

The Blueberry Bulletin

A Weekly Update to Growers

May 25, 2018

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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](http://njaes.rutgers.edu/pubs/publication.php?pid=E265)

BLUEBERRY CULTURE

Gary C. Pavlis, Ph. D.

County Agricultural Agent

Fertilizing Newly Planted Fields: Growers putting in a new field have requested information on fertilization. First, no fertilizer should be placed in the planting hole. When the plants are set out in the fields, usually in April or early May, the fruit buds should be rubbed or pruned off. With no crop present and only a small area of soil requiring fertilizer, about 125 lbs/A of 10-10-10 is sufficient (1 1/2 oz./bush). Sidedressing with a fertilizing spreader will require higher rates to compensate for open areas between plants. Special caution should be observed as to the time of fertilizing after planting. Fertilizer should not be applied until a second growth starts. For example, if plants are set out while dormant, do not fertilize while the first crop of leaves is unfolding and changing from light green to dark green, wait for new growth. Making the first field application too soon has frequently caused reddened foliage and a delay of several weeks in the starting of new growth. Keep the fertilizer at least 2 inches away from the crowns of the young plants. In late-June, the application of fertilizer is usually made.

Note: Never put leaves, chips, sawdust and etc. in the planting hole unless it has been composted for at least 2 years. Fresh organic matter ties up all nutrients and starves the blueberry plants.

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

Plum Curculio (PC): During this past week our numbers have increased slightly for PC captures and the number seen per bush. Our average count was 0.021 per bush, with a high of 0.6 adults per bush during the week of May 6-12, and averaged 0.063/bush with a high of 1/bush during the week of May 13-19. Trap counts are higher than bush/beating tray counts, and additional PC have been seen this week. The trap count maximum was 4 per trap in Atlantic County and 1 per trap in Burlington County. This all points to the fact that PC is the major pest of concern after bees are removed. While numbers were very low during bloom, the warmer weather has helped stimulate higher numbers coming into fields. If you are making decisions for treatment timings, Do Not Wait. Our overall recommendation is to treat sooner than later, unless PC is just not active on your farm.

Gypsy Moth (GM): Early instar GM larvae averaged 0.021 per bush, with a high of 0.7 larvae per bush during the week of May 6-12 and 0 to 0.05 larvae per bush during the week of May 13-19 (Atlantic County). GM average 0.05 per bush in Burlington County. First instar larvae are very small (see figure 1), and first to second instar larvae are the stages most easily controlled by Bt products. At the present time most GM larvae are in the 2nd instar stage and going into the 3rd instar stage. No sites require control for this insect at this time.



Figure 1. 1st instar gypsy moth larva on blossom.
Photo Taken By: Nick

Other Lepids: These include **spanworm** and a few **green fruitworm** larvae, and averaged 0.025 larvae per bush. These numbers are very low. Therefore, when combined with gypsy moth activity, leafrollers and gypsy moth are not an issue. The primary insect target for the first post pollination treatment remains plum curculio.

Cranberry Fruitworm (CBFW): CBFW traps were set during the week of May 6-12. Adults (Figure 2) were found at low numbers during the week of May 13-19. Adult activity in Burlington County is slightly higher than in Atlantic County. CBFW treatments are generally done in the second post pollination treatment during the first week of June. We are looking for a peak in adult activity, and therefore egg laying during the next week.



Figure 2: CBFW adult on trap. Photo - Carrie Denson

Life Cycle: CBFW has one generation a year. It overwinters as a fully-grown larva within a cocoon made of silk and soil particles (hibernaculum). Pupation occurs during the early spring and moths

begin to emerge during the second-third weeks of May. Adults started to emerge already, see above, and peak activity should occur next week. Male moths emerge 3-4 days earlier than females. Adults are brownish gray with a pair of white markings on each forewing (see photo). The eggs are pale-green, flat, and are laid singly, mostly along the inside rim of the calyx cup. Eggs hatch in 5-7 days and the newly emerged larvae are pale yellowish-green. Upon hatching, larvae bore into the fruit usually near the junction of stem and berry. The larva remains inside a fruit until its content is consumed, and then it moves to another fruit. A larva may feed on as many as 5-8 berries. Infested berries are contaminated with larval excrement which can be seen near the entrance hole. CBFW infestations can be recognized by the presence of webbings filled with excrement in berries (Figure 3). Infested fruit prematurely drop. Larvae drop to the ground under blueberry plants beginning the third week of June and build a cocoon.

Monitoring: Time of treatment can be established based on data from pheromone traps. Based on a degree-day model from Michigan State University 85 degree-days are required from first male capture – biofix– to egg laying. The number of males caught in the traps provides information on the presence and distribution of CBFW within a field. Traps are usually placed at the wooded borders of fields, where pressure

tends to be high. Growers with a history of high CBFW population should especially be aware of the importance of monitoring. In addition, eggs may be scouted for after early fruit set. Larval infestation is difficult to detect early in the season, but as larvae grow, the increasing numbers of fruits affected and frass produced provide clear indication of infestation.



Fig. 3: CBFW damage to developing fruit

Control: CBFW can be controlled by registered insecticides. Either one or two applications may be needed, depending on the population level. If trap counts are high, then an early application of an insect growth regulator (Intrepid, Confirm, or Esteem) may be used when the first eggs are laid and start to hatch. In New Jersey this may be just prior to the peak flight (e.g. next week). This would be followed by a second application soon after bloom. Post-bloom applications with broad spectrum materials (such as Danitol, Asana, or Imidan), or with softer materials such as Assail, Avaunt, Altacor, or Delegate can be done 7-10 days following the first application and after bees are removed. If trap counts indicate a lower population, then a single insecticide application may be made post-bloom. Broad spectrum insecticides are harmful to beneficial insects, and should only be applied after the removal of honeybee hives.



**Figure 4: Botrytis blight.
Photo - Carrie Denson**

Blueberry Disease:

Botrytis Blight: During the past week during late bloom, several sites were seen with Botrytis symptoms (Figure 4) on flower parts. This averaged 0.078% clusters per bush with a high of 2% of involved clusters. If you have Botrytis, make sure to rotate fungicide types, and use materials that are effective for both Anthracnose and Botrytis control. These include Switch, Omega, Captevate, and to a lesser degree, Pristine, Abound and Captan.

Blueberry: Summary of insect counts seen through May 19.

Week Ending		Cranberry Weevil/Bush	Leafroller/Bush	Gypsy Moth/Bush	Plum Curculio/Bush	Thrips/100 clusters
5/12	Average	0.048	0.031	0.021	0.021	-
5/13	High	1	0.6	0.7	0.6	-
5/19	Average	-	0.025	0.05	0.063	0.69
5/19	High	-	.4	.5	1.0	23

Blueberry Trap Count Averages

Atlantic County

Week Ending	PC	CBFW
May 19	1.14	0.06

Burlington County

Week Ending	PC	CBFW
May 19	0.33	0.18

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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.

Get Your Farm FSMA READY

with a
Confidential On-Farm
Readiness Review

In preparation for the launch of the Food Safety Modernization Act (FSMA) Produce Safety Rule in 2019, the New Jersey Department of Agriculture and Rutgers University food safety specialists are offering confidential On-Farm Readiness Reviews. The On-Farm Food Safety Team will work with growers to review their operation and make suggestions for possible modifications to comply with FSMA.

Why You Should Participate in a Review:

- To determine if your farm is exempt or partially-exempt from the FSMA rule
- To receive recommendations that will help you make a smoother transition into FSMA compliance
- To better prepare your farm for its official FSMA inspection, starting in 2019

Visits are **voluntary & confidential**. Findings are shared only with the farm owner/grower who requested the review. Visits will occur during the production season with the majority between March and October. So, schedule your visit now before slots fill up. **Contact the On-Farm Food Safety Team | 856-839-3377 | Charlotte.Muetter@ag.nj.gov**



NEW JERSEY
DEPARTMENT OF AGRICULTURE
GET FSMA READY

RUTGERS

New Jersey Agricultural
Experiment Station

New Jersey Department of Agriculture | Douglas H. Fisher, Secretary of Agriculture