GROWERTALKS

Growers Talk Production

12/1/2018

# Wasps: A Love-Hate Relationship

*Sylvia Schaap*

I hate wasps.

Last fall, hundreds of yellow-and-black-striped jerks invaded, killed off and cleaned out our small apiary. The bees put up a good fight as we watched helplessly, but eventually, we were left with tiny handfuls of bees in each hive that slowly died off. In the spring, when people asked us how many of our hives survived the winter, we had to tell them we hadn't even made it there, thanks to those wasps.

This year we were having none of it. We set up wasp traps baited with all sorts of nasty concoctions. We followed wasps around the property armed with a spray can, and once we located a nest, it was war. When we saw them flying by our hives (which we repopulated with expensive new bees), we stomped them.

Prevention was key.

"What good are wasps anyways?" I grumbled to myself as my ankle smarted and swelled from an uncalled-for attack by a wasp at the end of a row I was scouting. Within a few minutes, I'd forgotten all about my striped woes, however.

I'd caught a glimpse of something round and shiny-gold.

There had been a small, troublesome batch of old plugs happily feeding generations of aphids early this spring in a corner of the greenhouse. From the start, I'd noticed a healthy population of wild parasitoid wasps combing through the plants and appearing on sticky cards. So I kept quiet and didn't recommend a clean-up spray, wanting to see how successful they could be without any interference.

And they did phenomenally! There seemed to be more gold aphid mummies than alive green suckers on those plugs. I could watch the tiny wasps sneaking up on unsuspecting aphids all day.

Granted, it took several weeks, but that wild population of parasitic wasps grew and gained control of those aphids and no spray was needed. Now there's a bullet point in my "Notes for 2019 IPM" document mentioning the success and the possibility of using purchased parasitoids to get a jumpstart on those aphids.

I love wasps!

Just to satisfy my excitement until I could sit down and get some real research done, I did some quick Google searches to try find out which species we could use next year. The problem with quickly deciding which parasitoid will work the best is that it depends on exactly what species the problem aphid is because each parasitoid prefers or specializes in a specific aphid or range of aphids.

It’s easy to assume you have green peach aphid because they’re green, they’re everywhere and they’re listed by Google as a possible pest of any crop you can think of. But there are a lot of other aphids that are green, and sometimes green peach aphids are red or pink or yellow—they can be very hard to tell apart without getting very nerdy about head morphology and cornicle length.

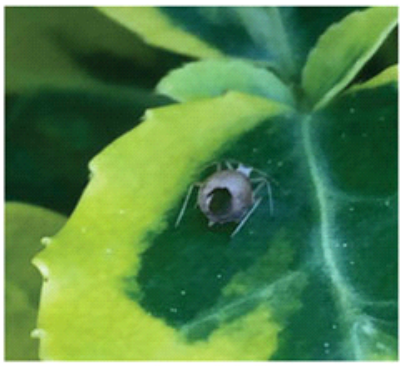
Besides all that, each parasitoid has preferences in temperature, humidity, light levels and the crop itself can make a difference in how successful they are at establishing themselves.

Instead of putting some aphids under the microscope to identify exactly what species we had, I plan to cheat and focus on the parasitoids themselves. After all, in a way, they were doing all my research for me. By coming into the greenhouse and the crop in the first place, they were telling me that they liked the environment and aphids the crop had attracted. I figure it doesn’t matter what the exact species of aphid we had, as long as I can get the same wasp species/genus in from a supplier.

(A handy fact my quick Google search did unearth was that Aphidius leaves golden aphid mummies, while Aphelinus will leave black mummies, so I’m sure we had Aphidius to thank.)

Over the season, I’ve been doing the same with other volunteer beneficials: keeping tabs on numbers and how well they help control pest populations, and trying to evaluate whether supplementing populations of wild Orius for thrips or Stethorus punctillum for spider mites would be worth it. Besides possibly improving our IPM program, keeping an eye on bugs rather than only on the bad ones reminds me why I love nature and why we try to use as little insecticides as possible.

In-depth research on using mini-wasps and other bios next year—including creating a preventative plan detailing when to start ordering and applying, where and at what rate, how and for how long—is a winter job, when the bee-killing wasps and aphid-killing wasps are also waiting to kick off another season. **GT**


Aphid mummy where a wasp hatched.


Bees vs. wasp.


Predatory wasps locating the aphids.

---

*Sylvia Schaap works in IPM at Qualitree Propagators in British Columbia, Canada, spending free time hiking, hunting, writing and drawing in mountains she now calls home.*