



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

Harvest is progressing well. 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

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

PEST MANAGEMENT

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

Dr. Janine Spies, IPM Agent – Fruit

Carrie Mansue, Senior Program Coordinator

During the week of June 23rd-29th, 217 fields were scouted throughout Burlington and Atlantic Counties.

% Injury to Infested Fruit. The percent of new injury to developing berries continues to be low from lepidopteran larvae and plum curculio.

Week End- ing	% Injury of Fruit by LR		% Injury of Fruit by PC		% Injury of fruit to CBFW		% Injury of fruit to CFW	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
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		
6/15	0.002	0.20	0.00	0.00	0.003	0.20	0.004	0.10
6/21	0.004	0.30	0.01	0.20	0.003	0.30	0	0
6/29	0.01	0.30	0.004	0.20	0.001	0.10	0	0

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

Scale Traps and Infested fruit. Scale traps were inspected this week, as well as fruit. Scale activity in traps was an average of 39.5 scale per trap with a high of 131. Growers concerned about this pest should target the second-generation crawler stage in early to mid-August.

Week Ending	% Injury of Fruit by Scale	
	Average	Maximum
6/7	0.04	0.60
6/15	0.05	2.10
6/21	0.03	1.00
6/29	0.05	1.20

% of Infestation on Lower Shoots for Leafroller and Aphids. The average aphid infestation levels have decreased from previous weeks. The average shoot infestation is 4.06% with a high of 78% of shoots infested.

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
6/15	0.00	0.00	15.42	88
6/21	0.06	2.0	10.31	88
6/29	0.04	2.0	4.06	78

Insect traps. All traps are set between Burlington and Atlantic County. Spotted-wing drosophila (SWD) captures continue to increase. Treatments should continue on a 7-day program. See last week’s newsletter article for management recommendations. Oriental beetle (OB) trap counts have increased in both counties. Blueberry maggot (BBM) adults continue to be captured at very low levels.

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
6/15	28.31	100	707	4050	0.20	15	0.18	3.00
6/21	33	164	2986	15525	0.04	4	0.18	4
6/29	71.72	300	5800	16875	0.05	6	0.10	3.00

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

Anthracnose. Reports of anthracnose visible in the field have been minimal from scouted sites. This week we collected fruit from var. ‘Bluecrop’ to evaluate anthracnose infection on berries. Fruit is incubated at room temperature for 7 days and then evaluated for presence of anthracnose. Results will be compared to fungicide spray records to help evaluate program effectiveness.

Biological Control of Spotted-Wing Drosophila: An Update

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

Since 2022, researchers at the Rutgers Philip E. Marucci Center, in collaboration with the New Jersey Department of Agriculture's Phillip Alampi Rearing Laboratory, have been releasing the biological control agent *Ganaspis kimorum* (formerly *G. brasiliensis*) to manage spotted-wing drosophila (SWD) in New Jersey. *Ganaspis kimorum*, a parasitoid from Asia, is highly specialized in targeting SWD and has the potential to significantly reduce SWD populations in non-crop habitats surrounding susceptible crops, thereby lowering SWD pressure.



Our ongoing efforts focus on the release and establishment of *G. kimorum* and other SWD parasitoids. This year, *G. kimorum* adults are being released on 10 commercial blueberry farms in New Jersey (Picture 1).

Picture 1. Releases of *Ganaspis kimorum*, a parasitoid of SWD, in NJ. Photo credit: Max Leavitt-Shaffer

This exotic parasitoid is expected to be more effective than existing native natural enemies, enhancing the biological control of SWD. Once released, we anticipate that *G. kimorum* will establish itself and provide sustainable long-term SWD control in non-crop habitats surrounding blueberry farms.

To assess the establishment of SWD parasitoids, our team is collecting and incubating fruits from native non-crop plants surrounding 15 commercial blueberry farms. These studies are part of a nationwide project funded by the USDA Organic Agriculture Research and Extension Initiative (OREI) and Crop Protection and Pest Management (CPPM) programs aimed at releasing *G. kimorum* and evaluating its establishment in crops affected by SWD.

Beat the Heat: Heat Stress Management and OSHA Awareness

A Certified Safety and Health Official (CSHO) from OSHA inspected a farm during the third week of June in Southern NJ for heat related items. With this recent inspection activity and the current legislative landscape pertaining to heat stress, the Rutgers Farm Health and Safety Working Group has increased outreach and education on this topic. Resources on heat stress prevention from Rutgers are available in many formats for farmers.

Please take some time to review the [NJAES Heat Stress and Agriculture website](#) which features resources and tools from NJAES, OSHA, and the National Weather Service on heat stress mitigation. The Rutgers Working Group will continue to add new resources as they become available. These tools may aid farmers in their proactive efforts to manage heat stress.

As you review these resources, please realize strengthening your heat stress management practices may also help in preparedness for activities conducted during an OSHA heat-related inspection:

- Review [OSHA 300 Logs](#) for any entries indicating heat-related illness(es),
- Review injury and illness reports and obtain any records of emergency room visits and/or ambulance transport, even if hospitalizations did not occur,
- Interview workers for reports of headache, dizziness, fainting, dehydration, or other symptoms that may indicate heat-related illnesses,
- Review employer's plan to address heat exposure, including acclimatization procedures (especially for new and returning workers), work-rest schedules, access to shade and water (with electrolytes/sports drinks when needed), and any training records associated with a heat illness prevention program,
- Document, where possible, the heat index on the OSHA-NIOSH Heat App, using the screen save feature on a mobile phone or tablet, or keep other forms of these records,
- Identify conditions and activities relevant to heat-related hazards. These can include, but are not limited to:

- Potential sources of heat-related illnesses (e.g., working in direct sunlight, in a hot vehicle, or areas with hot air, near an engine, furnace, boiler or steam lines),
- Wet Bulb Globe Temperature (WBGT) calculations and/or other temperature measurements,
- Heat advisories, warnings or alerts,
- The use of heavy or bulky clothing or equipment,
- The types of activities performed by the employees and whether those activities can be categorized as moderate, heavy or very heavy work,
- The length of time in which a worker is continuously or repeatedly performing moderate to strenuous activities,
- Heat-related illnesses among new workers,
- The presence of any recent vacation time or breaks in employment prior to complaints of heat-related symptoms, and
- The availability of rest breaks, water and shade on site.

If you have any questions, please contact Kate Brown, Agricultural Agent (RCE-Somerset County) and Chair of Farm Health and Safety Working Group at kbrown@njaes.rutgers.edu or 908-526-6293 x4. Members of the working group also include Michelle-Infante Casella (RCE-Gloucester County), Stephen Komar (RCE-Sussex County), and William Bamka (RCE-Burlington County).