RUTGERS
New Jersey Agricultural Experiment Station

The Blueberry Bulletin

A Weekly Update to Growers

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- *Visit the Blueberry Bulletin webpage at njaes.rutgers.edu/blueberry-bulletin*
- *The 2022 Commercial Blueberry Pest Control Recommendations for New Jersey is available on njaes.rutgers.edu*

BLUEBERRY CULTURE

Dr. Gary C. Pavlis, PhD.
Atlantic 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 etc. in the planting hole unless is has been composted for at least 2 years. Fresh organic matter ties up all nutrients and starves the blueberry plants.

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

PEST MANAGEMENT

Blueberry Insects
Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University
Mr. Dean Polk, IPM Agent – Fruit
Ms. Carrie Mansue Denson, IPM Program Associate – Fruit

Leps (Lepidoptera larva – green fruitworms, leafrollers, spanworms, spongy (= gypsy) moth). During this past week scouting, Leps averaged 0.03 larvae per bush, with a high of 0.2. These were primarily green fruitworm and spanworm. This reflects low numbers, and no treatments are needed. The combined treatment level for all Lep larvae (worms), including gypsy moth is 1 larva per 100 flower clusters.

With the current state of honey bee health, it is to everybody's advantage to make any pest treatments with as little impact on bees as possible. Try to stick with using any of the B.t. formulations when treating worms/Lep larvae. Since B.t.s work best on small larvae, it is not unreasonable to slightly decrease the treatment threshold if it means staying with a B.t. material. Other materials like Intrepid, and insect growth regulator, and Delegate/Entrust (can only be used at night), will work on larger larvae, but may have a negative on certain life stages of the honey bees.

Regarding the recent cool wet weather, growers are also concerned with Botrytis rot in addition to Anthracnose rot control. Fortunately, the 3 materials that are the most effective for both Anthracnose and Botrytis: **Pristine, Omega, and Switch** are not known to have any negative impacts on bees when used alone. While **Captevate** is also effective for both diseases, it is no longer available through most dealers. Of course, any treatments done at night are always better for bee health that treatments done during the day.

	Leafroller/Tray		Gypsy Moth/Tray		Plum Curculio		Thrips	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
4/30	0.03	0.2	0	0	0	0	0	0

Cranberry Fruitworm and Cherry Fruit. Traps were set the week of March 31st. Trap counts in both Atlantic and Burlington County have been very minimal for the past few weeks. No treatment is needed at this time.

	CBFW AC		CBFW BC		CFW AC		CFW BC	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
4/8	0	0	0	0	0.1	1	0.25	1
4/14	0	0	0	0	0	0	0	0
4/20	0	0	0	0	0.2	1	0	0
4/29	0.1	1	0	0	0.9	3	0.25	1

Symptoms of Botrytis Blossom Blight in New Jersey

Peter Oudemans, Professor and Director Rutgers University,

PE Marucci Center for Blueberry and Cranberry Research and Extension

Causal Agent: *Botrytis cinerea*
Common name: Blossom blight, gray mold
Host range: very broad

Frequency: Rare

Infection conditions: Cool, wet weather
Susceptible host tissue: Corolla, infection can spread into the nonpollinated ovaries and into flower peduncle. Pollinated fruit are generally considered resistant to infection by spores. However, infected corollas can spread the pathogen to leaves and fruit where infections are likely to develop.

Fig 1. Blossom blight showing infected flowers and peduncle dieback and stem infection.

Fig 2. An infected cluster showing blossoms still attached to fruit. This is a characteristic of Duke that makes them susceptible.

Fig 3. Blossom blight infection with some healthy berries. Fruit rot or drop will likely occur.

Fig 4. A leaf infection arising from an infected blossom carrying the fungus. This type of infection cannot arise from spores.

Managing Botrytis Blossom Blight in New Jersey

Peter Oudemans, Professor and Director Rutgers University,
PE Marucci Center for Blueberry and Cranberry Research and Extension

Over the past week we have seen freezing conditions and some sever blossom damage. The low last week at the Marucci Center was 29F and there are reports of much lower temperatures in other areas of Burlington and Atlantic Counties.

The result has been flower (corolla) damage and a lot of brown blossoms hanging on. Cool weather is forecasted with rain scattered throughout the rest of the week. Sounds like Botrytis weather.

Remember, our last botrytis outbreak was 2003. The most serious cases were where the in-bloom fungicide applications were missed. In general, the standard anthracnose program held the outbreak at bay.

For 2022 I suggest maintaining your anthracnose spray program. In general, this program will suppress Botrytis. Scouting should be rigorous and target botrytis symptoms. If it appears that infections are showing up on a high frequency (one infection every 2 bushes or so) then it will be beneficial to step it up to the next level and use a fungicide with high botrytis activity. These are usually expensive materials.

We have had these conditions before. Remember 2020? A lot of corolla damage, conducive conditions but not much Botrytis. Thus, maintaining a good scouting program will help ultimately save you money.

Freeze damage April 17, 2020

Fungicides labeled for Blueberry Production in the USA. Local restrictions may apply, always consult the label! These are the fungicides with reported Botrytis activity

This table is intended to provide information on effectiveness for diseases that appear on the label plus additional diseases that may be controlled from application. — indicates insufficient data; +++ = good control; ++ = moderate control; + = some control; 0 = not recommended for use

PESTICIDE	FRAC	REI (HR)	PHI (DAY)	AERIAL	IMPORTANT NOTES	Anthrac-nose	Botrytis	Mummy Berry	Root Rot	Alter-naria	Twig Blight
Azoxystrobin*	11	4	0	Yes	3 applications maximum; utilize resistance management strategies for Group 11 (Page 9)	+++	++	+++	0	++	0
Abound, Aframe, Satori etc. There are over 30 products that contain azoxystrobin. Always read the label and be sure the formulation contains the expected concentration of active ingredient.											
Pristine	11 & 7	24	0	Yes	DO NOT mix this fungicide. 4 applications maximum. Effective against powdery mildew	+++	+++	+++	0	++	0
Miravis Prime	7 & 12	12	0	Yes	Two applications maximum per season. Use patterns are still being established for this fungicide	++	++	+++	0	++	++
Propulse	3 & 7	12	7	No	Contains same ai as Proline and Luna; 2 applications per season. A use pattern is not established for this product	+++	++	+++	0	++	+++
Elevate	17	12	0	No	Same active ingredient found in Captevate	0	+++	0	0	0	0
Captevate	17 & M4	72	0	No	Contains both Captan and Elevate therefore an application of this material counts as both Captan and Elevate	+++	+++	+	0	+	0
Omega, Orbus, Lektivar	29	12	30	No	Use up to 6 applications per season. Allergic	+++	+++	0	0	+++	++

					reactions may occur…see label						
Switch/Alterity	9 & 12	12	0	Yes	Do not use more than 56 oz/acre per season	+++	+++	++	0	0	0
Ziram (EPA SLN NJ-20001)	M3	48	14	No	2 applications maximum. Use a PHI of 20-30 days to avoid visible residues on fruit. The Ziram SLN is only valid in NJ.	+++	++	0	0	+	0
Captan (many formulations)	M4	72	0	Yes	No more than 70 lb of the 50WP or 43.75 lb of the 80WP can be applied during 1 crop cycle. Do not mix with oil or solvent based pesticides.	+++	++	+	0	+	0
Luna Tranquility	7 & 9	12	0	Yes	This fungicide is also effective against powdery mildew	+	+++	?	0	?	+
Inspire Super Vango	3 & 9	12	7	Yes	Up to 4 (high rate) or 5 (low rate applications per year. Cross reference with Quadris Top and Switch to calculate number of applications	++	+++	+++	0	++	++

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