

Be Nice To Your Friends!



BATTLE RIVER IMPLEMENTS



I often feel that the most important job I do as a crop scout is trying to understand when to do nothing. This was never more apparent to me than this summer as I assessed, and reassessed the impact the diamondback moth infestation was having on the canola fields that I monitor. While the guidelines for economic thresholds for this pest seem fairly straight forward (20 to 30 larvae for every 0.1 M2) to me, it's

not as simple as "count bugs – spray bugs".



AGRONOMY UPDATE

September 2017

Once the decision is made to spray an insecticide, we are essentially wiping out the whole ecosystem, taking out all the beneficial insects along with the pests and wiping the field clean. In other words we are creating a void that will be immediately filled again – often by the same insects or that we were attempting to get rid of. Their predators will follow, but they will come later and often the pest numbers ends up exploding and causing more crop damage before the population finally collapses in the face of diseases and predators. And other pests that had been held in check can become more of a problem as we remove the predators that were keeping their population down. A hard lesson that I learned many years ago when working in Ag Retail during a grasshopper outbreak is that while you may save a crop with an insecticide, you will not eliminate the pest. You need help from nature for that. So, when you are checking for the insects that are causing you trouble, keep an eye out for how many of the "good guys" are out there too. Often they can solve your problem for you if the crop can tolerate the damage long enough for them to do their job.

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So today, I'd like to introduce you to some friends you may not have even realized you had. Watch for them next time you are in your fields – the more of them you see, the less likely it is that you are going to need to react to insect pressures on the crop.

We'll start with the one everybody likely recognizes – the Lady Beetle (or Lady Bug)



Lady Beetle

Yes, the 2 pictures above left and right are of the same insect; while everybody likely knows the adult, the Lady Beetle larva on the right is just as voracious a predator of aphids, mites and white flies as the adult version is!



Lady Beetle Larvae

to lay eggs on.

Some parasitic wasps kill the target worm (such as Diamondback Moths or Cabbage Worms) and then lay eggs in the host and build a protective cocoon around the dead worm. So if you see some of these "cotton balls" in your field, don't destroy them! They contain the next generation of worm killers!



Ambush Bug

Here is one of my favorites – the Ambush Bug. His colouring allows him to lurk in flower petals where he latches onto butterflies, moths and any other pollinator that is attracted by the flowering plants. The specialized front claws allow him to hold prey up to 10 times his size.



Parasitic Wasp Cocooned Eggs



Parasitic Wasp

Among the insects out there that are working on your behalf are a variety of parasitic wasps – the one pictured above is *banchus flavenscens* who targets juvenile Bertha Army Worms



(egg from Tachinid Fly on Armyworm - Source: John Gavloski, MAFRD)

Other predators, such as the Tachinid fly lay eggs on their prey that hatch and burrow into the caterpillar, where they feed, pupate and then emerge as adults – killing the host in the process.



In the last week of August, I discovered a population of Bertha Army Worms near Provost that had been almost entirely wiped out by parasites such as the ones shown above – in a quick survey, I found 40 worms and only two of them were still living. As good of a result as I would have expected from an insecticide!

(Parasitized and dead Bertha Army Worm)

Other common predators of harmful insects include Lacewings whose larvae eat Lygus Bug nymphs and aphids.



Lacewing

Even the common ground beetle is one of the good guys. These generalist predators eat just about any kind of egg or juvenile insect they can find, and they eat a lot of them. Finally, I thought I should include a picture of this guy, as there have been a lot of Wheat Head Army Worms showing up



Ground Beetle

this summer and I would hate to have this innocent bystander suffer from a case of mistaken identity. This Syrphid Fly Larva is eating aphids, not the wheat head!



Syrphid Fly

I could go on, but the idea is to give you a feel for the number and variety of allies you have when it comes to fighting insect pests, not to turn you all into entomologists!

There are literally thousands of insect species in your fields and even the experts have issues figuring out who is who out there. What I hope everybody retains from this is that spraying an insecticide is not a decision to be made lightly or in a vacuum. The immediate relief from a pest problem can sometimes be outweighed by the long term negative effects – so please remember to consider these factors when determining what the “economic threshold” for pesticide application really is!

If you would like to learn more about the world of bugs, one of the best places to get information in Alberta and to have direct access to the experts is on twitter. Good people to follow on twitter who will always get back to you with an answer are Scott Meers (@ABbugcounter), Shelley Barkley (@Megarhyssa) and Field Heroes (@FieldHeroes). If they don't have the answers they will do their best to find them!

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