

# The Blueberry Bulletin

*A Weekly Update to Growers*

April 9, 2020

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- ❖ Visit the Blueberry Bulletin webpage at [njaes.rutgers.edu/blueberry-bulletin](http://njaes.rutgers.edu/blueberry-bulletin)
- ❖ The 2020 Commercial Blueberry Pest Control Recommendations for New Jersey is available on [njaes.rutgers.edu](http://njaes.rutgers.edu)

## BLUEBERRY CULTURE

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

*Atlantic County Agricultural Agent*

**Pollination:** Pollination is an important factor in production of the highbush blueberry. Lack of adequate pollination causes reduced yield, small berry size, and a delay in berry maturity. It is chiefly the honeybee which performs this task. While bumblebees are efficient and diligent pollinators (even under more adverse weather condition), their numbers are steadily decreasing.

According to MSU Entomologist, Dr. Roger Hoopingarner, "Historically, feral (wild) honey bee colonies have provided more than half of the pollination in Michigan." Wild bee populations are declining. This is due to changes in our own blueberry production practices which remove bee forage and suitable habitat, and there is the problem with mites.

Varroa and tracheal mites are killing wild and managed colonies in the U.S. The varroa mite has completely wiped out all of the wild colonies in Europe. It is certain that our dependence upon this population of bees will be reduced in the next few years.

What does this mean for blueberry producers? What happens when we lose the free pollination service provided by wild bees? You probably already know - more honey bees.

Weather during blossom time affects the honeybee's foraging efficiency. Honeybee activity increases as the temperature increases from 50 to 95°F. Sunshine also increases foraging, especially at lower temperatures. Cold, wet, windy weather decreases foraging activity. Temperatures above 95°F will also reduce foraging as the bees spend their time cooling the hive.

As a general rule, over-wintered colonies are stronger than package bees. A three-pound package may have 12,000 bees, while an over-wintered colony may contain two to three times as many. Honeybee colonies will be smaller in an early bloom year. In essence, the crop has developed faster than the development rate of the forager bees. Are honeybees the answer? Many of you have seen your bees fly out of the hive, past your bushes, and into the woods. This preference for one flower over another is not fully understood. It may be related to the quantity of nectar, pollen, sugar concentration, or flower color. At this time, honeybees are the best bet. For the long term, we need to learn to cultivate the wild pollinators.

Take home message: Don't skimp on bees.  
The recommended concentration of

hives per acre to use are tabulated below:  
Remember that the number of hives needed per  
acre depends on the variety you have.

**VERY ATTRACTIVE TO BEES:**

1 Hive/2 Acres:

Rancocas  
June  
Rubel  
GN-87

**MODERATELY ATTRACTIVE:**

1 Hive/Acre:

Weymouth  
Bluetta  
Blueray  
Pemberton  
Darrow  
Bluecrop\*  
Duke

**POOR ATTRACTIVE:**

2 Hives/Acre:

Stanley  
Concord  
Berkeley  
Coville  
1316-A  
Elliott  
Jersey\*  
Earliblue\*

\* Efficiency of pollination poor, add 1/2 hive more per acre.

## 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**

**Cranberry Weevil (CBW):** Adult CBW continues to be found, but numbers have started to tail off. In Atlantic County, bushes are entering bloom and fast. With bees starting to come in, the window for insecticide treatments is now closed. Burlington County crop development is behind that in Hammonton, so some farms in Burlington County may still apply insecticides if CBW populations are high. As stated last week, threshold guidelines for cranberry weevil are to treat if over 20% of sampled clusters show damage, or if there are at least 5 weevils per bush (on bright sunny days). A damaged cluster is defined as damaged if at least 1 flower or developing flower is damaged.

**Leps and Other 'Worm' Larvae:** We have started to pick up a very light level of spanworm larvae, which is normal for this time of year. No treatments are needed for these insects.

**Spraying around bees:** As you start your Anthracnose treatments, try to put the first bloom application on just prior to bringing the bees in. This will give them about a week to 10 days without encountering wet or fresh fungicide. For those who can, spraying at night or after dusk, also prevents the bees from coming in contact with fresh spray droplets. With some pesticides, exposure to dried residue is much easier on the bees than exposure to fresh droplets. Research on how this applies to fungicides is ongoing.

Insect Incidence					
Week Ending	% Bud Feeding		Adults/Bush (Beating Tray)		Leps./Bush (Beating Tray)
	Avg	Max	Avg	Max	Avg
3/27	12.8	40	0.68	8.3	.01
4/3	0	0	0.8	7.6	0.0
4/11	0	0	2.06	19.6	0.003

## DISEASES

By Peter V. Oudemans, Ph.D.

Associate Professor and Extension Specialist

Plant Pathology

Blueberry blossoms are opening rapidly and the bees are arriving. Weather forecasts predict cool, wet weather and that means great growing conditions with a high risk for disease. For the next few weeks the focus will be on

**Anthraco**se and **Botrytis**. If pollination slows down due to wet weather problems will likely arise. I expect mummy strikes should also begin this week and if they occur on your farm you should spray for the secondary phase of **Mummyberry**.

For **Anthraco**se management, the key is to maintain a relatively tight schedule during

bloom. The bloom period is the most critical timing for anthracnose management.

Protectant fungicides such as Ziram are effective and it is my experience that Ziram provides a longer residual period and a 14-day interval is reasonable. Abound, and Pristine are very effective for controlling anthracnose beginning at the onset of bloom. Fungicides such as Pristine, Switch or Captevate are effective for protecting against Botrytis and Anthracnose. Materials such as Proline, Quash or Quadris Top are effective against leaf drop which will require your attention in a few weeks.

Fungicides, target disease and usage summaries. This is meant as a guide please refer to the label for detailed recommendations

CHEMICAL	Target	Rate	UNIT	PHI	REI	Comments
Abound many formulatons	Anthraco	6.0-15.5	fl oz	0	4	2 apps, air ok,
Captan many formulations	Anthraco	See label		0	48	Check label, air ok
Elevate 68WDG	Botrytis	1.5	lb	0	12	4 apps, air ok
Quash 75WSP	Mummy, Anthracnose	2.5	oz	7	12	3 apps, air ok. Good for leaf drop
Quadris Top	Mummy, Anthracnose	12-14	Fl oz	7	12	4 apps, air ok. Good for leaf drop
Pristine	Anthraco	18.5-23	oz	0	12	4 apps, air ok
	Botrytis					
	Mummy					
Proline 480SC	Anthraco	5.7		7	12	2 apps, Ground only Good for leaf drop
Switch 62.5WG	Anthraco	11-14	oz	0	12	4 apps, air ok (2 apps)
	Botrytis,					
	Mummy					
Ziram 76DF or xcel	Anthraco	3-4	lb	30	48	2 apps, Ground only
	Botrytis					
Omega 500F	Anthraco	20	Fl oz	30	12	6 apps, Ground only
	Botrytis					