

*The*

# **BLUEBERRY BULLETIN**

*A Weekly Update to Growers*

**Dr. Gary C. Pavlis, County Agricultural Agent**  
6260 Old Harding Highway, NJ 08330

Phone: 609/625-0056, Fax: 609/625-3646, Email: [pavlis@aesop.rutgers.edu](mailto:pavlis@aesop.rutgers.edu)

June 6, 2003

Vol. XIX, No. 8

## **AT A GLANCE...**

### **“Organic Blueberry Twilight Meeting”**

Farm demonstrations, free dinner and pesticide credits. Reservations call Terry 732-431-7260  
Tuesday, July 8, 2003, 4:30 to 9:30 PM  
Emery’s Berry Patch  
346 Long Swamp Road  
New Egypt, New Jersey

### **Problem - Solution**

Mummy Berry -  
Indar 75 WSP, 2 oz/A  
Aphids –  
Provado 1.6F, Post-bloom 3-4 oz/A  
Botrytis –  
Captan 50WP, 5.0 lb/A  
Captan 80WP, 3.1 lb/A  
Captec 4L, 2.5 qt/A

## **CONTENTS**

<b>Index</b>	<b>Page #</b>
<i>At A Glance</i>	1
<i>Blueberries</i>	1
<i>Insects: S. Polavarapu &amp; D. Polk</i>	1
<i>Oriental Beetle Management with Admire 2F in New Jersey: S. Polavarapu</i>	2
<i>Diseases: P. Oudemans</i>	3
<i>Insect Trap Captures: D. Polk</i>	3
<i>Disease &amp; Culture: G. Pavlis</i>	3
<b>Articles</b>	
<i>Transitioning - Organic Blueberries</i>	4

## **BLUEBERRIES:**

### **Insects:**

*Dr. Sridhar Polavarapu, Extension Specialist  
Blueberry Entomology  
Rutgers University  
Dr. Dean Polk, IPM Agent - Fruit*

### **Redbanded Leafroller and Other Leps.:**

Leafroller activity remains at similar levels as seen during the previous week, perhaps slightly less. Populations are well below treatments levels and are not a concern. The highest level seen was .2 larvae per 100 blossom clusters. About 1/5 of all samples show fruit with suspected feeding. However, the average level of feeding is extremely low at about .15%.

**Cranberry Fruitworm (CBFW):** While CBFW adults continue to be captured, trap levels are extremely low. If you intend to apply an insecticide for managing cranberry fruitworm, the spray should be applied in the following 4-7 days. Recommended insecticides for cranberry fruitworm include Imidan, Diazinon, and Lannate.

**Aphids:** Aphid populations are doing quite well, and showed an increase in activity again this week. Aphid numbers went from being found in 30% of samples to 45% of samples. Our benchmark of ‘over 10% of terminals infested, doubled from 9% to 18%. This is therefore the major pest of concern this week. Typically, aphid populations are higher on tender tissue

(Continued on page 2.)

near the bottom of the bush. Good coverage is therefore important for effective control of aphid populations. If aphids are the main pest target, you should consider using Provado 1.6F at 4 fl.oz/acre. A broad-spectrum insecticide such as Lannate may be necessary if you have infestations of thrips, leafrollers, and cranberry fruitworm in addition to aphid pressure. Admire 2F applied to the soil for oriental beetle management (see article below) has also been shown to be effective in controlling aphid populations. Blocks that received Admire applications may not require aphid controls for several weeks.

**Thrips:** Thrips are showing additional activity, and are being found in just under 20% of our samples. Actual levels are still very low, with the highest levels around 10 thrips per 100 blossom clusters. Use Lannate in your post-pollination insecticide applications if thrips are a concern.

**Plum Curculio (PC):** Very little new activity was seen this past week. Twelve percent of samples show PC activity, with most fruit injury below .5%.

**Re-entry Intervals (REI) and Post-harvest Intervals (PHI) of insecticides:** Following are updated REI and PHI for some of the commonly used insecticides. Please note the corrected REI and PHI for Guthion and Admire.

Product	REI	PHI
Asana	12 hrs	14 days
Diazinon	24 hrs	7 days
<b>Guthion</b>	<b>48 hrs for scouting</b>	<b>7 days</b>
	<b>96 hrs for harvesting</b>	
Imidan	24 hrs	3 days
Lannate	48 hrs	3 days
Malathion	12 hrs	1 day
Sevin	12 hrs	7 days
Confirm 2F	4 hrs	14 days
Provado 1.6F	12 hrs	3 days
<b>Admire 2F</b>	<b>12 hrs</b>	<b>7 days</b>
<b>SpinTor 2SC</b>	<b>4 hrs</b>	<b>3 days</b>



## ORIENTAL BEETLE MANAGEMENT WITH ADMIRE 2F IN NEW JERSEY

*Dr. Sridhar Polavarapu*


Once again Admire 2F (imidacloprid) has been approved for use under Section 18 of FIFRA to manage oriental beetle grub populations infesting blueberries in New Jersey. This material is most effective if targeted against early instar grubs.

We are recommending that you apply this insecticide in June to mid-July, at least 7 days before the first harvest or post-harvest. In our greenhouse experiments last season, Admire 2F had little effect on large third instar grubs which typically appear after the middle of August in the Hammonton area. Oriental beetle eggs are not expected to hatch before July 1 and therefore, Admire 2F applied too soon in May may only be subjected to degradation. However, Admire 2F has a long residual activity (> 100 days) as long as the insecticide is not directly exposed to the sun. EPA has lowered the Pre-harvest Interval (PHI) for Admire 2F from 14 days to 7 days this year.

On early varieties like **Weymouth** that usually comes to harvest around mid-June, you may apply Admire 2F after the last harvest. On mid-season varieties like **Duke** and **Bluecrop**, our recommendation would be to apply Admire 2F, 7 days before the first anticipated harvest date in June. Similarly, on late season varieties like **Elliott**, Admire 2F should be applied before harvest, no later than July 1. Admire 2F is most effective when applied before most eggs have hatched and grubs are still near the soil surface.

Admire 2F should be applied as a 18-inch band on either side of the bush at 16-19 fl. oz per acre in a minimum of 20 gal of water per acre. Remember to irrigate the field at least for an hour before and after Admire 2F application (2-3 h preferred after application). This insecticide is sensitive to breakdown by UV radiation. Therefore begin Admire 2F applications late in the evening hours. Only one application of Admire 2F is allowed per acre per season. This product can be applied only by ground or through trickle irrigation. You should also have in your possession the supplemental label

(Continued on page 3.)

(specific to blueberries) at the time of Admire 2F application. Please read and follow all the conditions and restrictions on the Supplemental label and the label on the container. Please call Dr. Gary Pavlis' office (609/625-0056 and ask for Marilyn Anderson) to register your Admire 2F use. This insecticide can be applied in New Jersey on a maximum of 3000 acres only. 

**Diseases:**

*Dr. Peter V. Oudemans  
Associate Professor and Extension Specialist  
Plant Pathology*

**BOTRYTIS EPIDEMIC  
HITS NEW JERSEY –  
NORTHERN GROWERS STAY ALERT**

**Botrytis Blossom Blight** is a relatively rare disease that has become devastatingly common this season. The cause is likely due in part to the cool wet conditions that have prevailed over the past few weeks. This coupled with poor pollination has resulted in an extended bloom period and the older the flowers the greater the susceptibility. Duke has been the hardest hit while Bluecrop are less so and it is too early to tell with Elliots. There is considerable variability in severity across Burlington and Atlantic Counties and it appears that plantings that were not fungicide treated were the hardest hit. Growers who followed an anthracnose management plan (protectant applications made at early bloom and 7-14 day intervals depending on the type of fungicide used) also saw considerable benefit for controlling this disease. The major question now is what to do.

There are some important points to understand with this disease. First of all, the pathogen attacks weakened tissues such as older blossoms. Fruit that is set is resistant to infection by spores. However, it is evident that infected blossoms (corollas) can spread the disease to leaves and fruit. Infections begin as purple blotches and will rapidly destroy immature fruit. Therefore, if you are considering a fungicide application the following points can be used in the decision making process:

1. Is there evidence of blossom blight in the field?
2. Are the blighted blossoms still present in the bush?
3. Is there evidence of fruit infection?

4. Is there a sufficient healthy crop to protect? If you have answered YES to these questions a fungicide application is warranted. At this time there are six fungicides with different effects that can be used for Botrytis control.

(Continued on page 4.)

**INSECT TRAP CAPTURES**

*Dr. Dean Polk*

**Atlantic County**

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
4/25		101				
5/2		89.7				
5/9		83.6				
5/16	0.2	21.2				
5/23	0.05	4.0				
5/30	0.18	0.3				

**Burlington County**

Week Ending	CBFW	RBLR	OBLR	SNLH	OB	BBM
4/25		25				
5/2		28.2				
5/9		11.4				
5/16	0	6.4				
5/23	0.05	1.8				
5/30	0.2	0.3				



**Disease and Culture:**

*Dr. Gary C. Pavlis, County Agricultural Agent,  
Rutgers University*

**Scorch:** Farm visits have made me very aware of the fact that Scorch disease is alive and well in both Atlantic and Burlington Counties. Plants with Scorch disease would be best removed before harvest begins. The best method would be to spray the plant with Provado to kill the aphids, mow down the plant, burn the prunings and treat the stump with Roundup. The stump can be pulled after harvest when the risk of damaging fruit is over.

*Sincerely,*


*Dr. Gary C. Pavlis  
County Agricultural Agent, RU  
Editor - Blueberry Bulletin ma  *

Table 1. Fungicides labeled for botrytis blight management

Fungicide	Max. amt/season	Max. # of apps	Rate/acre	Interval	REI	PHI
Captan 80/50	43.75 / 70 lb	14	3.1 / 5 lb	7-10 days	4 days	0 days
Ziram 76DF	20 lb	5	3 – 4 lb	7-10 days	48 hr	3wks post bloom
Rovral	8 lb	4	1-2 lb (100gal)	14 days	24 hr	0 days
Abound	46.2 oz	3	6.2-15.4 oz	7-14 days	4 hr	0 days
Switch 62.5WG	56 oz	4	11-14 oz	7-10 days	12 hr	0 days
Elevate 50 WDG	6 lb					0 days
Benlate 50WP	3 lb pre 2lb post	5	1 lb/acre	7-10 days	24 hr	21 days

Switch is a systemic material and may provide significant effect for later infections



## TRANSITIONING TO ORGANIC BLUEBERRIES

*Dr. Bill Sciarappa, Monmouth County  
Agricultural Agent &  
Dr. Gary Pavlis*

Four significant developments have occurred that amplify opportunity for certified organic growers to successfully grow organic highbush blueberry and to increase or transition acreage. First, there is the recent USDA national organic standardization that defines organic production practices and crop labels that creates clarity and evens competition. Second, we have the continued increase of smallfruit and vegetable sales related to nutritional and human health reasons that strongly contribute in creating today's \$40,000,000 highbush blueberry market in NJ. Future agribusiness gains are promising through the "organic certification" market segment. This organic designation appeals to today's consumer as an even higher market value and creates a separate market segment above the fresh market mainstream. Third, new tools are becoming available to organic growers that reduce the risk from pest problems such as the recent organic registration of Spinosad – now known as Entrust in the organic market. Finally, the Rutgers Blueberry Working group has made considerable progress in refining standard IPM practices and in helping develop new tools and holistic approaches for organic production systems. Our "Work in Progress" is establishing alternative approaches to some current agricultural practices in soil building, fertility, cultural approaches and pest management.

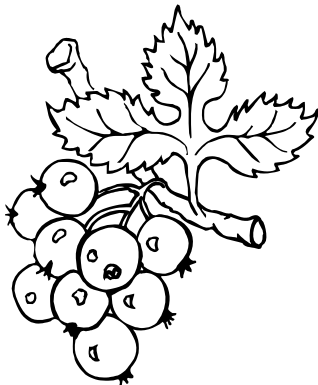
When blueberries were first selected and cultivated in the early 1900's, the traditional culture of this native small fruit was essentially organic in nature. Currently, perhaps 2/3's of what "conventional" growers do horticulturally is directly applicable to organic production. Some examples include selection for resistant varieties, pruning for canopy ventilation to reduce disease incidence, adding organic amendments in building soil such as peat and humus, mulching for weed control and water conservation, raised mounds, roguing of infected plants and the use of natural plant protection products like Bt, Pyrethrum and Spinosad which are safe to natural enemies.

In contrast to other fruits that have been introduced from other countries, the blueberry is one of the few Native American fruits that has relatively good natural resistance to diseases and insects as well as an inherent vigor because it has been domesticated for less than 100 years. Thus, there is this strong historic baseline for succeeding in the return to organic production although some key risk factors remain to be solved. To achieve this comprehensive vision of an integrated organic production system, specific obstacles are being addressed by our team of collaborating specialists supported by RCE administrators Dr. Nick Vorsa of the Phil Marucci Blueberry and Cranberry Research Center and Mr. Jack Rabin of the NJ Agricultural Experiment Station.

(Continued on page 5.)

For information on organic Certification and OMRI, growers should contact Karen Anderson and Erich Bremer of NOFA-NJ. The Northeast Organic Farming Association of NJ has been actively involved in certifying acreage for organic production and in explaining to growers the approved practices and materials that are essential to maintaining compliance. Through NOFA, growers can connect with other growers as to successful farming practices and can gather current information on plant protection materials and fertilizers through OMRI: Organic Materials Resource Inventory. Call 609-737-6848.

Currently, about 7,500 acres of blueberries are grown in NJ with less than 2% (approximately 110 acres) produced organically. The authors believe that the agribusiness situation is that of an advanced market ahead of agricultural research; demand ahead of supply. The price of a flat of organic blueberries has ranged from \$18 to \$28 over the last three years while conventional production prices have generally ranged between \$8 to \$14 per flat. Any growers interested in transitioning to organic blueberries may feel free to contact the authors for advice and connection to the Rutgers team of leading experts. Call 732-431-7260 or e-mail [sciarappa@aesop.rutgers.edu](mailto:sciarappa@aesop.rutgers.edu). We are sharing the current state of our applied research with interested growers and scientists who wish to attend our July 8 Twilight Farm Tour at Emery's Berry Patch. Key topics will be organic certification, soil building, cultural methods, pest management of weeds, diseases and insects, organic pesticides and practices, IPM scouting and marketing organic small fruit.



Rutgers Cooperative Extension educational programs are offered to all without regard to race, religion, color, age, national origin, gender, sexual orientation or disability.

**Visit our Web-Page  
INTERNET ADDRESS**

Click on to the RCE Web site  
and see our 'Web Page'.

[www.rce.rutgers.edu/pubs/blueberrybulletin](http://www.rce.rutgers.edu/pubs/blueberrybulletin)



\*\*\*\*\*

The Blueberry Bulletin  
is a Weekly Newsletter  
Published By

Rutgers Cooperative Extension of Atlantic County  
6260 Old Harding Highway, Mays Landing, NJ 08330

Dr. Gary C. Pavlis, Editor  
County Agricultural Agent

Email: [pavlis@aesop.rutgers.edu](mailto:pavlis@aesop.rutgers.edu)  
Phone: 609/625-0056 Fax: 609/625-3646

[www.rce.rutgers.edu/pubs/blueberrybulletin](http://www.rce.rutgers.edu/pubs/blueberrybulletin)

Marilynn Anderson, Secretary

\*\*\*\*\*