

# The Blueberry Bulletin

## *A Weekly Update to Growers*

June 27, 2023

Vol. 39, No. 13



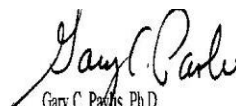
- ❖ Visit the Blueberry Bulletin webpage at [njaes.rutgers.edu/blueberry-bulletin](https://njaes.rutgers.edu/blueberry-bulletin)
- ❖ The 2022 Commercial Blueberry Pest Control Recommendations for New Jersey is available on [njaes.rutgers.edu](https://njaes.rutgers.edu)
- ❖ The Blueberry Bulletin will now be emailed to those who request it. We will no longer be mailing hard copies out. If you are not on our current list and would like to receive a copy, please call the office at (609) 625-0056.

## BLUEBERRY CULTURE

**Dr. Gary C. Pavlis, Ph.D**

**Atlantic County Agriculture Agent**

This year's harvest is coming along without too many problems. Growers have told me that the lack of labor has been a problem. I visited a few newly planted fields this week and once again I must stress the point that late applications of nitrogen, meaning after July 1, can be disastrous. This is especially true on Duke. I visited a farm that was planted last year and was given a dose of nitrogen in late July and early August. This year the field has developed stem blight on 50% of the plants. Some will live, most will not. I believe Duke is especially sensitive to late applications of nitrogen. Bottom line; don't give Duke a late application of nitrogen. I also visited a second young field that was planted this spring. The entire field looks poor. Leaves are reddish yellow, growth is poor, and there were berries on the plants. I did a pH of the field and it was in the high 5's. First, why do a planting if the pH is not optimum? Growth will definitely be poor. Secondly, why leave fruit on one-year plants, again, this retards growth. The solution here was to add sulfur ASAP and strip all the berries off, also ASAP.

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

## PEST MANAGEMENT

*Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University*  
*Ms. Carrie Mansue, Senior Program Coordinator*

**Spotted-Wing Drosophila (SWD):** SWD trap captures are increasing in both Atlantic and Burlington Counties. The best insecticide choices include pyrethroids (Asana, Brigade/Bifenture, Danitol, Mustang Maxx, Hero), organophosphates (Imidan, Malathion), spinosyns (Delegate), carbamates (Lannate), and diamides (Exirel, Verdepryn).

Given the recent periods of rainy weather, growers are questioning the need for repeated applications, and the weatherability of the materials already applied. A couple of years ago, we published an article based on Dr. John Wise (Michigan State University) studies on the residual properties of insecticides; this information was included on a 2019 blog ([https://www.canr.msu.edu/news/rainfast\\_characteristics\\_of\\_insecticides\\_on\\_fruit](https://www.canr.msu.edu/news/rainfast_characteristics_of_insecticides_on_fruit)). As noted in the blog “rainfastness” of insecticides is influenced by the crop type and time between application and rainfall, in addition to other factors. Below we have reproduced the charts for various fruit crops, focusing on insecticide classes effective against SWD. We encourage the reader to visit the site and read the full article.

| <i>Rainfastness rating chart: General characteristics for insecticide chemical classes</i> |                                |                      |                                |                 |                                  |               |
|--|--------------------------------|----------------------|--------------------------------|-----------------|----------------------------------|---------------|
| <i>Insecticide class</i>   | <i>Rainfastness ≤ 0.5 inch</i> |                      | <i>Rainfastness ≤ 1.0 inch</i> |                 | <i>Rainfastness ≤ 2.0 inches</i> |               |
|  | <i>Fruit</i>                   | <i>Leaves</i>        | <i>Fruit</i>                   | <i>Leaves</i>   | <i>Fruit</i>                     | <i>Leaves</i> |
| <i>Organophosphates</i>  | <i>Low</i>                     | <i>Moderate</i>      | <i>Low</i>                     | <i>Moderate</i> | <i>Low</i>                       | <i>Low</i>    |
| <i>Pyrethroids</i>   | <i>Moderate/High</i>           | <i>Moderate/High</i> | <i>Moderate</i>                | <i>Moderate</i> | <i>Low</i>                       | <i>Low</i>    |
| <i>Carbamates</i>  | <i>Moderate</i>                | <i>Moderate/High</i> | <i>Moderate</i>                | <i>Moderate</i> | <i>Low</i>                       | <i>Low</i>    |
| <i>Spinosyns</i>   | <i>High</i>                    | <i>High</i>          | <i>High</i>                    | <i>Moderate</i> | <i>Moderate</i>                  | <i>Low</i>    |
| <i>Diamides</i>  | <i>High</i>                    | <i>High</i>          | <i>High</i>                    | <i>Moderate</i> | <i>Moderate</i>                  | <i>Low</i>    |

*Highly rainfast = ≤ 30% residue wash-off*

*Moderately rainfast = ≤ 50% residue wash-off*

*Low rainfast = ≤ 70% residue wash-off*

*Systemic = Systemic residues remain within plant tissue*

| <i>Blueberry insecticide precipitation wash-off re-application decision chart. Expected SWD control in blueberries, based on each compound's inherent toxicity to SWD, maximum residual and wash-off potential from rainfall.</i> |                            |                |                            |                |                              |                |
|---|----------------------------|----------------|----------------------------|----------------|------------------------------|----------------|
| <i>Insecticides</i>   | <i>Rainfall = 0.5 inch</i> |                | <i>Rainfall = 1.0 inch</i> |                | <i>Rainfall = 2.0 inches</i> |                |
|   | <i>*1 day</i>              | <i>*7 days</i> | <i>*1 day</i>              | <i>*7 days</i> | <i>*1 day</i>                | <i>*7 days</i> |
|   |                            |                |                            |                |                              |                |

*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.

|                    |                                  |                                  |                                  |                                  |                                  |                                  |
|--------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <i>Imidan</i>      | Sufficient insecticide residue   | Insufficient insecticide residue | Sufficient insecticide residue   | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue |
| <i>Mustang Max</i> | Sufficient insecticide residue   | Insufficient insecticide residue | Sufficient insecticide residue   | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue |
| <i>Lannate</i>     | Sufficient insecticide residue   | Insufficient insecticide residue | Sufficient insecticide residue   | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue |
| <i>Malathion</i>   | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue |
| <i>Delegate</i>    | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue | Insufficient insecticide residue |

\* Number of days after insecticide application that the precipitation event occurred. Insufficient insecticide residue = Insufficient insecticide residue remains to provide significant activity on the target pest, and thus an immediate re-application is recommended. Sufficient insecticide residue = Sufficient insecticide residue remaining to provide significant activity on the target pest, although residual activity may be reduced.

| <b><i>Insecticide persistence, plant penetration, and rainfastness rating</i></b> |   |   |                               |
|---|---|---|-------------------------------|
| <b><i>Compound class</i></b>  | <b><i>Persistence (residual on plant)</i></b> | <b><i>Plant penetration characteristics</i></b> | <b><i>Rainfast rating</i></b> |
| <i>Organophosphates</i>   | <i>Medium - Long</i>                          | <i>Surface</i>                                  | <i>Low</i>                    |
| <i>Carbamates</i>   | <i>Short</i>                                  | <i>Cuticle Penetration</i>                      | <i>Moderate</i>               |
| <i>Pyrethroids</i>  | <i>Short</i>                                  | <i>Cuticle Penetration</i>                      | <i>Moderate - High</i>        |
| <i>Spinosyns</i>  | <i>Short - Medium</i>                         | <i>Translaminar</i>                             | <i>Moderate - High</i>        |
| <i>Diamides</i>   | <i>Medium - Long</i>                          | <i>Translaminar</i>                             | <i>Moderate - High</i>        |

**Aphids:** Aphids are still being found. The average shoot infestation rate is 6.5% of new shoots infested with a high of 52%. If aphid populations are present, they still must be controlled, but while working around PHIs and SWD control.

**Blueberry Maggot (BBM):** No blueberry maggot adults have been found yet.

**Oriental Beetle (OB):** Adults continue their emergence. Freshly hatched larvae should be present over the next weeks. OB treatments should go on by mid-July, or prior to the grubs molting into their 3rd instar stage.

**Putnam Scale:** Growers should note the fields that will need treatment and plan on treating those fields in early August when the second generation crawlers are active.

## Insect Sampling Count Summary

|         | LR infested fruit | PC infested fruit | Scale infested fruit | CBFW Infested fruit | CFW Infested Fruit |
|---------|-------------------|-------------------|----------------------|---------------------|--------------------|
| Average | 0.005             | 0                 | 0.106                | 0                   | 0                  |
| High    | 0.4               | 0                 | 1                    | 0                   | 0                  |

Key: LR = Leafrollers, PC = Plum Curculio; CFW = Cherry Fruitworm, CBFW = Cranberry Fruitworm

|         | % LR Shoot Infestation | % Aphid-Infested Terminals |
|---------|------------------------|----------------------------|
| Average | 0.02                   | 6.49                       |
| High    | 2                      | 52                         |

This week in traps:

|         | AC CFW | BC CFW | AC CBFW | BC CBFW |
|---------|--------|--------|---------|---------|
| Average | 0      | 0.25   | 0.5     | 2.5     |
| High    | 0      | 1      | 4       | 7       |

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

|         | SWD AC | SWD BC | OB AC  | OB BC  | BBM AC | BBM BC |
|---------|--------|--------|--------|--------|--------|--------|
| Average | 14.79  | 4.83   | 919.21 | 826.38 | 0      | 0      |
| High    | 72     | 15     | 8100   | 4050   | 0      | 0      |

Key: SWD = Spotted-wing Drosophila; OB = Oriental Beetle; BBM = Blueberry Maggot

## **NJDA ANNOUNCES DEER FENCING GRANTS FOR UNPRESERVED FARMS**

Jeff Wolfe, New Jersey Department of Agriculture

New Jersey Department of Agriculture Secretary Douglas Fisher announced May 15<sup>th</sup> the Department is now accepting applications for cost-share grants for the installation of deer fencing on unpreserved farms. Unpreserved farm owners or operators in New Jersey may receive up to 50 percent matching funds (\$20,000 maximum, no more than \$200 per acre) if their application is approved. Grants will be awarded on a first-come, first served basis until all funds for the fiscal year are expended.

“This is an excellent opportunity for eligible New Jersey farmers to seek funds that will give them a way to protect valuable crops that may be susceptible to deer damage, and we encourage farmers to apply,” Secretary Fisher said. This program is possible because of legislation (P.L.2021, c.451), which provided funding in Governor Murphy’s budget for deer fencing.

In 2019, New Jersey Farm Bureau commissioned a study to assess white-tailed deer populations in eight New Jersey counties. The report concluded that deer densities per square mile are on average 4-5 times greater than safe and sustainable numbers. That survey was conducted by wildlife habitat planning and management consultancy Steward Green using drone-based thermal imaging technology, trained wildlife biologists and infrared analysts to perform an in- the-field analysis to estimate deer populations in seven study areas encompassing more than 12,730 acres, or approximately 20 square miles. The areas surveyed were Atlantic, Cumberland, Hunterdon, Mercer, Monmouth, Passaic, Somerset, and Warren counties. Steward Green’s survey revealed that there are on average approximately 80-100 white-tailed deer per square mile in the areas covered by the study.

For more information about the NJDA deer fencing grant go to <https://www.nj.gov/agriculture/grants/> . There is deer fencing available for farms enrolled in the State Agriculture Development Committee farmland preservation program. More information can be found at: <https://www.nj.gov/agriculture/sadc/farmpreserve/postpres/>

**NOTE: AS OF JUNE 21,2023 THERE HAS ONLY BEEN ONE APPLICANT**

## **THE IRRIGATOR'S POCKET GUIDE**

Wesley Kline: June 13, 2023

A classic ATTRA publication has just been updated by author Mike Morris. The Irrigator's Pocket Guide is a take-to-the-field guide that demystifies the art of irrigation management, explains everything you need to know about soil moisture and crop water use, and shows you how to optimize crop yields while conserving water, soil, and energy.

The Equipment Maintenance half of the book features exceedingly clear and detailed maintenance and troubleshooting procedures for pumps, motors, engines, control panels, and distribution systems. The Water Management guide on the other side of the book provides a step-by-step guide to irrigation water management for sprinkler, surface, and microirrigation systems.

A limited number of print copies are available, in a convenient 4"x6" format with durable waterproof covers, or the publication is available for download. Specifically adapted versions of this publication are available for New Mexico, Colorado, Texas, and California through ATTRA's topic area on water. The pocket guide can be found available online at:

<https://attra.ncat.org/publications/irrigators-pocket-guide/>



**The Irrigator's  
Pocket Guide**

 National Center for  
Appropriate Technology

