RUTGERS
New Jersey Agricultural Experiment Station

The BLUEBERRY BULLETIN

A Weekly Update to Growers
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CULTURE

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Atlantic County Agricultural Agent

Harvest is progressing well with final pickings of 'Duke' and the second round of 'Bluecrop'. Growers reported very little in the way of problems this week and fruit quality is quite good.

One problem I did encounter reinforced to me how important a leaf analysis is to the health of a growers blueberry plants. I was called out to a farm and brought to a 'Bluecrop' block. 100% of the ripe fruit was not marketable because of chocolate-like blotchy spots on the fruit. When this fruit was cut open, there was a browning of the interior under the blotchy sections. The fruit was a total loss. In addition, the growing point on every cane was black. This is a very good indication that there is a Boron deficiency. Growers who have attended the Blueberry Open House have seen me show slides of this deficiency symptom. To confirm my diagnosis I collected leaves and sent them to Penn State for analysis. The analysis came back with very low Boron levels, far below optimum range. In addition, Iron, Copper, Magnesium and Nitrogen levels were also low, though not to the extent of the Boron. FYI, Boron deficiency can be alleviated very easily with a foliar application of Boron. This application is also quite inexpensive.

Growers that are in the Rutgers IPM program know that soil and leaf analysis are monitored every year. As a result, a disaster in which an entire crop is lost due to a nutrient deficiency is much less likely to occur. Growers who are not in the program should realize that in extreme cases, nutrient deficiencies can be devastating. Most growers are probably not aware of the impact that a nutrient deficiency can have. It is understood that diseases and insects can be devastating but nutrition should be added to that list and realize that it is probably the easiest to prevent with an annual leaf analysis. Watch this newsletter for timing of the leaf analysis, how it is done and where to send your samples. This is a very cost effective method to prevent major problems.

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

Spotted Wing Drosophila (SWD): Adult trap captures have remained close to the averages seen the previous week, but maximum trap captures increased in Atlantic County to 30

males per trap on 1 farm. Weekly applications are still required on both Duke and Bluecrop. The same type of program should also include late varieties like Elliott. No infested harvested fruit have been found on any commercial farms as of this date.

Aphids: Aphid populations are about the same level as seen the previous week. Scattered Lannate applications that are included in the rotation for SWD, should help minimize aphid populations.

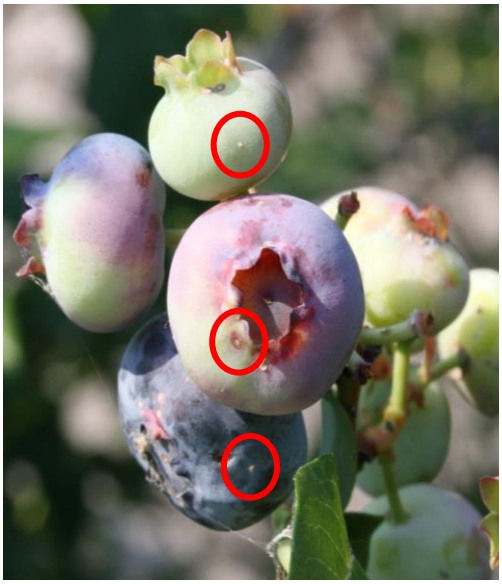
Blueberry Maggot (BBM): Trap captures remain similar to last week's levels, and are very low. Most traps are registering "0" adults per trap. This insect should continue to be controlled with the SWD materials already being applied.

Oriental Beetle (OB): Oriental beetle adult trap captures increased again this week. OB trap captures are the highest we have ever recorded in the program. This indicates that field populations are also high, and may produce significant feeding damage during the coming months. See the last newsletter for treatment options.

Sharpnosed Leafhopper (SNLH): SNLH nymphs have started to mature into the more motile adults. The first adults were seen on yellow sticky traps this past week in both Atlantic and Burlington Counties. SNLH has 2 generations per year. Since the adults have wings, they are more motile, and can easily move back and forth while feeding on Stunt disease infected plants and non-infected plants, thus transmitting and spreading the disease. The materials being used to control SWD will control or suppress SNLH. However, the best materials for SNLH are the same materials used for aphid control – Assail, Actara and Admire. Special applications are not needed for this 1st generation of adults, which will continue for the next several weeks through late July. A second generation will mature in late August and September, after SWD sprays are done. This will be the time to specifically target 2nd generation adults. We will have more on this timing during late summer.

Putnam Scale: Scale crawlers were seen over the past week in several locations. Levels are very low and sporadic. Putnam scale has 2 generations per year, the first of which is rarely treated, simply because it occurs during harvest. If you have scale, it should be treated during the 2nd generation crawler emergence, and only in those fields that have it. Scale is an insect that can be present in very low numbers and be hardly noticeable until the following year when numbers can dramatically increase, causing fruit loss and decreased bush vigor. Look at your reject berries for tiny gray spots on the fruit. Those will be the newly settled scales, and indicate which fields have scale populations to be treated in August with either Esteem or Diazinon.

Life history: Most of the scale populations we normally see in blueberry are from Putnam scale. There are 2 generations of this insect. The first generation crawlers have just settled on new wood and berries. After the crawlers settle, they will form a gray waxy layer on top as they mature. Now is time to place tape monitoring traps in order to monitor the



Maturing blueberries showing freshly settled scales (circled).

timing of the second generation crawlers, usually in early August (see previous page).

Scales feed on plant sap, decreasing plant vigor and fruit yield.
Adult scales are protected from insecticide sprays by a waxy covering.
These insects are common in older canes when not removed, and located mostly under loose bark. In New Jersey, the Putnam scale has two generations a year. It overwinters as second-instar nymphs under loose bark. Spring activity begins in early February. Eggs from the first generation are laid in late April, and immature "crawlers" begin to appear in mid-May. Peak crawler emergences occur in late May and early June. Peak crawler emergences for the second generation occur in early to mid-August.

Monitoring and Management. Growers that have a scale problem need to treat post harvest for the 2nd generation of crawlers (use Diazinon or Esteem). Crawlers can be monitored by wrapping black electricians' tape covered by double-sided sticky tape around canes. Use a hand lens to see crawlers on the sticky tape. Sprays should coincide with crawler emergence.

Blueberry Trap Counts

Atlantic County

Week Ending	Cranberry Fruitworm	Plum Curculio	Oriental Beetle	Spotted Wing Drosophila ♂	SNLH
5/6					
5/13	.083				
5/20	.28	2.4			
5/27	.56	2.8			
6/3	0.24	0.33		0.74	
6/10	.33	0	4.9	0.79	
6/17	.50	0	730	1.65	
6/24	.04	0	2672	1.2	0.29

Burlington County

Week Ending	Cranberry Fruitworm	Plum Curculio	Oriental Beetle	Spotted Wing Drosophila ♂	SNLH
5/6					
5/13	.33				
5/20	.14	7			
5/27	.43	12			
6/3	0.857	2		2.46	
6/10	0.18	0	1.08	1.83	
6/17	0.9	1.0	269	3.08	
6/24	0.67	-	5460	3.04	1.59