

The Blueberry Bulletin

A Weekly Update to Growers

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❖ Visit the Blueberry Bulletin webpage at njaes.rutgers.edu/blueberry-bulletin

❖ The 2020 Commercial Blueberry Pest Control Recommendations for New Jersey is available on njaes.rutgers.edu

BLUEBERRY CULTURE

Dr. Gary C. Pavlis, Ph.D.

Atlantic County Agricultural Agent

June Symptoms: As blueberry harvest is almost upon us I am getting numerous calls from growers who are noticing plants that are not looking normal. This is the typical time for various symptoms to show up because the plant is actively trying to ripen the fruit load that has set. This process takes a tremendous amount of nutrients and water from the plant. Actually, nutrients and water that are taken up from the soil go to the fruit first and if there is a surplus, it goes to nurture the plant. As a result, if there are any problems such as root rot, root damage due to grubs, nutrient deficiencies, or a lack of roots due to a hard pan that has restricted root growth, the plants will often not be able to push out leaves and in fact, the developing fruit may start to shrivel. Extreme heat will bring out these symptoms even faster because the plant is further stressed. Visits to farms the last few days have revealed plants that are definitely stressed. For the most part, many do not have leaves but have a heavy load of fruit. I have mentioned this symptom in this newsletter before. This symptom is almost always due to a root problem. In most cases it is due to grubs. Watch this newsletter for timing of grub control. To save a plant with no leaves and a heavy fruit load three things must be done, 1. strip all the fruit off, 2. keep the plant well

watered as it has a low percentage of functioning roots, 3. control the grubs. The second most numerous symptom I am seeing is stem blight. One or more canes in a plant suddenly die with all the leaves turning brown but still hanging on to the plant. Again the plant is under the stress of ripening the fruit load with increasing temperatures and the canes are infected with this disease. As a result they shut down and die quite rapidly. Growers need to stay on top of pruning these canes out. If they don't the disease moves down into the crown and kills the entire plant. I also need to stress to growers that when planting a new field, a deep furrow needs to be dug in the planting row. There are numerous places in Atlantic and Burlington Counties where there is a hard pan at a depth of 12-16 inches. The new plant will often be fine for the first few years if this hard pan wasn't broken up but when the first full crop is set, the plant will collapse due to an insufficient root system. There is no real easy way to fix this. Proper site preparation before planting is the best method to prevent later disaster.

BLUEBERRY INSECT

Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University

Mr. Dean Polk, IPM Agent – Fruit

Ms. Carrie Denson, IPM Program Associate – Fruit

Plum Curculio (PC): PC activity has increased due to the (slightly) warmer weather over the past weekend. With temperatures increasing and bees coming out, the PC application should be your primary concern. Effective materials include Imidan and Avaunt; which also control cranberry fruitworm. Increased levels of PC injury to fruit have been seen. These will appear as the telltale crescent shaped egg scars as seen below (Figure 1).

Cranberry Fruitworm (CBFW): Traps were set out about 5 weeks ago, with the first adult captured on 5/8. This indicates that adults are starting to fly, mate and lay eggs. The key application for this insect has usually been during the first week of June, soon after the bees come out.

Leps and Other ‘Worm’ Larvae: While a few green fruitworm larvae and small gypsy moth larvae are still being seen, populations are very low and don’t qualify as key pests to control when the bees come out.

Spotted Wing Drosophila (SWD): We observed our first catch of SWD (Figure 2) on Monday the 18th in the Hammonton area. This is earlier than most years, but entirely expected, coming after the mild winter. These insects will be a key pest later as the fruit begins to color. For now they will seek out wild hosts and alternate crops such as strawberries on which to reproduce, resulting in higher populations when blueberries start to ripen and become susceptible. Successful SWD programs will use a 7 day schedule of rotating insecticide classes.

Botrytis, Phomopsis and Mummy Berry Strikes: Disease has still been very minimal in the fields. Most disease incidence levels are only showing up on 0.5% of bushes.



Figure 1. Fresh plum curculio egg scar on young fruit. (Photo - Carrie Denson).



Figure 2. Adult male SWD (center) from trap capture. (Photo - Carrie Denson).

By the Numbers, Including Trap Counts:

Insect Incidence							
Week Ending	% Bud Feeding		CBW/Bush (Beating Tray)		Leps./Bush (Beating Tray)	PC/Bush (Beating Tray)	Gypsy Moth/Bush (Beating Tray)
	Avg	Max	Avg	Max	Avg	Avg	Avg
3/27	12.8	40	0.68	8.3	.01		
4/3	0	0	0.8	7.6	0.0		
4/11	0	0	2.06	19.6	0.003		
4/18	-	-	-	-	0.01		
4/21	-	-	-	-	0.005	0.004	
4/28	-	-	-	-	0.007	0.002	
5/4	-	-	-	-	0.013	0.022	0.001
5/11	-	-	-	-	0.03	0.004	0.022
5/18	-	-	-	-	0.03	0.03	0.00

CBW = cranberry weevil; PC = plum curculio; CBFW = cranberry fruitworm

% Injury Fruit				
Week Ending	% LEPS Injured Fruit		% PC Injury Fruit	
	Avg	Max	Avg	Max
5/11	0.05	0.1	0.2	0.3
5/18	0.06	0.8	0.13	1.4

Traps				
Week Ending	CBFW-Atlantic County		CBFW-Burlington County	
	Avg	Max	Avg	Max
5/11	0.1	1	0	0

Wild Hosts, Spotted-Wing Drosophila, and Blueberries

Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University

Dr. Pablo Urbaneja-Bernat, Post-doc, Entomology

Mr. Dean Polk, IPM Agent – Fruit

Spotted-wing drosophila (SWD) is a pest fly native to Southeast Asia; however, it has been introduced to many continents around the world including North and South America and Europe. Since its arrival in the United States in 2008, it has become an important agricultural pest of several small fruit crops including blueberries. Managing SWD in its introduced range can be difficult because it is able to feed on and breed on many hosts. Some of those wild hosts include wild cherry, dogwood, buckthorn, and honeysuckle. Along with providing food and breeding material, these wild hosts also provide overwintering sites.

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

In New Jersey, cultivated highbush blueberries are commonly grown near forest habitats where wild blueberry bushes are abundant. This means that the farmers' crops are often right next to a potential large source of SWD that could attack their crops. A typical example of this situation can be seen in this aerial photograph of one of the fields that we studied (Figure 3). But until now it was not clear if this was happening – do nearby wild hosts increase the risk to a fruit crop like blueberries?

In a recent study published in *The Canadian Entomologist*, we investigated whether wild blueberries in these habitats could serve as a potential source of SWD flies to adjacent blueberry fields. In our field study, we monitored the activity of SWD during and beyond the harvest season (June through August). We did this for two years to help to ensure that our results were not just due to weather conditions in one year. We used traps baited with SWD lures. We placed the baited traps in the interiors of blueberry fields and in neighboring non-crop, forest habitats. We also tested whether the life cycles of the flies living on wild hosts was the same or different from flies living on cultivated blueberries.



Figure 3. An example of a study site.

We found that SWD is active in non-crop habitats throughout the harvest and post-harvest blueberry seasons. This means that farmers should monitor nearby forest areas to help assess their yearly risks. This is particularly important because we found that wild blueberries can serve as suitable alternative hosts for SWD oviposition and development during the ripening period of cultivated fruits.

Our work shows that SWD does well in forest habitats next to cultivated fields. In those areas their populations can increase to the point where adults could fly to neighboring blueberry fields and cause economic damage. Our work means that it is important for farmers and agricultural pest managers to look beyond their fields in their work to reduce the impact of this introduced pest.

Reference: Urbaneja-Bernat, P., Polk, D., Sanchez-Pedraza, F., Benrey, B., Salamanca, J., and Rodriguez-Saona, C. 2020. Non-crop habitats serve as a potential source of spotted-wing drosophila (Diptera: Drosophilidae) to adjacent cultivated highbush blueberries. *The Canadian Entomologist* doi.org/10.4039/tce.2020.2.

The New Jersey Department of Health is partnering with its sister agencies New Jersey Department of Agriculture and New Jersey Department of Labor and Workforce Development to assist agricultural businesses and farm workers during the COVID-19 pandemic. They have developed [The Interim Coronavirus Disease 2019 \(COVID-19\) Guidance for Migrant and Seasonal Farmworkers, Their Employers, and Housing Providers](#) document which was released and is available at onfarmfoodsafety.rutgers.edu

The Rutgers On-Farm Food Safety Team has developed and collated resources for your production operation and can be found at onfarmfoodsafety.rutgers.edu. Updates and additional guidance will be available on the website and on the Rutgers Plant and Pest Advisory. We hope you have a healthy, productive and profitable season.

NJMVC Further Extends Driver License, Registration, and Inspection Expiration Dates Due to COVID-19

May 19, 2020

The New Jersey Motor Vehicle Commission Chief Administrator Sue Fulton, on Monday, May 18th, announced additional extensions to driver license, registration, and inspection expiration dates in the continuing efforts to mitigate COVID-19 and safeguard public health.

Effective immediately, the following documents, if expiring between March 13 and May 31, have been extended to July 31. Documents expiring June 30 are extended two months to August 31, and those expiring July 31 are extended to September 30.

- All Standard driver licenses (including permits) and standard non-driver IDs
- Privately owned and commercial vehicle registrations (**including Farmer and Farm Use registrations**)
- Vehicle inspections
- Purple Heart/Disabled Veteran placards
- Temporary tags

“Get it done online now, if you’re able,” Fulton suggests. “We do anticipate that volumes will spike once we reopen and when we reach the end of these extensions. Our job is to serve customers in the most efficient way possible and one way we can do that is by steering people to our expanded list of online services.”

On March 13, the NJMVC initially announced two-month extensions for licenses, registrations, and inspection stickers expiring in March, April, and May, timelines that have now been pushed back.

The NJMVC encourages customers to utilize online services, which have been expanded during the COVID-19 crisis. In most cases, customers can renew a license, replace a lost license, change an address, renew a registration, and complete other transactions through the NJMVC’s Online Services portal.

Customers also should check NJMVC.gov for the latest information and updates.