

The Blueberry Bulletin

A Weekly Update to Growers

May 10, 2018

Vol. 34, No. 2

At a Glance...

Blueberry Grower Twilight Meeting

Thursday, May 31, 2018, 5:30 p.m.
Atlantic Blueberry Company
7201 Weymouth Rd.
Mays Landing, NJ 08330
For directions call 609-561-0612

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

2018 Commercial Blueberry Pest Control
Recommendations for New Jersey
njaes.rutgers.edu/pubs/publication.php?pid=E265

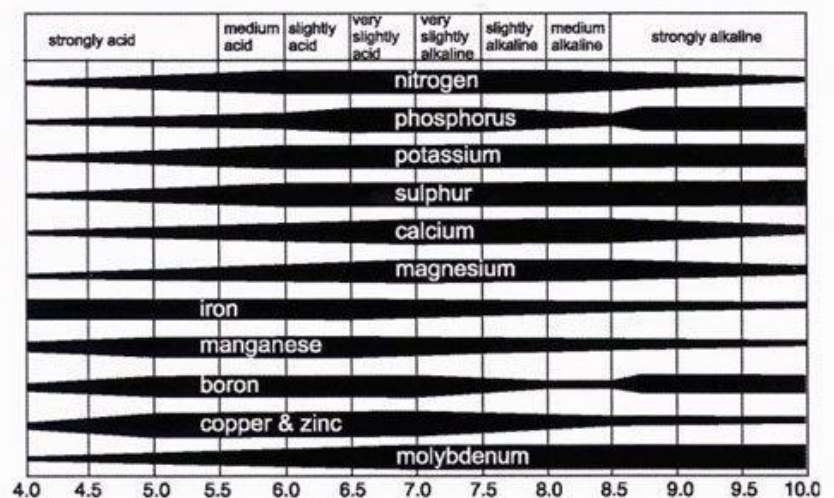
BLUEBERRY CULTURE

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

One component of the Rutgers IPM program for blueberries is conducting a soil and leaf analysis of the farms in the program. This year 236 soil samples were taken and analyzed. What alarmed me about the results was the fact that even though it is common knowledge that the optimum pH range for highbush blueberries is 4.5 to 4.8, an overwhelming number of fields were not within that range. In fact, 43% of the fields came back with a pH of under 4.0 and 79% came back under 4.5. A pH this low drastically affects the uptake of nutrients in the blueberry plant. See the chart below.

Fertilizer costs the grower money but if the plant cannot take it up, the money is wasted. The result is decreased cane

growth and as a result, lower yields. I would advise growers to apply lime as soon as you can to raise the pH into the correct range. This can be done at any time. Once the proper range has been established, an annual maintenance of lime is warranted. Realize that the annual application of ammonium fertilizers drives the pH down.



BLUEBERRY DISEASE

Prevention of and Scouting for

Blueberry Viruses

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Research
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The best defense against viruses is to keep them out of your fields. Once a plant is infected, the virus moves throughout the whole plant and it cannot be cured. To prevent introducing viruses into your fields, be sure to use clean virus-tested planting stock. If you are propagating plants for your own fields, test the mother plants for important viruses. Since viruses can move in from the wild, fields should be monitored for virus symptoms. To help prevent spread, the vectors must be controlled. Sucking insects, such as aphids, can be vectors. Nematodes can also vector viruses. Symptomatic plants should be confirmed to be infected since other problems, such as insect damage, herbicide damage, and abiotic events, can mimic symptoms of virus infection. It is important to remember that symptoms can vary among blueberry cultivars. Even though symptoms might appear mild in one infected cultivar, symptom expression in other cultivars on your farm might be severe. Symptom expression can also vary from year to year. Thus, infected plants should be removed regardless of symptom severity at the time of discovery. When removing infected plants, be sure not to leave the prunings or rogued bushes near healthy plants.

Several virus diseases are known to be present in New Jersey. These include Red Ringspot, Scorch, Shoestring and Necrotic Ringspot. Briefly, symptoms are as follows.

Red Ringspot- Red rings or blotches on leaves and sometimes stems, red rings on ripening fruit that disappear when the fruit are fully ripe. Vector is unknown.

Scorch- Blossom blight (giving a 'scorched' appearance), shoot dieback, leaf chlorosis, red line patterns on leaves can appear in late summer. Vectored by aphids.

Shoestring- Red strap-shaped leaves, pink streaks on stems and flowers, red 'oakleaf' pattern on leaves, reddish-purple fruit. Vectored by aphids.

Necrotic Ringspot- Crinkled or misshapen leaves, necrotic spots on leaves that may fall out, rosette leaves on some cultivars. Bushes decline and die. Vectored by nematodes.

There are several guides available that show photos of symptoms in virus infected plants, such as; *The Compendium of Blueberry, Cranberry, and Lingonberry Diseases and Pests, Second Edition*, available on line from the American Phytopathological Society Press (<https://apsjournals.apsnet.org/series/compendia>) and *A Pocket Guide to IPM Scouting in Highbush Blueberries*, available through Michigan State University (http://msue.anr.msu.edu/resources/a_pocket_guide_to_ipm_scouting_in_highbush_blueberries_e2928). When using any guide, remember that all viruses listed may not be found in your area. However, it is important to be vigilant since 'new' viruses can move in from many sources including planting stock purchased from out of state. If unusual symptoms are seen in the field, please notify your County Agent immediately. Spread can often be prevented if steps are quickly taken to eradicate new introductions.

BLUEBERRY INSECTS

Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University
Mr. Dean Polk, IPM Agent – Fruit
Ms. Carrie Denson, IPM Program Associate – Fruit

Cranberry Weevil: The number of weevils found was low. Only one site was at the treatment threshold; however, the window for application has passed.

Plum Curculio: This past week was our first capture of plum curculio (PC) (Figure 1), captured on Thursday, May 3rd. We continued to find more adults throughout the remainder of the week, but numbers were low. Our average count was 0.012 per bush, with a high of 0.4 adults per bush. Currently all PC adults have been found in Atlantic County.

PC adults overwinter under fallen leaves and other protected areas in the woods borders and nearby hedgerows. The earliest adults can become active at the beginning of bloom. We should continue to see PC activity throughout bloom, but since bees are in the fields, there are **No Sprays** that can be used while this is going on. PC is the primary insect target as soon as the bees are removed from the fields and there is no remaining bloom. While it is too early to predict the exact timing for other early season pests, Avaunt used at the 1st post pollination timing will control PC as well as early season Lepids/worms. See the 2017 Blueberry Pest Control Recommendations for other suggestions.

There is no treatment recommendation for PC at this time, and any effective insecticide that controls PC, is also deadly to bees.

Therefore, PC cannot be treated until bees are removed at the end of pollination.

Life Cycle. In New Jersey, PC completes a single generation a year in blueberries. This insect overwinters as an adult in leaf litter. Adults become active during bloom and feed on young fruit just after bloom, causing feeding scars. We have noticed that in the absence of fruit, adults feed on blueberry flowers (petals). Females lay eggs in the fruit causing crescent-shaped oviposition scars. White maggot-like larvae develop inside the fruit (one larva per fruit). Feeding by the larvae causes fruit to develop prematurely and fall off the bush. Mature larvae exit the fruit to pupate in the ground, and become an adult in July and August. If berries are picked before they drop, larvae can contaminate harvested fruit.

Scouting and Control. To monitor PC populations, scout for the semi-circular scars on the fruit. Sampling should be biased towards field edges or infields that border woods and hedgerows. PC infestations are more common in weedy fields and those with sod middles. This pest is more of a problem on early maturing varieties. No threshold has been established, so treatment is mainly based on past history and an estimate of damage to fruit. Chemical controls targeting the adults should be applied soon after bees are removed. Post-bloom control options

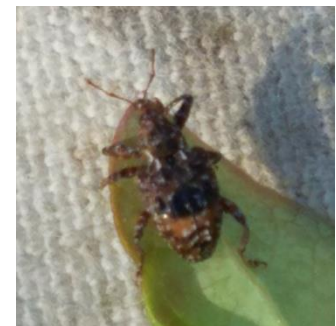


Figure 1: Adult plum curculio.
Photo by Carrie Denson

include Avaunt, Danitol, Brigade, Mustang Max, and Imidan.

Gypsy Moth (GM): The first gypsy moths were seen on Friday, May 4th in Atlantic County at one location. Since then GM larvae have been seen at several locations in both Burlington and Atlantic Counties. These are all 1st instar larvae. Numbers are low and concentrated on field edges where they are spinning down or blown in from the woods. The maximum number that was recorded was 0.1 per bush, and an average per bush of 0.001. Treatment is advised when the total number of GM and other Lep larvae get close to 1 larva per bush. The 2 preferred treatment options during bloom include various brands of B.t. products and Intrepid. For Gypsy

moth larvae, B.t. products work best on 1st and 2nd instars, while Intrepid will work on these and slightly older larvae.

Other Leps: Throughout our sampling we have also seen **spanworm** and a few **green fruitworm** larvae. Some **tent caterpillar** webs along the wood lines and even in some blueberry fields are also present.

Table 1: Summary of insect counts seen during the week of April 30th – May 4th.

	Cranberry Weevil	Leafroller	Gypsy Moth	Tent Caterpillar	Plum Curculio
Average	0.215	0.017	0.001	0.005	0.012
High	5	0.5	0.1	0.4	0.4

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