

Let the Scouting Begin – Soybean Aphids are Here
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My gratitude goes to David Townsend of Syngenta Seeds for notifying me as soon as they started to see soybean aphids in their field plots in Arva, Ontario. To our surprise the aphids were already on every plant in the plots, and were reaching pretty high numbers for this time of year. OMAFRA staff quickly coordinated a scouting survey across southern and eastern Ontario to get a sense of what the aphid populations were like elsewhere.

Thankfully, scouting efforts for the past week have indicated that for the majority of the fields in the province, aphid populations are low to non-existent, with natural enemies moving into these fields to help to reduce the aphid population. This is what we normally experience this time of year. In fact I am quite pleased with how many natural enemies are moving in so quickly to help us out. We are seeing everything from minute pirate bug adults, syrphid fly larvae (Figure 1a), ladybeetle adults and larvae (Figure 1b) and mummies from a fungal pathogen that is killing off some of the aphids. Today's scouting turned up the biggest surprise of all. I am already seeing parasitoid wasps killing off our aphids (Figure 1c). That is incredible for this early in the year.



Figure 1. Natural Enemies found this week feeding on soybean aphids. A) syrphid larva, B) ladybeetle larva and C) parasitized aphid mummy

Based on what I am seeing, we are not concerned about these fields at this time. In these fields growers should be able to follow the established provincial soybean aphid management recommendations of “spray only if aphid populations are actively increasing above 250 aphids per plant on 80% of the plants in the field from the R1 up to and including the R5 stage of soybeans.” I do recommend that you start scouting your fields this week and continue to do so

weekly, so that you can determine if aphids are present and are being kept in check by their natural enemies.

However, I am concerned about a few of the fields in the Arva/Thorndale area. Soybean aphids were found at very high levels only in certain fields, those that are currently in the V3 stage of soybeans. Aphid populations in these fields are over 200 per plant on 100% of the plants in the field (Figure 2). Fields in the same area that are in V1 and V2 stages do not have this same level of aphids. This same scenario is taking place in a few sites in Michigan, where some fields that are currently in the V3 stage of soybeans have very high levels of aphid populations.



Figure 2. Soybean aphids in V3 stage soybeans in a field in Arva Ontario, June 13, 2007.

What happened? We suspect that a larger mass of winged aphids arrived from a long distance flight from buckthorn somewhere in the US. For the first time ever, suction traps set up in the Midwest starting catching soybean aphids in May. They usually do not start collecting soybean aphids until mid summer when the aphids start to take long distance flights to new regions. If they did come from afar, when they arrived they dropped into those fields that were just emerging, which were the earliest ones planted in each area. This has never happened before this early in the summer in all of the 6 years that aphids have been here. Typical early summer populations start up from our own local buckthorn plants where the aphids only do short distance flights to a nearby field to start up small pockets of colonies.

With this new scenario comes uncertainty. We do not have any thresholds for the stage of soybeans. There has been very little work done on spraying aphids in the V stage crop and work that has been done could not show a yield advantage to spraying in the V stages of soybeans. The vegetative stages of soybeans tend to be very tolerant to stresses, compared to the reproductive stages. Anyone who has over-applied their herbicide has witnessed how well the plants recover as they put out new leaves and grow. Perhaps this is the same case for aphids that are sucking on the plants, as long as new leaves keep coming out. The plant does not have to put its energy into producing seed yet so yield may not be as impacted. But we just don't know. There is a real possibility that if we spray now, we could do more harm than good. Spraying will kill off any of the natural enemies that are starting to feed on these aphids. Any aphids that

survive the spray (and some always do) will build up again and could reach threshold again in July or August without their natural enemies there to take them down.

One thing is for certain, we do not want to alarm everyone to the point that growers start to spray as soon as they see aphids, just in case. We need to remember that the majority of the fields in Ontario have the normal scenario taking place. But please get out and scout your fields. There still could be isolated fields in different regions that experienced the same mass immigration. If you are one of the unlucky few who have fields in the early V stages that are reaching 100 or more aphids per plant on at least 80% of the plants in that field, contact me at 519-674-1696 before taking any action. We would like to conduct research in these fields so that we have a better understanding of whether management is even necessary in the V stages.

Once we have flowers starting on these plants, which should only be a few weeks away, we will be back to what we are more familiar with, monitoring aphids in the R stages of soybeans.