...FROM THE DESK OF SCOTT SCHAFFERT P.AG. CCA 4R

INSIDE THIS ISSUE:

BETWEEN THE ROWS

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Lygus Bug

With canola nearing the full bloom stage, I have been busy sweeping as many canola fields as I can. So what am I looking for and what am I finding? When I go out in a field; I sweep the crop looking for lygus bugs. The good news in terms of lygus, has been the relatively low number and mostly adults. We usually don't see thresholds met until a new generation has reached the 3rd instar stage and are able to feed. According to the Canola Council the economic threshold for lygus in a dry year is 20-30 per 10 sweeps. So far the average I'm finding is 2-3 per 10 sweeps. In fact, according to researchers a low level of infestation can in fact boost yield as the canola plant will over-compensate for the lost flower buds, but only if the plants have the moisture and nutrient capacity to do so.

Another test that you can do yourself in the field is to grab the canola plant and run your hand up the pods, if they get sticky that indicates that lygus have been feeding on the pods.

If you would like me to sweep your canola; please give call me (780) 618-5142.

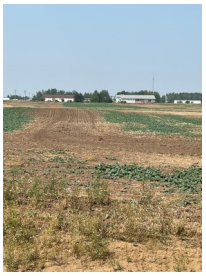
Crop Conditions

According to the last Alberta Crop Report on-line, AFSC reported that the Peace Region of Alberta had the highest level of crops rated good to excellent in Alberta. Then I read further and realized that for the Peace Country, they listed: GP, Fairview, Falher and Valleyview. Which explains a lot. If we had as much rain as them, or even as much as has been consistently forecasted over the past 2 months we would have excellent crops as well. But I have no further to look that in the canola field at CropMaxx and the one kitty-corner across the road to see the reality. In both fields areas were cleaned off for parking during the winter festival in Fort. Where the snow was removed, no crop grew. That tells you all you need to know about our moisture. The crop we have is entirely due to the snow melt and the sub-surface moisture we had prior to this year. In season precipitation has been very minimal in most areas up here. That being said we actually have some decent crops out there. Unlike several years of similar drought in the late 90's and early 2000's we will have a decent crop.

For 2024, we will need either fall moisture, hopefully after harvest and an above average snowpack. Without those we may not have that sub-soil moisture we have been depending on all of this season.

So one suggestion I will make is that we must keep in mind any operation we do in the field and how it will affect our soil moisture levels.

We may need it in 2024.



Site of skidoo races

Diamondback Moth Larvae

Diamondback Moth Larvae

Another goal of sweeping canola is to determine the amount of diamondback moth larvae are present in a canola field. Diamondbacks feed first on the leaves of canola, and when they first begin to feed you may find "windows" on the canola leaves, as they are too small to eat all they way through the leaf. However as they grow larger and become more numerous they can in fact defoliate a canola plant. As the canola plant matures they will feed on buds then onto the pods. Damage by diamondbacks to buds can cause yield losses if the canola plant is not able to compensate due to drought conditions and delayed maturity if they can. Damage to the pods resembles a stripping of the outer layers of the pod, often weakening the pod structure often causing pod shatter and have been know to even eat the seeds inside the pods.

Bud damage from DBM

Diamondback moth larvae.

Economic thresholds vary on the growth cycle of the canola, anywhere from 10-30 per square foot.

Diamondbacks can overwinter here, but most heavy infestations are a result of adult moths flying up from the southern US and Mexico. They also can have up to 4 generations in a single growing season.

Diamondback moth pupa

Bertha Armyworms

Bertha Armyworms

Perhaps the pest with the greatest potential for yield devastation is the Bertha Armyworm. Heavy Bertha outbreaks can easily destroy a good crop of canola in a week. During outbreaks in the past I can remember farmers spraying several times to control berthas and some even sprayed swaths to kill berthas they thought were still feeding in the swath. In fact, a population of 200 per square meter can reduce yields by 50%.

Berthas are native to North America, which is both bad and good news; bad because they don't rely on winds to blow them in, but good from the stand point that natural enemies, both predators and diseases have developed to keep them in check. Therefore berthas tend to come in cycles; slowing building up to a severe outbreak, then their population crashing as natural predators and fungus catch up to keep their population back down.

To scout for Berthas, you mark out an area, say a 0.5 meter square, then vigorously shake the canola plants to dislodge the worms, and scout the ground and begin counting. The economic threshold varies on the price of canola and the cost of spraying, but is usually around 10-18 per square meter.

Last year I found an outbreak on field but the interesting thing is most of the worms were hanging upside down on the tops of the canola plant. Upon closer impaction they were dead. A fungus had attacked them, so natural control was quite effective. Another natural control is from a parasitic wasp that actually lays its eggs inside the worm as the hatch, they eat their way out. Sounds like something from a horror movie.

Several insecticides are registered to control Berthas however penetrating a thick canopy can be difficult and Bertha do tend to hide under trash during the day, so contact insecticides require high water volumes. Another thing to consider is the pre-harvest interval. One product that is especially effective is Coragen, a residual that is toxic only to chewing insects.

So far this year I'm only finding 1-2 per square meter at this point. But I will continue to monitor populations in case they suddenly surge.

Bertha feeding on pods

Bertha Armyworms

Dead Bertha from fungus.

Field Horsetail

Field Horsetail

Field Horsetail
Reproductive stem

Field Horsetail (*Equisetum arvense)* is one of the most common and numerous weeds in our fields. It is interesting to note that field horsetail does not produce seeds, it is spread by spores. It is also interesting to note that it's early ancestors grew over 50 feet tall and were a main diet staple of dinosaurs in the Jurassic period.

Field horsetail has 2 types of stems, a reproductive and vegetative. Both are jointed and can grow up to 30 cm tall. The reproductive stem has a small pine-cone like tips that produce the spores, then wither off. The vegetative stems will have 8-12 needle-like leaves arranged in whorls located at each node. This gives the appearance a mini-spruce tree we are all familiar with. What makes horsetail so difficult to control is the highly adaptable growth habit depending on the local environment and it's extensive creeping root rhizome root system that can be up to 100m long and extend 2 meter down. Its aggressive nature can actually reduce yields in patches up to 50%, although it is rarely field wide. It is poisonous to young horses, although people have used its extracts medically and as a natural fungicide in Europe. It was also used at one time to polish pewter, the stems become so hard and wire-like at maturity.

In our cropping systems 2 product do a fair job of keeping field horsetail down, if not controlling it. Liberty (in Liberty-Link canola) and MCPA Ester will turn the horsetail a deep brown. Roundup is not as effective. Many pre-burn products will also knock it down.

Interesting things

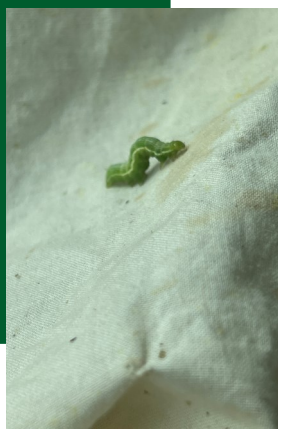
Adam Schmitt with an oat plant growing through a tree root

Interesting things...

Okay, maybe I'm a plant and bug nerd, but I find it really interesting to come across a plant or insect and then figure out what it is. And since this is my newsletter I get to share this nerdiness with you.

I came across these white moths the other day in a mudpuddle beside the road, the same ones we all see driving around, But what made me stop was the mass of them swarming around. So I took some pics and did some research and turns out these were cabbage worm moths. Now with a name with cabbageworms I immediately thought they would be a problem in canola, a cabbage-family member. But it turns out they don't actually damage canola. And the reason for the swarming was as adult moths their only concern is mating and laying eggs for the next generation, and I guess a mud puddle by the side of the road is as romantic as moths get. Interesting.

Question of the Week



Question of the Week

This week's question is to identify this worm.

A Bertha Armyworm

B Diamondback moth

C Clover cutworm

D Alfalfa Looper

If you know the answer to the Question of the Week, call Sherri at the CropMaxx Office (780) 927-CROP

The first to answer wins a prize.

Last Week's Answer: