



The Blueberry Bulletin

A Weekly Update to Growers

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- ❖ Visit the Blueberry Bulletin webpage at njaes.rutgers.edu/blueberry-bulletin
- ❖ The 2024 Commercial Blueberry Pest Control Recommendations for New Jersey is available on <https://njaes.rutgers.edu/pubs/>

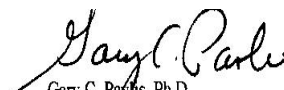
BLUEBERRY CULTURE

Dr. Gary C. Pavlis, Ph.D , Atlantic County Agriculture Agent

Stunt or Iron Deficiency? In Rouging out bushes with stunt disease, some growers have been confused by the stunt-like symptoms expressed by some plants. Blueberries affected by iron deficiency develop a yellowing of leaves (iron chlorosis) which does resemble leaf discoloration on stunted bushes. The main difference is that in stunt disease the leaves are cupped and yellowing occurs between the main veins. In iron deficiency, the leaves are not cupped; all of the little branchings stand out in a brilliant green and "netting" effect. Some leaves on bushes with iron chlorosis also have a pinkish-brown hue and the leaves at the base of the twig may be smaller than those toward the end. Many fields have small pockets of clay where the pH is higher than in the sand and the bushes may develop the stunt-like symptoms because iron is not available. Application of sprays containing iron is sometimes helpful but a permanent solution lies in lowering the pH by adding sulfur and/or organic matter to the soil. This is a special cultural problem and where more than just a few bushes are involved the grower should contact their county agent for advice on specific treatment.

No leaves: Growers visits this week have revealed fields with plants that have canes with fruit but no leaves. This is not Scorch. The lack of leaves usually points to a root problem. It could be grubs, it could be root rot. In non-irrigated fields, the lack of leaves is due to root damage due to lack of water during the drought last summer. This fruit probably will not ripen and the plant may not survive. Late summer/fall water applications are critical. In irrigated fields, I have seen many plants damaged by grubs. Admire is the control of choice in this case. Plants that have been damaged by grubs will pull out of the ground readily.

Lastly, toxic levels of Boron can also result in no leaves. Do not apply Boron unless leaf analysis indicates a deficiency.


Gary C. Pavlis, Ph.D.
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PEST MANAGEMENT

Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University

Dr. Janine Spies, IPM Agent – Fru

Carrie Mansue, Senior Program Coordinator

During the week of June 3rd -June 7th, 174 fields were scouted throughout Burlington and Atlantic Counties.

Leafrollers (LR) and Plum Curculio (PC). The number of LR and PC continues to be low. We will not be reporting on beating tray counts moving forward.

% Injury to Infested Fruit. This week, scouting observations included percent injury to developing berries. The number recorded is only for new injury to berries.

Week Ending	% Injury of Fruit by LR		% Injury of Fruit by PC		% Injury of fruit to CFW	
	Average	Maximum	Average	Maximum	Average	Maximum
5/11	0.17	3.9	0.80	12.7		
5/17	0.23	3.0	1.25	13.20		
5/24	0.10	1.40	0.45	11.30		
6/1	0.02	1.10	0.06	2.90		
6/7	0.001	0.10	0.01	0.70	0.02	0.70

LR = Leafroller, PC = Plum Curculio, CFW = Cranberry Fruitworm

Cranberry Fruitworm (CBFW) and Cherry Fruitworm (CFW). Traps for CBFW and CFW were inspected this past week. There has been a notable decrease in the number of moths entering fields, particularly for CFW in Atlantic (AC) and Burlington Counties (BC).

Week Ending	CBFW Traps				CFW Traps			
	AC AVG	AC Max	BC AVG	BC Max	AC AVG	AC Max	BC AVG	BC MAX
4/19	0	0	0	0	0.44	2	0	0
4/26	0.4	3	1	2	0.1	1	0	0
5/4	0	0	0	0	12.1	25	9.5	14
5/11	0	0	0	0	17.25	44	20	24
5/17	0.031	1	0	0	2.25	4	8.25	14
5/24	0	0	0	0	5.75	16	8.75	18
6/1	0	0	0	0	2.125	7	3.25	5
6/7	0	0	0.5	2	1.5	3	2	4

AC = Atlantic County, BC = Burlington County, CBFW = Cranberry Fruitworm, CFW = Cherry Fruitworm

Scale Traps and Infested Fruit. Scale traps were inspected this week, as well as fruit (Picture 1). Scale activity in traps averaged 36 scales per trap with a high of 100 scales.

Week Ending	% Injury of Fruit by Scale	
	Average	Maximum
6/7	0.04	0.60

Growers should take note of any berries with scales and identify the fields they come from. Few insecticides control both scales and SWD; Diazinon is an exception but can only be used once per season and has a 7-day PHI. Adequate coverage is crucial, requiring ground applications for effective scale crawler control. With two generations per year, it is wise to identify fields needing treatment and plan applications for early August, when the second-generation crawlers are active.



Picture 1. Injury from scale on the fruit. Photo by Karlton Neidigh.

Life History: Scales feed on plant sap, reducing plant vigor and fruit yield. Adult scales are protected by a waxy covering and are commonly found on older canes under loose bark. In New Jersey, Putnam scale has two generations per year. It overwinters as second-instar nymphs under loose bark, with spring activity starting in early February. Eggs from the first generation are laid in late April, and immature “crawlers” appear in mid-May, peaking in late May and early June. The second-generation peak crawler emergence occurs in early to mid-August.

Monitoring and Management: For scale problems, treat post-harvest for the second generation of crawlers using Diazinon or Esteem. Monitor crawlers by wrapping black electrician's tape covered with double-sided sticky tape around canes. Use a hand lens to observe crawlers on the tape. Sprays should coincide with crawler emergence.

% of Infestation on Lower Shoots for Leafroller and Aphids. In this week’s scouting for aphids, fields had on average 15% of aphids infesting lower shoots, with a high of 96%. Moving forward this season, SWD will be the main target for sprays. If aphids have not yet been treated, a pest management program that targets both aphids and SWD will be needed. See last week’s article for recommendations.

Week Ending	% Lower Shoots Leafroller		% Lower Shoots Aphids	
	Avg	Max	Avg	Max
5/24	0.02	2.00	11.03	52
6/1	0.066	4.0	15.37	72
6/7	0.06	4.00	14.66	96

Insect Traps: All traps are set in Burlington and Atlantic Counties.

Week Ending	SWD		OB		BBM		SNLH	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
6/7	19.75	64	300.81	2025	0.037	2	0.0173	0.2

SWD = Spotted-Wing Drosophila, OB = Oriental Beetle, BBM = Blueberry Maggot Fly, SNLH = Sharp-nosed Leafhopper

In our observation this week we caught the first blueberry maggot fly (BBM) in our traps (Picture 2), which was trapped in a non-commercial field.



Picture 2. Blueberry maggot (BBM) captured the week of June 3rd. Photo by Karlton Neidigh.

DISEASES

Peter V. Oudemans, Ph.D.
Professor and Extension Specialist
Plant Pathology

Timing	Anthraco nose	Scorch	Stem Diseases
Week of June 12	N/A	Last chance for scouting	Scout now
Material	N/A	N/A	N/A
Week of June 19	Assess disease pressure	N/A	Begin pruning and removal
Material		N/A	N/A
Week of June 26	Spray affected fields	N/A	Continue pruning and removal
Material	Quadris Top, Quash	N/A	N/A

Disease management choices: Evaluate first picking Duke for anthracnose or consult the IPM program. Fungicides used prior to second picking will help protect fruit from becoming infected. If fruit is already infected it will begin to express symptoms when conditions are conducive. The most conducive conditions are storage temperatures above 50F and high relative humidity or moisture on the fruit surface.

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and Boards of County Commissioners. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

Storage conditions are a critical part of maintaining fruit quality. Fungicides are beneficial when used together with optimal storage conditions.

Fungicides useful for anthracnose control	
Azoxystrobin (this is the active ingredient which is present in many fungicide formulations)	0-day PHI: REI 4hr Do not apply more than 0.75lb of the active ingredient per season. This includes all azoxystrobin containing products.
Phosphorous Acid	0-day PHI: REI 4hr Read the label for specific instructions on avoiding phytotoxicity.
Captan	0-day PHI: REI 48hr Do not combine with other pesticides or surfactants without consulting the technical rep or dealer.
Miravis Prime	0-day PHI: REI 12hr. Do not make more than 2 applications for anthracnose per year

Stem Blight: We are starting to see symptoms of stem blight appear in the field. This is the time to begin pruning out affected canes.



Scorch: Symptoms of scorch are diminishing, and plants should be marked for removal.