

By Aaron Cato, Extension Specialist - Horticulture IPM

Pest Management Considerations from the 2021 Growing Season

The 2021 blackberry growing season has almost come to an end and it's a good time to reflect on a few major pest management issues that we observed across the state. We definitely didn't have anything that resembled a normal year, but our largest issues still concerned the major pests that we expected to see. This exemplifies the importance of understanding and building an integrated management plan that you implement each year like clockwork. Below we will discuss a few considerations you should make when modifying your management plans for 2022.

Lime Sulfur/Sulforix at Bud Break

It's likely that the next fungicide application that most Arkansas blackberry growers need will be in 2022 just as we hit the green tip growth stage. This is the most important application that we will make all year when it comes to preventing anthracnose and other cane diseases, and often it's the application that is most overlooked or missed. In 2021 we received a lot of calls from growers who overlooked this application and were looking for answers later, and also from others who just barely missed the spray due to a multitude of factors.

Other states across the Southeast don't see nearly as much anthracnose in their blackberries as we do. This is possibly due to some differences in the environment, but more than likely its due to many growers in Arkansas missing the lime sulfur timing. This is evidenced by recent observation where growers in the state have gotten bad anthracnose problems under control with the integration of Lime Sulfur. We harp on this application a lot not only due to its importance, but also because of how tight the application timing is and how easy it is to miss. Below are some things to consider:

1. Determine your source for Lime Sulfur/Sulforix at least a month before its needed. One of our biggest issues each year is people not being able to find it at their local co-op and missing the spray timing while looking for a source.
2. Scout your plants often around budbreak to make sure you don't miss the timing. You should **spray after budbreak has occurred and before shoots are $\frac{3}{4}$ inch in length**.
3. Lime Sulfur and Sulforix are comparable in efficacy, get whichever is easiest and most economical. I think many growers would say Sulforix is maybe a bit better to work with.
4. Make sure to get the application out with plenty of water. You need to fully coat these canes, so upwards of 80-100 GPA is ideal.

Raspberry Crown Borer

Jackie is including an article this month regarding raspberry crown borer, so I won't say much about this pest. What I will say is that we had it pop up in a large way in a few locations this year. This is a good reminder that every year you need to mark down for a spray in later October-early November. You can scout to see if its in your field in the early Fall, but make sure you aren't dealing with this serious pest before you skip a year of spraying for it.

Spotted Wing Drosophila

I think we can easily classify 2021 as a bad year for spotted wing drosophila (SWD). We received reports across the entire state of large breakthrough infestations of SWD starting around the middle portion of

harvest season, before Navajo really started to come on in many places. In every instance these breakthrough infestations occurred where an acceptable spray program of at least every 7 days was in place. What was lacking in most cases was an effort to integrate cultural control methods. This led to breakthrough populations that meant infested berries in customer hands.

A spray program during fruiting is a necessary facet of SWD management, but without integration of cultural tactics, acceptable levels of control will generally not be realized. This is especially evident in “bad” SWD years like we saw in 2021 where populations quickly got out of control. Below I will go through some ways to manage the environment on your farm and make it less amenable for SWD.

1. Prune plants to maximize airflow and sun penetration. Research shows that SWD prefer humid and cooler environments during the day.
2. Harvest fruit as soon as they are ripe. SWD are attracted to ripe or ripening fruit and will lay eggs on blushing fruit when populations are high.
3. Increase harvest frequency when possible. This lowers the exposure time of ripe blackberries to SWD adults which will mean less egg-lay.
4. **Do not leave culs on the cane or deposit them within the field.** Getting culled fruit out of plantings and disposed of will drastically reduce the number of flies. This is one of the key areas where many Arkansas growers are hurting their management efforts.
5. Move berries to cold storage as quickly as possible. Getting berries close to 32°F will slow/stop the development of eggs and larvae, and even kill many.

Tips to optimize spray programs:

1. Spray an effective insecticide at least every 7-days starting whenever fruit begin to blush or when your SWD traps indicate infestations are beginning in plantings.
2. Make sure your first insecticide sprays are highly effective chemicals (<https://smallfruits.org/files/2020/12/2021-Caneberry-Spray-Guide.pdf>). Research shows that keeping populations down early is the key to full-season success.
3. Rotate effective modes of action (IRAC codes) with each spray.
4. Use a saltwater rinse to make sure infestations are not getting out of control. Increase spraying intervals if you are finding large amounts of larvae in samples.

In conclusion...

I doubt we will ever implement (or develop) a perfect pest management plan for blackberry, but what we have seen is that implementing the tactics we just discussed will pay dividends. Generally, this boils down to hitting the important timings each and every year. This year is also a reminder that we must continue to optimize management plans as the environment seems to become less amenable. In future years this means more integration of pest prevention and cultural controls, which research shows helps to mitigate the impact of the environmental curve balls we will continue to see.

As always, give me a call at 479-249-7352 if you have any questions.