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THE BLUEBERRY BULLETIN

A Weekly Update to Growers



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2024 Commercial Blueberry Pest Control Recommendations for New Jersey:
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Blueberry Culture

Dr. Gary C. Pavlis, Atlantic County Agricultural Agent

A few growers have expressed concern to me that some of their fruit this season has been softer than desired. Nutrients will most definitely affect fruit quality. I did some research and found this excellent article written by Dave Weinstock which addresses nutrients affect on fruit quality.

How Different Nutrients Affect Fruit Quality

As with all plants, **nitrogen** plays a major role in fruit and bush growth. Fruit color development can be limited by the presence of too much **nitrogen**.

Fruit size increases with higher levels of **nitrogen**. Since flesh firmness decreases as fruit gets larger, growers need to effectively balance **nitrogen** so that both size and firmness are served.

Similarly, when growers reduce **nitrogen** to aid in fruit color development, they must be careful not to bring on biennial bearing problems.

When adequate **calcium** is present in fruit, storage goes well and storage disorders — internal breakdowns, for example — are minimized. On the other hand, too much **potassium** interferes with **calcium** use and uptake, while too little creates problems with leaf development.



In earlier research, Dr. Gennaro Fazio, a plant breeder and research geneticist with the USDA-ARS Plant Genetic Resources Unit in Geneva, New York, found higher **sulfur** in fruit usually occurs with higher **calcium**.

That's because **calcium** moves easily in acidic environments, the kind of environment with which **sulfur** is usually associated.

"It may be possible to formulate **sulfur**-based fertilizer applications that may increase **calcium** transport to the fruit," he said.

Magnesium and **manganese** also seem to be associated with **calcium**. "**Manganese** seems to use the same transport system **calcium** does," he said. "**Magnesium** seems to compete with **calcium** to get into the fruit but not the leaves."

This is good news for bush health because of **magnesium's** contribution to photosynthesis. When **magnesium** is not available, premature ripening and pre-harvest fruit drop are right around the corner.

Manganese, iron and copper are all involved in photosynthesis. When there is too little **manganese** present, it generally means photosynthesis is not occurring at optimal levels. Poor photosynthesis results in reduced bush and leaf growth.

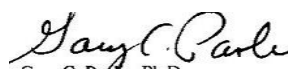
Phosphorus' value lies in its role in creating and stabilizing fruit cell walls. Too much **phosphorus** in leaves can indicate a **zinc** deficiency, while too little may be a sign of low soil pH.

Boron is necessary to develop shoot tips, flowers and roots. Low amounts of **boron** result in cracking of fruit and poor root development. In addition, when **boron** is limited, so, too, is **calcium**.

Zinc helps to move **calcium** within bushes. A **zinc** deficiency results in poor leaf and shoots growth as well as reduced flowering, fruit set, size and coloring.

Sodium can reduce soil microbial activity if too much is available. The best way to reduce its effect is to apply gypsum.

— by Dave Weinstock


Gary C. Parris, 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

Ms. Carrie Mansue, IPM Sr. Program Coordinator – Fruit

IPM scouting was conducted last week across 173 fields in Burlington and Atlantic Counties, despite the excessive heat experienced during that time.

Infested Fruit. This past week, scale numbers have decreased.

Week Ending	Leafroller		Plum Curculio		Cranberry Fruitworm		Cherry Fruitworm		Scale	
	AVG	HIGH	AVG	HIGH	AVG	High	Avg	High	AVG	HIGH
5/10/25	0.13	0.07	0.97	4.3						
5/17/25	0.15	0.8	0.95	4.8						
5/22/25	0	0	0	0						
5/31/25	0	0	0	0						
6/6/25	0.001	0.2	0	0					0.010	0.2
6/13/25	0	0	0	0	0	0	0.007	0.1	0.118	2.6
6/20/25	0	0	0	0	0	0	0	0	0.16	2.2
6/27/25	0	0	0	0	0	0	0	0	0.027	2

% of Infestation on Lower Shoots for Leafrollers and Aphids. Aphids are still being monitored, but their numbers have declined significantly.

Week Ending	Leafroller		Aphids	
	AVG	HIGH	AVG	HIGH
5/17/25	0.11	4	4.6	22
5/22/25	0.09	2	26	66
5/31/25	0.02	2	23	84
6/6/25	0.013	2	16	72
6/13/25	0.01	2	14.18	62
6/20/25	0.05	8	13.9	82
6/27/25	0	0	2.56	24

Terrapin Scale. Crawler counts on scale traps have dropped significantly compared to last week.

Week Ending	Scale	
	AVG	HIGH
5/2/25	0	0
5/17/25	5.5	32
5/22/25	29.6	58
5/31/25	89	250



6/6/25	163	300
6/13/25	154	300
6/20/25	40.5	116
6/24/25	17.25	36

Cranberry Fruitworm (CBFW) and Cherry Fruitworm (CFW). One more week of trap counts remains for CBFW and CFW. Activity is decreasing, and no fruit infestation has been observed.

Week Ending	CBFW AC		CBFW BC		CFW AC		CFW BC	
	AVG	HIGH	AVG	HIGH	AVG	HIGH	AVG	HIGH
4/3/25	0	0	0	0	0	0	0	0
4/11/25	0	0	0	0	0	0	0	0
4/19/25	0	0	0	0	0	0	0	0
4/25/25	0	0	0	0	3.85	6	0.75	3
5/2/25	0	0	0	0	19.42	34	3.86	6
5/10/25	5.42	0	0	0	19.85	28	19.75	43
5/17/25	0	0	0	0	2.14	4	11.75	27
5/22/25	0	0	1	2	1.14	4	2	3
5/31/25	0	0	2.5	6	2.14	12	3	5
6/6/25	0.28	1	0.25	1	1.85	6	2	1
6/13/25	0.167	1	0	0	1.67	6	0.25	1
6/20/26	0	0	2.5	6	0.57	2	0	0
6/27/25	0	0	0.25	1	0.71	3	0.5	2
CBFW = Cranberry Fruitworm, CFW = Cherry Fruitworm; AC = Atlantic County, BC = Burlington County								

Spotted-Wing Drosophila (SWD) and Oriental Beetle (OB). Spotted-wing drosophila (SWD) trap captures have decreased, likely due to the hot weather and lure degradation. SWD lures are being replaced this week, which is expected to result in increased trap counts. SWD remains the primary target for insecticide applications. See table 1 for insecticides labelled for SWD control in blueberries and other fruit crops. Oriental beetle (OB) trap counts remain steady in Atlantic County but are declining in Burlington County.

Week Ending	SWD AC Traps		SWD BC Traps		OB AC Traps		OB BC Traps	
	AVG	HIGH	AVG	HIGH	AVG	HIGH	AVG	HIGH
6/6/25	8.5	29	3	9	7.8	29	0	0
6/13/25	21.51	45	32.6	86	240	1350	34	170
6/20/25	37.52	148	37.6	83	405	2025	555.4	4050
6/27/25	13.5	34	27.4	67	681	2025	134.9	450
SWD = Spotted-Wing Drosophila, OB = Oriental Beetle; AC = Atlantic County, BC = Burlington County								



Blueberry Maggot (BBM) and Sharp-nosed Leafhopper (SNLH). Blueberry maggot and sharp-nosed leafhopper trap counts remain low.

Week Ending	BBM AC Traps		BBM BC Traps		SNLH AC Traps		SNLH BC Traps	
	AVG	HIGH	AVG	HIGH	AVG	HIGH	AVG	HIGH
6/6/25	0	0	0	0	1	6	0.85	3
6/13/25	0.29	7	0.16	4	1.26	8	3.27	17
6/20/25	0	0	0.04	1	1.28	8	4	16
6/27/25	0.05	4	0	0	0.25	1	0.28	2
BBM = Blueberry Maggot, SNLH = Sharp-nosed Leafhopper; AC = Atlantic County, BC = Burlington County								

Organic Practice Sprays. Continue applications targeting SWD. See table below for insecticides labelled for SWD control in organic production of berries.

Table 1. Labelled Insecticides for Spotted-wing drosophila (SWD) Control in Small Fruit

Trade Name	Active Ingredient	IRAC	Blueberry			Caneberry			Strawberry			Grapes			Stone Fruit			Rating ³
			Rate	REI ¹	PHI ²	Rate	REI	PHI	Rate	REI	PHI	Rate	REI	PHI	Rate	REI	PHI	
Lannate SP	Methomyl	1A	0.5-1lb	48	3	Not labelled			Not labelled			Not labelled			Not labelled			+++
Sevin XLR	Carbaryl	1A	1.5-2qt	12	7	1.5-2qt	12	7	1.5-2qt	12	7	1.5-2qt	48	7	2-3qt	12	3	+
Diazinon AG 500	Diazinon	1B	1pt/100	120	7	Not labelled			1pt/100	72	5	Not labelled			1pt/100	96	21	+++
Malathion 8F	Malathion	1B	2pts	12	1	3pts	12	1	3.2pt	12	3	1.88pt	24	3	1-2pts	12	1-7	++
Imidan 70W	Phosmet	1B	1.3lb	24	3	Not labelled			Not labelled			1.3lb	336	7	2.1lb	96	7-14	+++
Asana XL	Esfenvalerate	3A	9.6floz	12	14	9.6floz	12	7	Not labelled			Not labelled			14.5floz	12	14	+++
Bifenture 10DF	Bifenthrin	3A	16oz	12	1	16oz	12	3	32oz	12	0	Not labelled			Not labelled			+++
Danitol 2.4 EC	Fenpropathrin	3A	16floz	24	3	16floz	24	3	16floz	24	3	16floz	24	21	21.3floz	24	3	+++
Mustang Maxx	Zeta-Cypermethrin	3A	4floz	12	1	4floz	12	1	Not labelled			4floz	12	1	4floz	12	3-14	+++
Hero	Bifenthrin+Zeta-Cypermethrin	3A	4-10.3oz	12	1	4-10.3oz	12	3	Not labelled			4-10.3oz	12	30	Not labelled			+++
PyGanic EC 1.4*	Pyrethrins	3A	16floz	12	0	16floz	12	0	16floz	12	0	16floz	12	0	16floz	12	0	+
Assail 30SG	Acetamiprid	4A	4.5-5.3oz	12	1	4.5-5.3oz	12	1	4-6.9oz	12	1	2.5-5.3oz	12	3	4.5-5.3oz	12	7	+
Delegate WG	Spinetoram	5	3-6oz	4	1/3 ⁴	3-6oz	4	1	Not labelled			3-5oz	4	3	4.5-7oz	4	1-14	+++
Radiant	Spinetoram	5	Not labelled			Not labelled			6-10 floz	4	1	Not labelled			Not labelled			+++
Entrust SC*	Spinosad	5	4-6floz	4	1	4-6floz	4	1	4-6floz	4	1	4-8floz	4	3	4-8floz	4	1-14	+++
Apta	Tolfenpyrad	21A	27floz	12	3	27floz	12	1	27floz	12	1	Not labelled			27floz	12	14	+
Exirel	Cyantraniliprole	28	13.5-20.5floz	12	3	13.5-20.5floz	12	1	13.5-20.5floz	12	1	Not labelled			13.5-20.5floz	12	3	+++
Verdepryn 100 SL	Cyclaniliprole	28	11floz	4	1	11floz	4	1	11floz	4	1	11floz	4	7	11floz	4	7	++

¹Restricted entry interval (hours).

²Pre-harvest interval (days).

³Ratings: + = poor control, ++ = good control, +++ = excellent control.

⁴Check Delegate WG label for special use restrictions for preharvest interval of one day.

*OMRI listed for organic production.

