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The Blueberry Bulletin

A Weekly Update to Growers

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- *Visit the Blueberry Bulletin webpage at njaes.rutgers.edu/blueberry-bulletin*
- *The 2022 Commercial Blueberry Pest Control Recommendations for New Jersey is available on njaes.rutgers.edu*
- *The Blueberry Bulletin will now be emailed to those who request it. We will no longer be mailing hard copies out. If you are not on our current list and would like to receive a copy, please call the office at (609) 625-0056.*

BLUEBERRY CULTURE

Dr. Gary C. Pavlis, Ph.D
Atlantic County Agriculture Agent

During farm visit this week I once again saw young plants with a large fruit load and very few leaves. Whenever you see a blueberry plant with few leaves you know there is something wrong below ground. The plant is not happy and the only way to diagnose the problem is to pull a plant out of the ground. Pulling a dead plant usually does not tell you much. The lack of leaves is usually due to grubs or root rot due to poor drainage. Recent surveys by the IPM staff have shown that grubs are present in many blueberry fields in our area. Young plants are most susceptible to the feeding and resulting root damage because the root system of young plants is not extensive. Another cause may be mealy bugs. A clue to their presence is ant hills around the blueberry plants. Ants "farm" the mealy bugs and move them around the blueberry field spreading the problem. Lastly, a soil test should be done to determine the pH. A blueberry plant at 3.5 is not happy, and also not happy at 5.9.

All of these problems can be fixed relatively easily but left unchecked, plants will die. Grubs can be controlled with Admire Pro or one of the generics, mealy bugs can be controlled by killing the ants that farm them. pH can be fixed with either sulfur to decrease the pH of lime to increase. Poor drainage is harder. This may require some advice from the Soil Conservation folks.

Gary C. Pavlis, Ph.D.
Atlantic County Agricultural Agent

PEST MANAGEMENT

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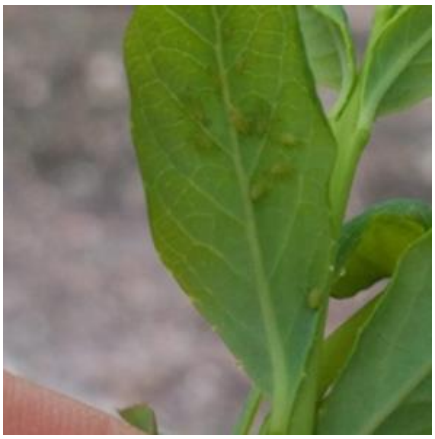
Lepidoptera larvae – leafrollers and spongy moth: Activity of lepidoptera larvae has decreased across all 118 scouted fields throughout Atlantic and Burlington counties in the last week compared to the previous week of scouting.

Plum Curculio (PC): Although PC adult numbers have decreased, the levels of PC fruit infestation increased by 4-fold since the previous week. If needed and if you haven't done so already, this insect should be a target of insecticide applications. Best post-bloom control options are Avaunt and Imidan.

Aphids: Aphid populations are starting to build-up and, if needed, this pest should be the next target of insecticide applications. Since aphids vector/transmit the scorch disease virus, they need to be controlled to the lowest possible numbers. This means: 1) starting early, 2) using the best materials, and 3) getting the best coverage possible. In the past, we saw that Movento and Sivanto give effective aphid control. Another new product effective against aphids is Senstar that contains spirotetramat (Movento) and pyriproxyfen (Esteem) as active ingredients.



Picture 1. Young aphid colony on leaf (Photo by Carrie Denson).

Biology and Life Cycle. Aphids (Picture 1) are soft bodied, slow-moving insects. The adults are on average about 2 mm long, light to dark green. They have piercing-sucking mouthparts, and two siphunculi (cornicles) that protrude to the rear from the 6th abdominal segment. Nymphs resemble the adults but are smaller and wingless. There are four principal species of aphids that attack highbush blueberries: the blueberry aphid, *Illinoia pepperi* (present in Michigan), *I. azaleae* (present in New Jersey), the (western) blueberry aphid, *Ericaphis fimbriata*, and the green peach aphid, *Myzus persicae*. Aphids overwinter as eggs, which are deposited on stems and small shoots. Eggs hatch in the spring. At this time of the year, immatures feed on tender new growth, usually on the undersides of leaves at the top or bottom of blueberry bushes. Males and egg-laying females are produced in the fall. There are several generations per growing season. Aphids suck sap from tender growth and new shoots, especially from developing terminal foliage. Under heavy populations, a sooty mold can develop on the honeydew secreted by the aphids. This is usually of minor importance in blueberries since growers seldom allow aphid populations to build up to high densities. Of more importance is the fact that many aphids function as disease vectors. In blueberries, aphids can transmit Blueberry Scorch Virus and its several strains.

Monitoring and Control. Since disease transmission is a main concern in commercial blueberry farms, only very low aphid populations are tolerated, especially if Blueberry Scorch Virus is a known problem. Aphids may be present while bushes are in bloom, but populations don't start to build up until after bloom (this time of the year). Monitoring should begin as soon as bees are removed and continue through at least the first picking. Sampling should be biased in new terminal growth, and data recorded as the percent of terminals infested with aphid colonies. Where disease transmission is an issue, a colony should be defined as a minimum of 1-2 aphids, either nymphs or adults.

Treatment is justified if greater than 10% of terminals are infested with live aphids. The neonicotinoids Assail, Actara, and Imidacloprid (e.g. Admire Pro) provide good aphid control. Also, for resistance management, you may want to consider using Sivanto, Movento, or Senstar, three newly registered insecticides in blueberries with novel modes of action. Lady beetles, lacewings, syrphid flies, and other biological controls are often abundant in blueberry farms at this time of the year and may help maintain aphid populations at low levels.

Cranberry Fruitworm (CBFW) and Cherry Fruitworm (CFW) Traps: Last week, CBFW and CFW trap counts increased, particularly in Burlington County.

Insect Sampling Count Summary

Lepidoptera larvae (leafrollers (LR) and spongy moth (SM)), Plum Curculio (PC), and Aphids:

	LR/Tray	SM/Tray	PC/Tray	LR/infested berries	PC/infested berries
Average	0.017	0	0.032	0.094	0.916
High	0.5	0	1.2	1.4	25.5
Key: LR = Leafrollers, SM = Spongy Moth, PC = Plum Curculio					

	% LR Shoot Infestation	% Aphid Terminals
Average	0	7.61
High	0	58

Cherry Fruitworm (CFW) and Cranberry Fruitworm (CBFM) traps:

	AC CFW	BC CFW	AC CBFW	BC CBFW
Average	6.8	14	0.2	0.5
High	13	29	2	2
Key: AC = Atlantic County, BC = Burlington County, CFW = Cherry Fruitworm, CBFW = Cranberry Fruitworm				