moths, some over 300 and the odd one even over 900 moths then we are into potential outbreak territory. We are on the verge of this in the Camrose/Beaver counties this year. In addition, there is a smattering of traps that have gone over 300 throughout southern and central Alberta. This is still a fairly **low overall level risk** but one that **can not** be ignored. It means we need to be scouting canola fields in the vicinity of the elevated trap catches.

Here is a link to our map https://www.agric.gov.ab.ca/app68/listings/bertha/bertha_map.jsp

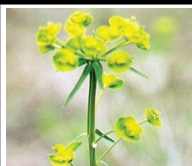
M.D. of Wainwright numbers are as follows:

Irma: 667 moths

Hwy 894: 417 moths

Edgerton: 294 moths

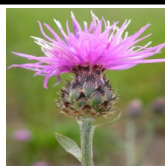
Numbers are calculated on the average moths counted in the 2 traps at each location over six weeks.



Leafy Spurge



Hoary Alyssum



Spotted Knapweed



Toadflax



Tall Buttercup



Nodding Thistle

Phragmites Confirmed in the M.D. of Wainwright

The highly invasive weed phragmites has been confirmed in the M.D. of Wainwright in Division 1. European Common Reed or phragmites is an invasive weed originating in Europe. Phragmites is a perennial grass that grows in shallow water and along the edges of stationary or slow moving water, such as that found in wetlands. Phragmites is a very aggressive plant, it spreads quickly and out competes native vegetation for water and nutrients thus decreasing biodiversity in the area. Once established the roots secrete a toxin into the soil to decrease the growth of and kill the surrounding vegetation. The M.D. received confirmation of the invasive plant through the Crop Diagnostic Center in Edmonton. Once confirmed, Alberta Environment and Parks was notified since phragmites control falls under the *Alberta Fisheries Act*. There is also a native sub-species of phragmites that is common in Alberta. The native and invasive are very difficult to tell apart that's why DNA testing is required for confirmation. Back in 2016, there were two stands of phragmites confirmed in southern Alberta. The terrestrial stand was treated with a herbicide and the stand in the water was cut and burned.



Photo courtesy of Ducks Unlimited Canada

Phragmites have been invading Ontario for the past decade. The plant is designated as restricted on their *Invasive Species Act*. The Province has now implemented control programs where phragmites has impacted sensitive areas. Ontario established a working group whose sole responsibility is to reduce the threats posed by this aggressive plant to biodiversity and species at risk. Concerned residents can submit a project to the working group if there is an area where phragmites is well established and affecting the natural area.

If you come across this invasive species please contact James or Tanis at the M.D. office and remember the key things to look for:

- Dense monoculture stands
- Phragmites is very tall and can grow up to 6m in height
- Very dense seed heads
- Stands already identified in Alberta have been found along the railway tracks

Roadside mowing has started. We would like to remind producers that our contracted mowers will honour the existing swath and **if there is no existing swath the ditch will be mowed.**

Designated roads to be mowed have already been pre-determined. Not all M.D. roads are mowed.

If you have any questions or concerns please phone the office, 780-842-4454

The Municipal District of Wainwright Presents.....

2018 Calendar Contest

Send us your photos that capture the diversity of our agriculture and the environment within the M.D. of Wainwright.



Contest Information:

- Applications can be downloaded from the M.D. website or picked up at the office
- Please no emails! Hard copies of pictures or USB stick only
- Photos must be taken within the M.D. of Wainwright
- You can mail in entries or drop them off at the office
- Send us photos that showcase all seasons

• **Deadline August 17, 2018**

If you have any questions please contact Asst. Agricultural Fieldman Tanis Ponath at 780-842-4454

Here are some of last years winners:



Sherry Christensen "Last Stop"



Chuck Hutchinson "Waiting out the Storm"



Damon Zajic "Race to the Rain"

Tree Diseases of the Month

Each year I receive various tree inquiries from concerned rate-payers. Most of the time the culprits are various insects affecting the leaves or needles. Below are two common tree problems I have seen this year. If you have any questions you can contact me at the M.D. office, 780-842-4454.

Leaf Miners

Appearance & Life History: There are many types of leaf miner species. Leaf miners can be any one of the four groups of insects, a moth, sawfly, fly or beetle. Depending on the overwintering stage, time of year for egg laying and the types of leaves attached, varies among the different leaf mining species. When larvae emerge in the spring they enter the leaf between the upper and lower surface layers. There they will feed on plant tissue as they develop. All larvae are a small, flat, colourless and worm shaped.

Damage: Leaf miners cause damage by tunneling or mining between the leaf surfaces and feeding on the inner tissue.

There are 2 main types of mines created by the insect. The first is linear mines where the larvae tunnel in a winding pattern throughout the leaf. The second is when the larvae excavate patches that form various shapes on the leaf. The foliage on trees infested with leaf miners will appear brown and undesirable.

Heavy infestations cause a reduction of annual growth but no permanent damage. Like many other insects repeated infestations can weaken trees which makes them susceptible to attack by other insects and diseases.

Control: Chemical control is rarely required due to the presence of natural parasites. Some species of leaf miner remain in the leaf during leaf drop so by simply raking up dead leaves and disposing of them you can control the insect. If the infestations are very severe and have been for a few years then insecticide can be applied for control.



Gall Mites

Appearance & Life History: Plant galls are a common occurrence in Alberta. Galls can be found on buds, stems, flowers, leaves, petioles and roots. They can be caused by insects, mites, bacteria, fungi and nematodes but in Alberta we mostly deal with galls caused by insects and mites. Galls are formed when insects or mites stimulate the host plant to increase the size of the cells thus providing it with both food and shelter.

Depending on the group of insect whether it may be wasps, midges, moths, aphids etc. the insect has the ability to stimulate the host to produce a certain shape of gall that is characteristic of the insect or mite species.

Damage: Galls are most commonly found on the leaves and buds. The shape, colour and location of the galls will depend on the species of tree that is infected. The poplar bud gall mite causes cauliflower like galls that form on the buds. Galls are green in colour before they turn red and harden by late summer, older galls are grayish. Galls will remain active for 1-4 years and can grow up to 4cm in diameter. The ash flower gall mite causes galls to form on the male flower of ash trees. Galls are only active for 1 year and will heal once the mites have left.

Control: There is no control for gall mites that we are aware of. Mostly the galls only affect the aesthetic value of trees. However, if there is repeated infections it can impair growth and vigor on trees and shrubs.

