RUTGERS
New Jersey Agricultural
Experiment Station

The Blueberry Bulletin

A Weekly Update to Growers

August 5, 2019 **Vol. 35, No. 15**

CULTURE

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

The blueberry harvest is wrapping up with some farms still picking 'Elliott'. Numerous visits to 'Duke' fields have turned up some plantings in pretty bad shape. Some of the cane death is stem blight but most is not. There is a general lack of leaves, with dead canes and in many cases, entire bushes have died. I have dug up a few of these bushes and the problem is not grubs, and it is not root rot. It is interesting to note that 'Bluecrop' bushes in the adjoining row look fine. This is due to the fact that 'Duke' has the tendency to produce fruit even when the plant is under stress. We have seen young plants produce so many flowers that no leaves are produced. In some cases the plant will actually kill itself. Early on we realized that all flowers on this variety must be removed the first two years. The same kind of thing is going on with the plants I saw this week. They did not have the root system to carry the fruit load that was on them. In one case, extreme weed pressure was robbing the plants of nutrients and water. When these plants were dug up the root system only went down 6-8 inches due to a hard layer of gravel. Between the weeds and the shallow root system, these plants weren't getting the water and nutrients to carry the fruit load. I discussed the effects of a hard pan in a previous newsletter. The grower will not usually realize that there is a hard pan until year 4 or 5, when the yield dramatically increases. By that time, the remedy for the situation is difficult. (Please call me if you find yourself in this situation and would like to discuss it.) Certainly, keeping competing weeds out of the planting is a minimum requirement. At this point, there isn't much that can be done except to keep the plant out of any further stress. Dead is dead so what we are trying to do is to bring back the plants that are weak. Timely watering is the best remedy. It is too late now for any soil applied nitrogen fertilizers however in some cases I believe a foliar application of N might give the plants a little "pick-me-up". Pruning out stem blighted canes is always a good practice.

I believe the take home message is that in many cases, there was a rush to plant fields without doing the required pre-plant checks. It would be prudent to take a back hoe into the field before planting and dig a hole. It doesn't have to be deep, three feet would do it to see what layers of soil are there, is there a hard pan, where is the seasonal high water table, and what are the pH values? As more and more of these young plantings come into fruiting I am concerned that we will see more and more of this.

Sincerely,

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

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

Putnam Scale: We are now in full emergence of the second generation of Putnam Scale crawlers. Those growers who are treating for this insect should target a 50 gal per acre volume. **Do Not make this treatment by air!** This is not a flying insect, but instead a very small crawling stage that stays on the wood. Therefore the entire cane should be covered. The primary treatment window should last for about 2 weeks.

Sharpnosed Leafhopper (SNLH): Adults (Figure 1) are being captured on yellow sticky cards, and show a marked increase from the previous week. While we cannot yet identify a flight peak yet, this does show that activity is increasing. Adult SNLH are the motile forms of the insect that spreads blueberry stunt disease, since after feeding on an infected plant, they can readily fly to an uninfected plant, start feeding and spread the disease. Nymphs do not have wings, but only have wing pads, and therefore cannot readily move from plant to plant. Treatments should likely be targeted during mid to late August. More on this as adult activity increases.

Life cycle – SNLH feeds and reproduces on blueberry, huckleberry, cranberry, and other related plants. SNLH feeding causes little direct damage but it transmits the phytoplasma that causes **stunt disease** in blueberries. They are small brown insects with a pointed head (Figure 1). SNLH picks up the disease while feeding on infested bushes and carries it to other plants in subsequent feedings. Usually only adults will carry the disease from plant to plant, since nymphs are wingless and cannot fly (Figure 1). This insect completes two generations in New Jersey. Adults are abundant in the woods, where many alternative hosts are present, and may move to commercial blueberry fields in the spring. Eggs overwinter inside fallen leaves and hatch in mid-May. Nymphs complete five instars. Nymphs from the first generation reach adult stage in mid-June, while nymphs from the second generation reach adulthood in early August (this time of year). Adults move back to the woods in the fall. Monitoring these generations is critical for timing of control strategies.

Figure 1. Adult at top and nymph with wing pads but no fully developed wings.

Monitoring and control – Adults are monitored using yellow sticky traps. First generation SNLH is often controlled with sprays targeted for plum curculio, aphids, and cranberry fruitworm. Treatment decisions for the 2nd generation should be based on individual population levels, as well as any history of stunt disease on your farm. Because adults disperse from woods, monitoring should be intensified in, and

sprays should be directed to, the perimeter of fields to control migrants carrying the disease. Insecticides are usually applied just prior to peak flight, which will probably be sometime near the end of August to early September. If needed, we recommend use of Assail, Actara, imidacloprid (e.g. Admire Pro), Lannate, or Malathion. It is also important to remove all plants that show symptoms of stunt disease. Removal of bushes should be done after insecticide treatment to avoid movement of leafhoppers from infested to healthy plants, thereby facilitating spread of the disease.

Atlantic County Traps

Week Ending	SWD	OB	BBM	SNLH
6/8	1.05	8.2	0	==
6/15	1.2	97	0	==
6/22	0.71	1381	0.21	0.21
6/29	4	2385	0.03	0.11
7/6	64	1856	0.06	0.15
7/13	87	1822	0.19	0.21
7/20	74	1417	0.07	0.34
7/27	64	800	0.03	0.12

Burlington County Traps

Week Ending	SWD	OB	BBM	SNLH
6/8	0.07	2.91	0	==
6/15	0.83	69	0	==
6/22	0.7	750	0.33	0.33
6/29	0.64	1113	0.125	0.8
7/6	100	2048	0.2	0.625
7/13	18	874	0.64	0.72
7/20	17	505	0.81	1.46
7/27	18	90	0.57	4.45

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