

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

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Atlantic County Agricultural Agent

Harvest will begin soon but before that happens it is a perfect time to address the nutrition deficiencies that exist in the field. It must be understood that every essential nutrient affects plant growth and in the final analysis, yield. It is called the principal of limiting factors. Whatever nutrient is most deficient it is decreasing yield the most. When this deficiency is addressed, the next most deficient nutrient is decreasing yield the most. Our leaf analysis data shows that almost all the fields are deficient in Nitrogen, so whatever level of N you have been applying, it is not enough. Next, 88% of samples were low in Iron. This is a good time to use a foliar application of a chelated iron if you are one of the farms that came up short. Copper was short on 86% of the farms. Zinc was short on 68% of the farms and Magnesium on 46% of the farms. Again, a foliar application will address these problems. Note that on 70% of the farms, Boron was high. That means that many farms should omit Boron in 2020. The picture below shows the negative effect of low and high Boron on the blueberry leaves. In addition, the chart below shows the mode of application for the nutrients mentioned.

Boron – Normal range 30-50 ppm.



Oppm 15ppm 50ppm 60ppm 70 ppm 90ppm

 Micro-nutrients sources and rates			
Nutrient	Product	Method	Rate
Boron	Solubor20	Foliar	1.5lb./A
Boron	Solubor20	Ground	5lb./A
Boron	Borax11	Ground	10lb./A
Copper	Cu chelate	Foliar	Label Rate
Iron	Fe chelate	Foliar	Label Rate
Mn	Mn chelate	Foliar	Label Rate
Mn	Mn sulfate	Foliar	2 lb./A
Zn	Zn chelate	Foliar	Label Rate

Cooperative Extension of Atlantic County

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.

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): This continues to be the number one insect to control at this time. Growers who are applying their first post pollination insecticides should include Imidan or Avaunt as the first choices. Pyrethroids will work, but are weak on PC as the weather gets warmer. Slightly increased levels of fruit injury have been seen over the last few days, mostly due to the warmer weather and increased adult activity.

Leps and Other ‘Worm’ Larvae: Levels moth larvae or ‘worms’ have been very low this past week, although a slight increase in activity has been seen. Cranberry fruitworm (CBFW) is active, but at low levels. Very few adults have been caught in our traps.

Aphids: Aphids are starting to appear on the new growth of lower canes. We were seeing 1.8% of these terminals infested with small colonies, with a high of 12% infested shoots. We use a provisional action threshold of 10% of shoots infested.



**Figure 1: Aphid Colony.
Photo – Carrie Denson**

Life Cycle. Aphids are soft bodied, slow moving insects (see Figure 1). 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 blueberries. These include: 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 mostly at 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 (BIScV) and its several strains.

Monitoring and Control. Since disease transmission is a main concern in commercial blueberry farms, only very low aphid populations is tolerated, especially if BIScV is a known problem. Aphids may be present while bushes are in bloom, but populations do not start to build up until after bloom. Monitoring should begin as soon as bees are removed (this time of year) 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, a newly registered insecticide in blueberries with a novel mode 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.

Spotted Wing Drosophila (SWD): Out of the 21 traps, we saw that in the last week that 5 traps had SWD catches that averaged 0.8 adults per trap, with a high of 7 adults in one of the traps.

Insect Pests By Numbers

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
5/25	-	-	-	-	0.02	0.01	0.002

CBW = cranberry weevil; PC = plum curculio; CBFW = cranberry fruitworm; SWD = spotted wing drosophila

% 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
5/25	0.122	1.1	0.43	3.8

Traps								
Week Ending	CBFW- Atlantic County		CBFW- Burlington County		SWD- Atlantic County		SWD- Burlington County	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
5/11	0.1	1	0	0				
5/18	0	0	0	0				
5/25	0.1	1	0.25	1	0.8	7	0	0

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