RUTGERS
New Jersey Agricultural Experiment Station

The Blueberry Bulletin

A Weekly Update to Growers

March 19, 2020 **Vol. 36, No. 1**

AT A GLANCE…

NEW SPECIAL LABELS FOR ZIRAM ARE ATTACHED.

Visit the Blueberry Bulletin webpage at njaes.rutgers.edu/blueberry-bulletin

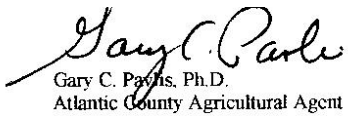
The 2020 Commercial Blueberry Pest Control Recommendations for New Jersey is available on njaes.rutgers.edu

BLUEBERRY CULTURE

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

Dear Blueberry Grower:
As we begin the new season there are changes that have to be made in the way we will deliver information to the growers due to the current Pandemic virus situation. The March blueberry twilight meeting originally scheduled for March 24th at Jeff Whalen's in Burlington County has been cancelled. We are hoping that the April twilight which is scheduled for April 21st will be held but the decision to hold the meeting may change at a later date. We are working on delivering the information that would have been presented at these meetings via a webinar. Information on webinars will be available soon.

Rutgers faculty is still available via phone and e-mail if you have any questions. The 2020 Blueberry Pesticide recommendations are available on the Rutgers website. Here's hoping for a successful and healthy 2020 season.


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

BLUEBERRY INSECT

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

Spanworms and Cranberry Weevil

As of 3/19 we have seen a few early spanworms, but no other insect activity. In a 'normal year' the first significant insect activity we see is from cranberry weevil. As the temperatures warm we should start to

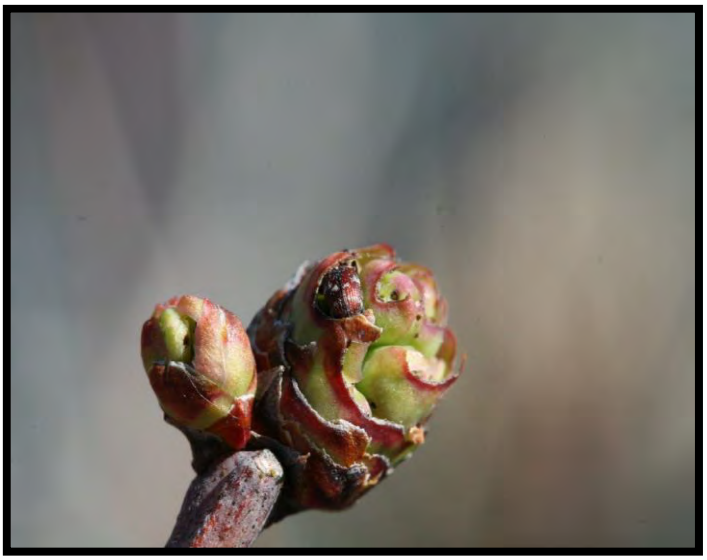
see weevil activity, especially on field edges near wood lines. In preparation for this activity, a summary of cranberry weevil and it's management follows below.

Cranberry Weevil

Life cycle: Adults move from wooded areas, where they overwinter, into the fields; however, adults occasionally overwinter inside blueberry fields if left unmanaged. The adults are small (1/16 inch long), dark reddish brown beetles, with few whitish bands on the wings, and a long snout (see Picture 1). Eggs are laid singly through the feeding holes into the flower. Larvae feed from egg hatch to pupation within the flower buds in which they were deposited as eggs. Pupation occurs within the infested flowers and adults emerge in late May. Infested flowers turn purplish, fail to open, and eventually fall to the ground.

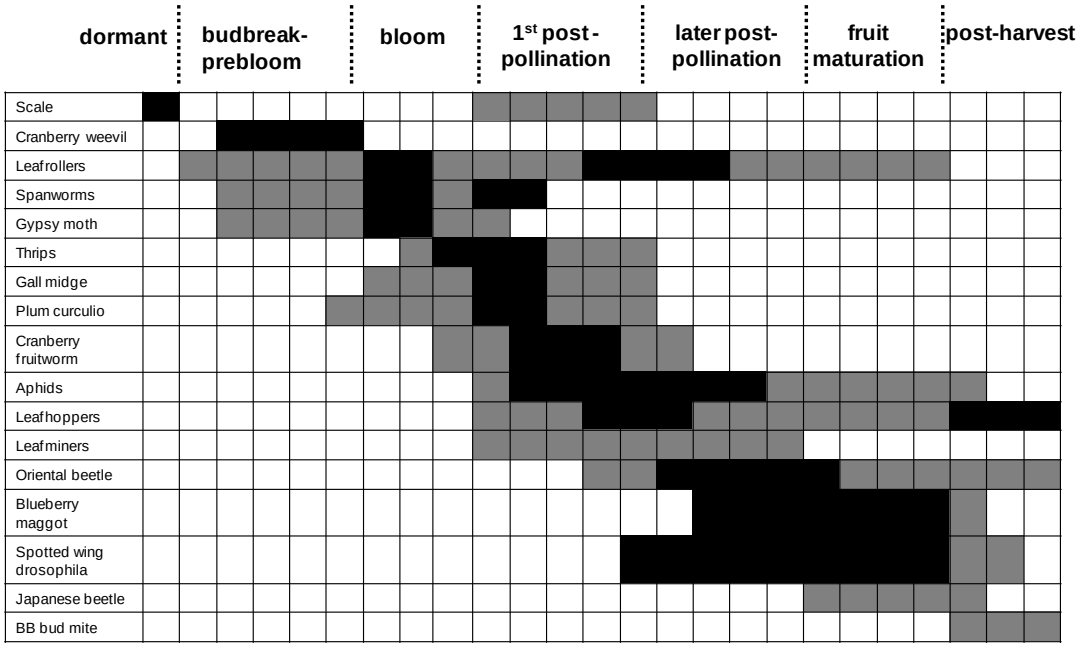
Picture 1: Cranberry Weevil on a Blueberry Flower Bud (Photo by D. Polk)

Scouting and Control: To monitor adults, use a beating tray under each bush and hit the bush to dislodge weevils; repeat on both sides of the bush to obtain number of weevils per bush. Because weevils are abundant near the woods where they overwinter, sampling for weevils should be intensified along the edge rows near the woods. Adults are found on sunny days. Monitor at least 10 bushes per sample site. Spraying should be confined to these "hot" spots on edge rows. Treatment thresholds are 5 weevils per bush or 20% of blossom clusters with feeding injury (i.e., at least 1 injury/puncture per 5 clusters) (see Picture 2). Asana, Avaunt, Imidan, or Mustang Max are recommended for cranberry weevil control.



Picture 2: Cranberry Weevil Feeding Injury to Buds (Photo by D. Polk)

Activity Periods of Blueberry Insect Pests in New Jersey



****

Thierry Besancon, Asst. Extension Specialist in Weed Science

2020 Recommendations for Preemergence Weed Control in Established Blueberry

With T3 stage forecasted for late March, it's really time now to apply your preemergence herbicides before blueberry bud break!

Preemergence herbicides should be applied prior to weed seed germination. If applied to weeds that are already out of the ground, most of these products will not control them. Keep also in mind that these herbicides should receive at least ½" rainfall or irrigation one to seven days after application (depending on herbicides) to incorporate the herbicide in the soil.

In order to reduce the potential of selecting for herbicide-resistant weeds, it is highly recommended mixing two residual herbicides with different MOA whenever you apply preemergence herbicides. Make sure the herbicides you plan to apply will be effective at controlling the weed species in your field by checking the herbicide label. Usually, residual herbicides will suppress weed for 6 to 8 weeks depending on irrigation as well as soil and weather conditions. After this period, another residual herbicide can be needed to control weeds through harvest and could be mixed with a postemergence herbicides to control emerged weeds. **Roundup** (glyphosate), **Rely 280** (glufosinate,) and **Gramoxone** (paraquat) are postemergence herbicides that may be applied with preemergence herbicides ***before bud break*** with little risk for crop injury.

- **MOA 2: Solida** (rimsulfuron) and **Sandea** (halosulfuron) are ALS inhibitors that have both preemergence and postemergence activity. They control most annual broadleaves but are weak on common groundsel, common lambsquarters and eastern black nightshade. **Sandea** is **ONLY**

recommended for postemergence control of yellow nutsedge. However, these two herbicides will not control ALS resistant weeds (horseweed, ragweed…) already widespread in New Jersey. Thus, these herbicides should always be tank mixed with a partner effective at controlling these weeds.

- **MOA 3: Kerb** (pronamide) and **Surflan** (oryzalin) are mitosis inhibitor that will be effective at controlling many annual grass species for 4 to 6 weeks after application. **Kerb** also help controlling perennial quackgrass. If applied to warm soils (> 55°F), **Kerb** persistence (and weed control) is much reduced; therefore, reserve Kerb for fall/winter application. Do not use **Kerb** on blueberries that have not been established for about a year.
- **MOA 5 and 7:** The photosynthesis inhibitors (PS II inhibitors) have a broad spectrum of control and will be effective against many broadleaves and annual grasses when applied in spring. **Karmex** (diuron) and **Princep** (simazine) have relatively low solubility and have been very safe on blueberries. **Sinbar** (terbacil) has a longer residual life in the soil and also is more soluble, so it should be used infrequently on light, wet soils. **Velpar** (hexazinone) is very soluble and should not be used on New Jersey sandy soils. These herbicides are effective on a many broadleaf weed species, including common chickweed, common lambsquarters, common groundsel, henbit, nightshade, redroot pigweed, pineappleweed, shepherd's-purse, smartweed, and some mustards. **Sinbar** and **Princep** will also control most of the annual grasses and help suppressing quackgrass. **Trellis SC** (isoxaben) is currently registered for bearing and non-bearing blueberry. **Trellis** primarily controls annual broadleaf weeds, such as horseweed, common lambsquarters, wild mustards, shepherd's- purse, purslane, and common chickweed; higher rates may also suppress field bindweed and curly dock.
- **MOA 12: Solicam** (norflurazon) is a pigment inhibitor that may be applied in fall or early spring primarily for annual grass control and quackgrass suppression. **Solicam** may also provide partial control of many broadleaf weeds as well as of yellow nutsedge. Do not use Solicam on blueberries that have not been established for about a year
- **MOA 14: Chateau** (flumioxazin), **Zeus XC** (sulfentrazone), and **Zeus Prime XC** (sulfentrazone plus carfentrazone) are PPO inhibitors with activity against many broadleaves (including redroot pigweed, catchweed bedstraw, common mallow, common lambsquarters, ladysthumb, wild mustard, and shepherd's-purse) when applied preemergence in spring. **Chateau** and **Zeus Prime XC** also have some postemergence activity on newly emerged seedlings of annual weeds. Zeus products may also provide some suppression of yellow nutsedge. **Chateau** has a 7 day preharvest interval (PHI) and **Zeus Prime** have 3 day pre-harvest interval, and can therefore be applied later in the season to extend preemergence broadleaves control into late summer. Blueberry plants must have been established at least two years prior to use of these herbicides.
- **MOA 15: Devrinol** (napropamide) and **Dual Magnum** (*s*-metolachlor) are long chain fatty acid inhibitor. **Devrinol** will provide good control of annual grasses and should therefore be tank mixed with a PSII or a PPO inhibitor for controlling broadleaf weeds. **Devrinol** is rapidly degraded if left exposed on the soil surface, so it should be applied less than 24 hours before a rain event to incorporate the herbicide in the soil. **Dual Magnum** (S-metolachlor) has a 24c Special Local Need label for blueberry in New Jersey. This herbicide controls many annual grasses and some small-seeded broadleaf annual weeds such as redroot pigweed, nightshade and common purslane. **Dual Magnum** also suppresses emergence of yellow nutsedge. Use **Dual Magnum** only

on plants established for more than one year, and lower rates are suggested on 2- to 3-year-old plantings.

- **MOA 20: Casoron** (dichlobenil) is a cellulose synthesis inhibitor recommended for fall application to control many annual and perennial broadleaves, grasses and yellow nutsedge. If left on the soil surface or if applied to warm soil (> 55°F or 70°F depending on Casoron formulation), Casoron can lose much of its activity. So, reserve this herbicide **ONLY** for fall/winter applications. Plants must be at least one year old before Casoron should be used.
- **MOA 27: Callisto** (mesotrione) is an HPPD inhibitor recommended for spring application to control many annual broadleaf weeds as well as annual sedges. It controls large crabgrass but no other grasses, such as goosegrass. **Callisto** may be used as a broadcast spray between rows to control broadleaves and crabgrass without injuring the fescue sod.

Consult the **2020 Commercial Blueberry Pest Control Recommendations for New Jersey** available on njaes.rutgers.edu for rates and additional information. The information above is correct to the best of our knowledge. Other formulations with the same active ingredient as some of the products listed above may exist that may or not may be labeled for the same uses. Always consult the label before making pesticide applications. Information was current as of February 25, 2020.

Diseases:

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

Timing	Phomopsis	Mummy berry	Anthracnose
Week of March 23	Complete first Phomopsis sprays	If necessary, begin applications. Scout for mummies or use last seasons records	N/A
Material	Indar or propiconazole	Indar or propiconazole	----
Week of March 30	A second application may be used in areas where the disease pressure is heavy	If necessary begin/continue applications	N/A
Material	Indar or propiconazole	Indar or propiconazole	----
Week of April 6	N/A	Secondary phase	Begin anthracnose sprays when flowers open.
Material	----	Quadris Top, Quash	Ziram, Abound

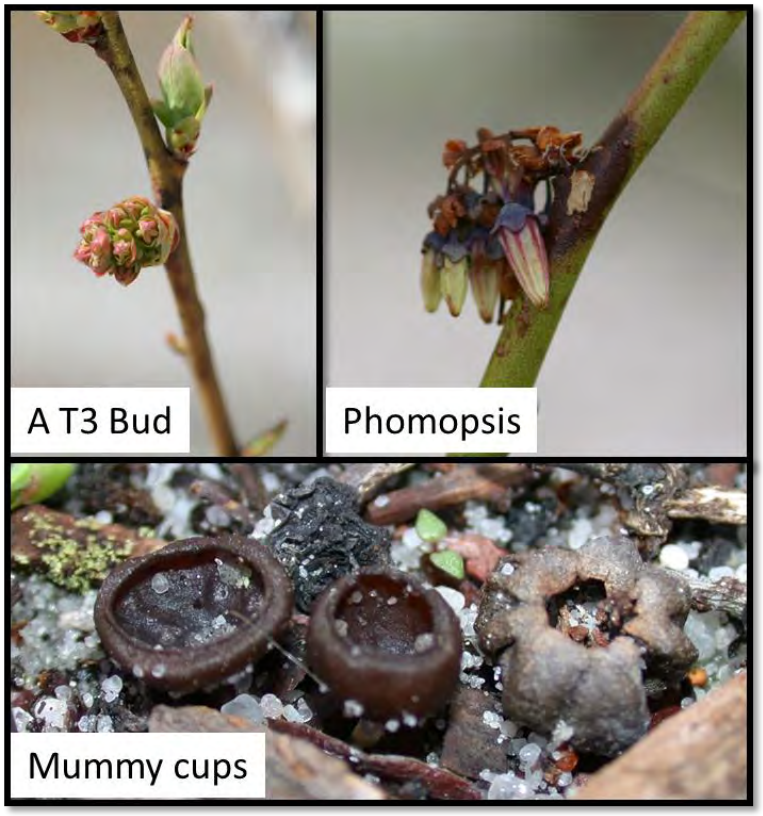
Blueberries were beginning to the T3 phase on March 18. I expect peak T3 sometime during next week. Bloom should begin around April 9 in the Hammonton area and slightly later as you head north. This is an early season and definitely rivals years like 2002 and 2010 for example. Weather forecasts predict cool weather although not particularly wet but wind will be a factor. For this week and next the focus will be on Phomopsis and Mummyberry.

For **mummy berry**, both flower and shoot buds are susceptible to primary infection. In areas where mummies are present the bushes will require protection. Most cultivars are resistant although we have seen small numbers of mummies in Duke. Applications of Indar or propiconazole are recommended. Strikes may begin to appear the week of April 6.

For **Phomopsis** a second application of fungicide may be beneficial for susceptible cultivars such as Duke. Fungicide applications will have a diminishing return when flowers begin to open.

Botrytis blossom blight is a relatively rare disease. If cool wet conditions prevail during bloom and pollination is slow then I expect Botrytis may show up. In general, our anthracnose program will suppress Botrytis.

The key is to effective **Anthracnose** management is to start fungicide applications during bloom. Protectant fungicides such as Ziram are very effective and can be alternated with other materials.



Special Local Need

ZIRAM 76DF

Fungicide

FOR USE ONLY IN THE STATE OF NEW JERSEY

This label is valid until December 31, 2020 or until otherwise amended, withdrawn, cancelled or suspended.

EPA Reg. No. 70506-173 EPA SLN No. NJ-170001

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This FIFRA Section 24 (c) Special Local Need (SLN) label and the federal label must be in the possession of the user at the time of pesticide application. Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA registered label. Read the entire Directions for Use before using this product.

BLUEBERRIES

Lbs. Ziram 76DF per Acre	Diseases	Directions
3-4	Mummyberry Shoot Blight Phomopsis (Twig Blight, Cane & Stem Canker) Anthracnose (Ripe Rot) Alternaria Fruit Rot Botrytis - aids in control* * use the higher rate (4 lbs/A)	Apply in sufficient water for thorough coverage. Begin applications at bud break (green tip) or when conditions for disease development exist. Repeat as needed, especially if excessive rainfall occurs. Under severe disease pressure use the higher rate. Do not apply more than 20 lbs (15.2 lbs ai) per acre per crop cycle. Do not apply within 30 days of harvest. Do not apply within 25 ft of aquatic habitats such as lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds.

Rev. 03/16/2020

United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406
www.upi-usa.com
1-800-438-6071

Special Local Need

ZIRAM XCEL FUNGICIDE

Fungicide

FOR USE ONLY IN THE STATE OF NEW JERSEY

This label is valid until December 31, 2020 or until otherwise amended, withdrawn, cancelled or suspended.

EPA Reg. No. 70506-173 EPA SLN No. NJ-200001

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This FIFRA Section 24 (c) Special Local Need (SLN) label and the federal label must be in the possession of the user at the time of pesticide application. Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA registered label. Read the entire Directions for Use before using this product.

BLUEBERRIES

Lbs. Ziram 76DF per Acre	Diseases	Directions
3-4	Mummyberry Shoot Blight Phomopsis (Twig Blight, Cane & Stem Canker) Anthracnose (Ripe Rot) Alternaria Fruit Rot Botrytis - aids in control* * use the higher rate (4 lbs/A)	Apply in sufficient water for thorough coverage. Begin applications at bud break (green tip) or when conditions for disease development exist. Repeat as needed, especially if excessive rainfall occurs. Under severe disease pressure use the higher rate. Do not apply more than 12 lbs (9.12 lbs ai) per acre per crop cycle. Do not apply within 30 days of harvest. Do not apply within 25 ft of aquatic habitats such as lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds.

Rev. 2020/02/21

UPL NA Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406
1-800-438-6071