

...FROM THE DESK OF
SCOTT SCHAFFERT P.A.G.
CCA 4R



INSIDE THIS ISSUE:

Seeding and
Spraying Up- 1

Moisture Up- 1
date

Grasshoppers 2

Cutworms 2

Herbicide 3
Groups and
Rotation

Cows 3

Wild, Wild 4
Oats: Weed of
the Week

One Pass or 4
Two, That is
the Question

Question of the 4
Week

BETWEEN THE ROWS

VOLUME 1 ISSUE 5

JUNE 14, 2023

Spraying Update

Between the dry weather and the smoky haze we seem to living under, spraying has had some challenges this year.

Most peas and a good chunk of the cereals have been sprayed. Canola on the other hand is all over the map, some guys are done, others haven't even started yet. What's delayed more canola spraying operations has been the

slow growth of canola. After quickly emerging for the most part, the canola sat in the cotyledon stage for a very long time. Even though sub-soil moisture was still holding up, surface moisture has been scarce. In fact I'm still seeing ungerminated seed in some of the patchy areas. I'll touch on the patchy areas later in my article on cutworms. The lack of sunshine has also slowed

the development of the canola. But most fields now are getting out of the awkward adolescent stage and are ready to be sprayed.

If you are unsure about staging or have questions about which product and rate to use; please give call me (780) 618-5142.

Moisture Update

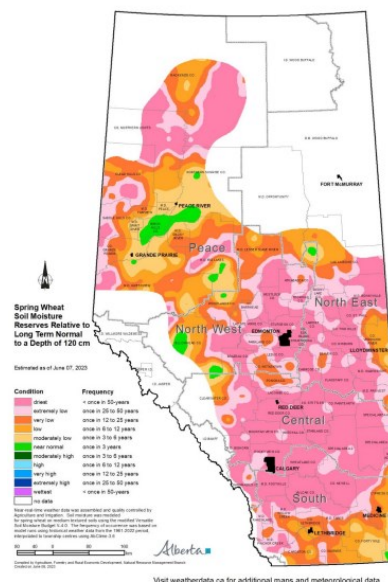
Yesterday was going to be the day, all the forecasts called for it, some weather apps even claimed it happened, it was finally going to RAIN, but then, it didn't. Contrary to the forecasts and the apps, we did not get heavy rain in Fort Tuesday. Reflecting on the predictions and the apps, I realized that in terms of this year; maybe yesterday's dust-settler was in fact, a heavy rain, compared to what we've gotten so far. That being said, while this year's precipitation has been disappointing; I am impressed by the resiliency of this year's crops; they are hanging in there.

The same forecasts and apps are calling for rain on Friday, let's

hope they are right this time.

We have been living off sub-soil moisture all season, moisture that with the dry fall, was even more accessible earlier, since we had little frost last winter. A long dry September is great for harvest, but not for recharging the soil. 60% of normal snow-pack left a reduced runoff that soaked directly into the soil, so we had that. But, already looking ahead to next year, we will need a wet fall and above average snowfall to replenish our reserves, if not we won't have the sub-soil moisture that has sustained us thus far this year.

But the app says it will rain Friday.



Grasshoppers

Grasshoppers

Have you ever noticed that grasshoppers seem to get worse every other year? Well it turns out there is scientific proof that this is the case. Researchers with Alberta Agriculture that produce the grasshopper surveys and forecast maps have determined that "After evaluating 14 years of grasshopper data, a trend has emerged that one species (*Melanoplus bruneri*, Bruner's spur-throat grasshopper) in the Peace and northern crop-production areas seems to have a two year lifecycle. On the Alberta side of the Peace, a pattern of odd years with grasshopper numbers that can cause crop loss issues, while in the even years the numbers are low. If the pattern holds true, then Bruner's grasshopper could be an issue in the Peace and the northern crop production areas in 2023." It also so happens that this species is the most damaging in the Peace. So they came out with this

prediction last fall and unlike our weather forecasts and apps, it turns out they were right. With the early warming of the soil and a lack of significant rainfall events, grasshoppers hatched earlier than normal this year. The drier weather also reduced the impact of local pathogens and predators.

We've seen early grasshopper feeding on seedling peas, large numbers in seedling canola (but only slight damage) and significant damage in barley just recently. In some instances economic thresholds for chemical control has been reached.

I urge you to check out this site.

Grasshoppers – Survey and maps | Alberta.ca



Barley clipped by grasshoppers.



Barley clipped by grasshoppers

Cutworms

Cutworms

2" of rain at the right time seems to make all issues disappear in a field 2" of rain makes me as an agrologist look brilliant, farmers lots of money and the forecasts and apps that call for it, right for change. However when we don't get 2", issues that were always in the background become important.

One of these issues that has recently popped up is cutworms. Cutworms have always been in the background up here, flaring up from time to time, and this year is one of those times. In a drier year, where emergence is patchy, cutworm damage seems to show up.

Cutworms, or the Redbacked cutworm, which is the one we have here; can be a significant pest to canola. Picture tent caterpillars; but instead of eating poplar leaves, they devour entire canola plants, and instead of crawling all over the trees, they hide underground constantly eating at your profits. However much like tent caterpillars, cutworms have numerous enemies (not just the angry farmer) parasitic insects, viral diseases and bacterial infections, all of these increase after the second or third year of infestation, naturally reducing the cutworm population.

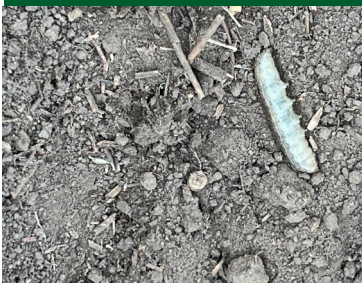
Control of cutworms does pose some logistical issues. They live underground and only occasionally come up at night to nip at the canola leaves, and never

are they all above ground at the same time. So one pass of an contact insecticide is not an effective option.

But before you load up of insecticide and prepare to spend several romantic evenings with your sprayer hunting cutworms, we have to consider a few things. The established nominal economic threshold of 25-30% stand reduction before you spray, Late instar cutworms have stopped eating, and use of an insecticide that is systemic within the plant to control cutworms underground.

Things to look for:

1. Leaves, curled and being "sucked" into the soil.
2. Clipped of plants at the surface
3. Digging in the row on the edge of a patchy spot, next to a clipped off one is often where you will find a cutworm.
4. Late instars cutworms have black "juice" when you cut them open. They have stopped feeding and are preparing to go deep and pupate into a moth.
5. Early instars do all the damage, they have green juice from recent feeding.



Late Instar cutworm, ready to pupate.



Early Instar cutworm.



Canola leaf being sucked into the ground.

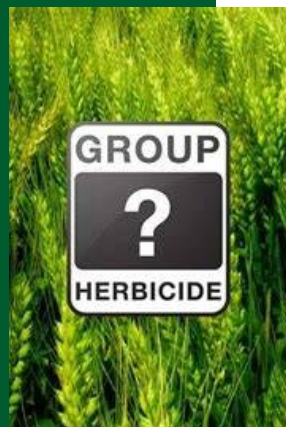


Canola clipped by cutworm.



Cutworm with black juice.

Herbicide Groups and Resistance



Herbicide Groups and Resistance

"It appears you are now up against some kind of super weed that nothing will control, what are your options now?"

Imagine spraying your wild oats with a herbicide that is supposed to kill them and... nothing happens, so you grab a different herbicide and again... nothing happens. You even try a third herbicide and yet nothing happens to the wild oats. It appears you are now up against some kind of super weed that nothing will control, what are your options now?

This nightmare can occur and has. What I'm talking about here is herbicide resistance. Herbicide resistance develops when a population of weeds has been altered so that a specific biotype that has somehow mutated to not be controlled by a herbicide becomes the dominant biotype in a population. So to prevent herbicide resistance from developing we need to know how a particular herbicide kills weeds.

Lucky for us, herbicides are grouped according to their mode of action; basically how they kill weeds. Modes of actions are usually defined by the biological pathways or functions within a plant that the herbicide's active ingredient disrupts and causes the weed to die. If

we continuously use the same mode of action, what we are doing is possibly selecting for individuals within that weed's population that may have found a different way around this mode of action and allowing that particular individual plants genetics survive to alter the overall population dynamics in the field.

In certain weeds they have even found a way around multiple modes of actions within a population: multiple resistance.. So a wild oat resistant to Group I can also become resistant to Group 2.

While it's nice to know the specifics of each Groups mode of action; it is not necessary in order to help prevent resistance from developing. The front of the Alberta Blue Book has a real good section on this. But to really make a difference in prevention of herbicide resistance from developing; simply rotate the Groups you use as often as you can. This sounds easy but can be a bit tricky.

Simply using a different brand name of a herbicide may not actually be rotating your modes of action. They are 45 different brand names for Group I herbi-

cides alone, and even more for Group 2 herbicides. And don't forget we usually use tank mixes and Combo packs as well.

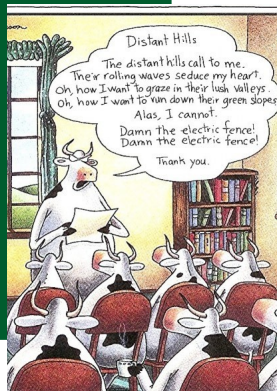
Now I'm not saying that we have to stop using herbicides totally to prevent resistance from developing, we just have to take so this very effective tool in our toolbox stays sharp.

One example is using a typical Group I on barley to control wild oats. The next year we grow canola, and we need to sharpen the volunteer barley control so we mix in Centurion (another Group I), then we grow peas and we have late flush of wild oats do we add it again. That's 3 years of Group I in a row. So instead of automatically throwing something in the mix, take the time to check your records and note what was sprayed last year and the years before that. If your not keeping good records of your past herbicide applications I can help you with that. Its really easy and can save you a lot of grief in the future.

If you don't have a Blue Book, stop in I'll give you one, and if you have questions please call.

Cows are just plain funny

Cow Cartoons



Cow poetry



The Johnson boys discover why cow tipping never quite caught on in Texas.



Will Santino

Wild, Wild Oats



Wild oats

Wild Oats (*Avena fatua*) are one of the most serious weeds of annual crops in Alberta, losses up to 50% of yield can occur and I have always been fascinated by wild oats.

So let look at wild oats, starting with emergence. They tend to emerge later than other weeds, they like warmer soils, one would think this later emergence would put them behind the eight-ball in terms of competition, but no, later emergence is quite clever as it often escape pre-burn applications.

Okay so since it emerges late, it must mature late, right, wrong. It has adapted to mature quickly,

usually before harvest, spreading its seeds.

Speaking of its seeds, these are marvelous pieces of biology. Wild oat seeds can remain viable for up to 75 years in the soil, although its more common 4-10 years. Still think it this way: "it takes just one bad year of wild oat control, and your grandchildren could be dealing with seeds from your crop year."

While the seeds maybe a marvelous biology, the awns are exquisite physics. They have a unique cork-screw-type awn. What this does is allow water to enter the cork-

screw, and as the awn expands and contacts from wetting and drying, it actually digs itself into the ground. I insist that you take wild oat seeds (with the awns), place them on the table, wet them, and watch them dance across the table. As well; at the base of each seed is numerous hairs, often called "suckermouths", that soak up any moisture it finds in the soil.

Wild oats have also developed bio-types that are herbicide resistance to both Group 1 and Group 2 and some are resistant to both.

Wild Oats are just "cool"

*"Whether 'tis
nobler in the field
to suffer
The slings and
arrows of
outrageous weeds"*

One Pass or Two? That is the Question.

One Pass or Two, that is the question:
Whether 'tis nobler in the field to suffer
The slings and arrows of outrageous weeds,
Or to take Arms against a Sea of second flush weeds,
And by spraying, end them:
to die, to sleep
No more; and by a sleep,

to say we end
The heart-ache of yield loss, and the thousand natural shocks
That weeds are heir to? 'Tis a consummation
Devoutly to be wished. To spray, to sleep well,
To sleep, perchance to Dream; aye, there's the rub,

For in that sleep of weed death, what dreams of high yields may come,
When we have shuffled off this mortal coil of second flushed weeds,
Must give us pause.

...Hamlet must have been a farmer...

Question of the Week

The answer to this week's question can be found in a article in this weeks BTR.

What's the longest wild oat seeds remain dormant in the soil?

- A 4 months
- B 1 year
- C 10 years
- D Up to 75 years

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:

C. Group 1.

The picture of the wild oat shows the browning at the base of the main stem indicating Group 1 action.



Question of the Week