



**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@njaes.rutgers.edu](mailto:pavlis@njaes.rutgers.edu)*

**April 6, 2009**

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**At a glance. Insect and disease problems that should be considered this week.**

PEST/DISEASE	WEEK OF APRIL 5	WEEK OF APRIL 13
Mummy berry	As leaf tissues emerge plants are susceptible. Scout for mummies in wet areas of the field.	Continue to scout for mummies. Bloom may begin early next week and blight will start to appear
Cranberry Weevil Asana, Guthion, Imidan	Scout for adults and evidence of damage. Treat if 20% of clusters with damage or if $\geq 5$ weevils/bush	Continue scouting for weevils
Leafrollers, spanworms, gypsy moth B.t., Intrepid	Use pheromone traps to monitor adult flight. Scout for larvae. Treat if over 1 larva/100 clusters.	Continue scouting for larvae. Use same threshold.

**'BLUEBERRY TWILIGHT MEETING'**

**Thursday, April 30th @ 5:30 PM**

**Variety Farms**

**548 Pleasant Mills Rd.**

**Hammonton, NJ 08037**

**For directions call 609/561-0612**

**Culture:**

*County Agricultural Agent*

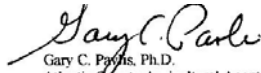
*Dr. Gary C. Pavlis*

Growers who receive this newsletter or attend our Rutgers Cooperative Extension meetings over the winter are aware that we no longer are recommending the first applications of fertilizer before bud break. This is inefficient use of fertilizer and with the price of fertilizer these day's, we need to use it efficiently. Research has shown that the uptake of fertilizer when the plant is dormant is one tenth

that of when they are actively growing. That means that if you apply 100lbs. of 10-10-10 before bud break the plant will get just as much N-P-K if you apply 10 lbs. of 10-10-10 after bud break. But remember, you paid for that other 90 lbs. Where did it go? Did it leach down into the water table? Unknown, but the plant did not pick it up. The best timing for the first application is early petal fall. The second application would go on six weeks later. If you are fertigating, the timing is the same accept it is

even more efficient if the total amount is divided across that six week period.

Sincerely,



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

Editor - Blueberry Bulletin  
GP/slp

## OPTIONS FOR MANAGING WEEDS IN HIGHBUSH BLUEBERRY

By William J. Sciarappa\*1 and Gary C. Pavlis2  
IAgriculture and Resource Management Agents,  
Rutgers University, Rutgers Cooperative Extension,  
20 Court Street, Freehold, NJ 07728, Agriculture and  
Resource Management Agents, Rutgers University,  
Rutgers Cooperative Extension, 6260 Old Harding  
Highway, Mays Landing, NJ 08330

Weeds are especially problematic in highbush blueberry which has a long establishment period, shallow-fibrous roots, and poor competitive ability in obtaining water, nutrients and sunlight. Commercial approaches in certified organic blueberry fields compared horticultural management methods in two NJ sites. The trials utilized both new and established blueberry blocks having trickle or overhead irrigation. Some common weed species in these trials include annual grasses like hairy crabgrass (*Digitaria sanguinalis*) and foxtail species (*Setaria spp.*). Perennial weeds include quackgrass (*Agropyron repens*), goldenrod (*Solidago*) and aster species.

Commercial methods investigated included rotary cultivation, mowing, propane flaming, cover crops, landscape fabric and various mulches. Mulch comparisons included pine bark mulch, hardwood mulch, coffee grinds, cocoa grinds, municipal leaf mulch and composted tea leaves. 3' x 12' plots were replicated 4 times in 4 adjoining rows. Applications of 3-4 inches of these mulches within the crop row to a new planting of Duke highbush blueberry have provided a combined weed control level of ca. 95% without landscape fabric and ca. 98% with landscape fabric during 2003.

In an established planting, three years of regular mowings in a mixed stand of native weeds led to a grass-dominated row middle that allowed both equipment and customer traffic in wet spring periods. In other established blueberry fields, regular cultivation with tines and discs effectively uprooted new germinating weeds and provided clean row

middles. The articulating rotary cultivator was found highly effective at navigating within the crop row of both new or established crops with overhead irrigation.

Walkway weed suppression in new plantings was achieved with the establishment of two types of fine leaved turf fescues and monthly mowings. Bare ground percentage decreased from 80% to <2% within one year's time as these fine fescues gradually out-competed annual weeds for space. These fescue cover crops increased ground coverage from 8% to >95% over the seven month growing season. These new varieties were selected because they have good germination, require little water, use limited nitrogen and can squeeze out weeds through allelopathy. These varieties were very low growing and slow growing and needed only a few mowings throughout this entire season compared to standard turfgrass species.

These applied research studies indicate that several suitable methods can be utilized for effective weed management in such organic production system.

### Insects:

*Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University*  
*Mr. Dean Polk, IPM Agent – Fruit*

**Cranberry Weevil:** The first weevil adult was seen on April 2 in Burlington County. Beating tray samples for weevil averaged 30% positive for the week ending of April 5, with 5% of the samples over treatment threshold. Most weevils are being found on border rows and areas near wooded borders.

*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 on next page). 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.

**Scouting and Control:** Because weevils are abundant near the woods where they overwinter, sampling for weevils should be intensified along the edge rows near the woods. 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 on next page). 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. Adults are found on sunny days. Monitor

at least 10 bushes per sample site. Asana XL 6-8 fl oz per acre is recommended for cranberry weevil control.

**Leafrollers:** Redbanded leafroller adults have been emerging over the past week to 10 days. Trap captures should increase over the next couple of weeks, and larvae should appear just prior to bloom. This is the principal leafroller that growers may be concerned with during the bloom period.

**Atlantic County**

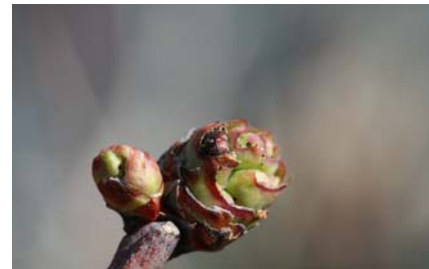
Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
4/5		30.8				

**Burlington County**

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
4/5		13.5				



Picture 1: Cranberry Weevil on a Blueberry Flower Bud



Picture 2: Cranberry Weevil Feeding Injury to Buds

(Continued on next page)

**Diseases:**

*Peter V. Oudemans, Ph. D.*

*Associate Professor and Extension Specialist*

*Plant Pathology*

Blueberry leaf buds are breaking and plants are susceptible to primary infections. Remember scouting for mummy berry should precede any decision to spray. For mummy berry control, two phases must be considered. The primary phase occurs when spores produced from the cups infect developing shoots. Blueberry cultivars are susceptible from leaf budbreak until shoots are ON AVERAGE two inches in length. Infections occur approximately two weeks before the blight symptoms appear.



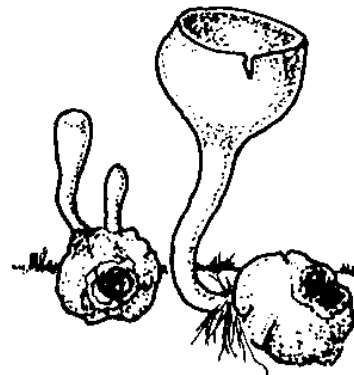
**Developing leaf tissues in blueberry. The two center branches represent the most susceptible**

The production of spores from blighted leaves must correspond with the flowering period for the disease to complete its lifecycle.

Control of the primary (leaf blighting) stage is the most critical and should be made to prevent infection. Thus, fungicide applications should begin as the leaf buds break and leaf

tissues begin to emerge. Two fungicide applications are generally sufficient to control this stage since the recommended materials (Indar or Orbit) are systemic. Cup development can be monitored in the field by scouting in the wet areas or sprays can be timed with plant development.

When scouting for cups remember that spore production occurs when stipe (stalk) form deep indentation at the tip and the tip begins to expand to form the cup. Fungicides with systemic activity have longer residual activity whereas contact fungicides such as Bravo must be reapplied to compensate for dilution by growth. Since mummy berry tends to be localized in distribution controlling the primary phase should target fields where mummy berry is a problem.



**Mummy berry cup development. Look for developing stipes (left) and fully developed cups (right).**

## OSHA

### **President Obama and OSHA**

During his campaign for president, Barack Obama made a number of pledges to “strengthen occupational safety and health”. He also pledged to increase funding for OSHA inspections and OSHA training as well as issuing more standards.

When Obama was in the Senate he co-sponsored the *Protecting America’s Workers Act* which increased OSHA civil and criminal penalties, expanded coverage to public employees and enhanced protections for whistle blowers. He supported an amendment that would make safety and health violations of OSHA standards a criminal

felony and would increase fines for wage-and-hour infractions and OSHA violations. He also is on record in favor of taking another shot at an ergonomics standard.

In general, Democratic administrations shift the emphasis from voluntary programs to more aggressive enforcement standards. In view of statements that President Obama has made in the

past, we can expect to see more OSHA activity with this administration than we saw with the last.

So what can we expect? The following is the forecast by Frank White, the former deputy at OSHA:

1. Increased scrutiny of injury and illness record keeping and worker’s compensation records.
2. Issuing new standards and/or revising old standards.
3. Active support of the *Protecting America’s Workers Act*.
4. Promote incentives for safety and health management systems.
5. Increase the OSHA budget for standard-setting, training and enforcement.
6. Re-examine OSHA’s inspection targeting system.
7. Scrutinize whether the Bush administration’s emphasis on voluntary programs was cost effective.
8. Increase the visibility and influence of the National Advisory Committee on Occupational Safety and Health.

Will these predictions come true? Only time will tell. The direction OSHA will take under the new administration is up in the air. The pendulum swings with each administration.

Source: White, Frank. Obama’s OSHA, ISHN, January 2009.

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### **BLUEBERRY FARM FOR LEASE**

10-15 ACRES IN TABERNACLE, NJ  
(PREVIOUSLY A PICK-YOUR-OWN OPERATION)

#### **FOR MORE INFORMATION CONTACT:**

FLORENCE M. THOMPSON  
74 BOZARTHTOWN RD.  
TABERNACLE, NJ 08088  
609-268-0925  
EMAIL: [floecat@aol.com](mailto:floecat@aol.com)