

# PLANT & PEST ADVISORY

CRANBERRY EDITION \$1.50

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## Insect Update

*Cesar Rodriguez-Saona, Ph.D., Specialist in Entomology*

Most cranberry growers have completed their insecticide sprays for this year. Visual inspections of fruit for caterpillars and caterpillar damage, however, should continue until harvest to determine incidence of insect pests and percent fruit loss and to prevent their occurrence next year. We have seen fruit infested by **Sparganothis fruitworm, spotted fireworm, and cranberry fruitworm**. Managing for caterpillars is difficult at this time because most of these larvae are in the older instars and may spend their time inside berries or have already completed development.

This is the last Cranberry Edition of the Plant & Pest Advisory for 2007. Here I present the highlights of this cranberry season:

- Early in the season, we observed unusually high populations of **gypsy moth**. Most growers had to spray for this pest. We recommend growers to be on the look out for this insect again next year. We are including an article on the measures the state of New Jersey is taking to prevent an outbreak next year.
- The numbers of **leafhoppers** continue to increase and growers need to be aware of this insect as a vector of **false blossom disease**.
- We observed fruit infested with cranberry fruitworm in several cranberry bogs we have been monitoring. We are conducting studies to better understand the adult moth flight and host-plant preferences of this insect.
- On the positive side, we have a new tool for controlling cranberry pests. Avaunt (indoxacarb), a Dupont product, is a newer class of carbamates now registered for use in cranberries. This is a highly effective insecticide against lepidopteran larvae. Avaunt is currently labeled for use against spanworm, blackheaded fireworm, and cranberry weevil in cranberries. Avaunt has a unique mode of action: in addition to the traditional carbamate cholinesterase inhibition it blocks the sodium channel within the insect's nervous system; if ingested, insects will stop feeding, become paralyzed, and die. It acts as a stomach and contact poison. Avaunt is activated in the gut of the insect, which reduces mammalian toxicity and effects on non-target organisms. Growers should consider using this insecticide as a pre-bloom application for **spanworm** and **blackheaded fireworm** control. I recommend growers to rotate the use of Avaunt with the insect growth regulators Intrepid or Confirm. Avaunt and Intrepid/Confirm have different modes of action and rotation of these compounds will help in resistance management. Avaunt's PHI = 30 days and REI = 12 hrs. □

# New Jersey Gears up to Slow the Spread of Gypsy Moth

(TRENTON) – A continued rise in the acreage of trees defoliated by gypsy moth caterpillars will require a renewed commitment from state and local officials to avoid a repeat next spring of the damage seen this year.

“Gypsy moth caterpillars are a major nuisance to homeowners and in formulating a treatment plan, we will keep in mind the health and safety of the general public,” said New Jersey Secretary of Agriculture Charles M. Kuperus. “We will be working with the Department of Environmental Protection to determine our treatment options for next year and will utilize every method available to us to protect the state’s trees from the destructive gypsy moth caterpillar. We also will work with federal and other lawmakers to help secure funding sources for the suppression program.”

More than 320,000 acres of trees were defoliated by gypsy moth caterpillars this past spring, the highest amount since 1990, when there were more than 431,000 acres of trees that experienced leaf loss. The number of acres defoliated more than doubled this year from last year’s total of 125,743. The increase was due to a rapid population build-up after dry spring weather kept a beneficial fungus disease dependent on moisture from naturally killing off the gypsy moth caterpillars. The fungus, *Entomophaga maimaiga*, had previously helped New Jersey officials control the gypsy moth population.

“The loss of trees from gypsy moth damage is more than the loss of our state’s beautiful landscape – it is an environmental threat for trees’ role in filtering the air and providing a habitat for many animals,” said Secretary Kuperus. “We will work closely with municipal officials over the next several months to plan how we can slow the spread of gypsy moth caterpillars to protect our forested areas.”

This fall, municipalities with heavy infestations of gypsy moths, as delineated by this summer’s aerial defoliation survey, will be contacted and asked if they wish to have a gypsy moth egg mass count. This is done to determine if the infestation will continue and what areas qualify for the spray program. If the residential or recreational forest has an average of more than 500 egg masses per acre, and is at least 50 acres in size it may qualify for participation in the cooperative gypsy moth suppression program. Municipal participation in the aerial spray program is voluntary.

This year the United States Forest Service provided \$1.5 million in 50 percent cost reimbursement funds to municipalities participating in the Department of Agriculture Gypsy Moth Aerial Suppression Program. This year, 34 municipalities and five agencies in 11 counties participated in the program. A total of 62,500 acres

were treated in those areas with the insecticide *Bacillus thuringiensis*, or Bt. Bt is a non-chemical, “minimal risk” insecticide that only kills caterpillars. It does not harm other insects, animals or humans. It lasts only five to seven days before being broken down by natural forces. A total of 124 municipalities in 19 counties experienced 320,610 acres of defoliation -- much of it severe -- from gypsy moth caterpillars this year, compared with 15 counties and 69 municipalities last year. The hardest hit counties were Sussex and Burlington. Sussex County had the most acres defoliated with 96,655 acres. However, Burlington had the largest number of acres severely defoliated at 86,855 acres. Counties that did not have gypsy moth defoliation last year, but registered damage this year were Bergen, Essex, Morris, and Passaic. Two to three consecutive years of significant defoliation (defined as 75 percent or more) can kill an otherwise healthy tree. However, any gypsy moth defoliation can make trees more susceptible to other damage that can lead to the death of the tree. Oak trees are the preferred host for gypsy moths, but the caterpillars can be found feeding on almost any tree in the vicinity.

In high populations, gypsy moths can blow 15 miles during storms, spreading into untreated areas. Each year, since 1970, gypsy moth caterpillars have caused varying degrees of defoliation -- between 1,910 and 800,000 acres of forest land. Past research has shown that repeatedly defoliated forests can expect oak tree mortality varying between 15 to 65 percent. Department of Agriculture and Environmental Protection staff are monitoring selected sites in NJ to assess current levels of tree loss.

To access the 2007 New Jersey Gypsy Moth Aerial Defoliation survey and for more information on New Jersey’s gypsy moth suppression program, visit: [www.nj.gov/agriculture/divisions/pi/prog/gypsymoth.html](http://www.nj.gov/agriculture/divisions/pi/prog/gypsymoth.html). Also, for national gypsy moth material, visit [www.na.fs.fed.us/fhp/gm/](http://www.na.fs.fed.us/fhp/gm/).

Submitted by Cesar Rodriguez-Saona, Ph.D., Specialist in Entomology. □

# Upcoming Events

**August 16, 2007** – American Cranberry Growers Association (ACGA) Summer Meeting, PE Marucci Center, Chatsworth NJ

**October 1-3, 2007** – North American Cranberry Research and Extension Workers (NACREW) Meeting, Tuscany House, Renault Winery, Egg Harbor City NJ

**Note: This is the last issue of the Plant & Pest Advisory Cranberry edition for the 2007 season.**

**Thank you for subscribing.**

## Weekly Weather Summary

*Keith Arnesen, Ph.D., Agricultural Meteorologist*

Temperatures averaged below normal, averaging 72 degrees north 72 degrees central and 75 degrees south. Extremes were 92 degrees at Downtown on the 29th, and 52 degrees at Freehold on the 24th. Weekly rainfall averaged 2.50 inches north, 2.79 inches central, and 0.29 inches south. The heaviest 24 hour total reported was 3.08 inches at Long Branch on the 24th to 25th. Estimated soil moisture, in percent of field capacity, this past week averaged 93 percent north, 86 percent central and 54 percent south. Four inch soil temperatures averaged 72 degrees north, 73 degrees central and 73 degrees south.

**Weather Summary for the Week Ending 8 am Monday 7/30/07**

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
CANOE BROOK	2.70	33.78	13.27	88	54	73.	-2	1899	377	86
CHARLOTTEBURG	2.33	24.93	4.26	86	57	72.	-1	1647	480	85
FLEMINGTON	1.85	27.09	7.22	90	54	73.	-1	1792	223	93
NEWTON	3.11	20.97	2.01	84	55	71.	-3	1618	239	92
FREEHOLD	2.38	27.52	8.26	86	52	72.	-3	1974	290	100
LONG BRANCH	4.48	27.51	8.38	83	55	71.	-4	1753	147	100
NEW BRUNSWICK	3.51	30.70	11.48	86	54	73.	-2	1900	128	100
TOMS RIVER	2.54	22.32	2.57	87	54	72.	-3	1812	200	85
TRENTON	1.04	24.25	5.84	89	55	74.	-3	1979	136	67
CAPE MAY COURT HOUSE	.59	12.34	-4.67	89	56	74.	-3	1871	153	57
DOWNTOWN	.19	17.26	-.71	92	53	74.	-3	1988	133	52
GLASSBORO	.30	20.84	1.89	91	57	76.	-1	2207	376	44
HAMMONTON	.14	16.83	-2.17	91	54	74.	-3	2048	219	44
POMONA	.43	17.38	.29	90	53	74.	-1	1988	283	56
SEABROOK	.09	17.37	-.01	91	57	76.	-1	2212	350	43
SOUTH HARRISON	.21	20.27	1.09	89	56	75	NA	2126	NA	NA
WES KLINE -- GDD BASE 40 PINEY HOLLOW										
LAST WEEK 252 (Ending 7/23/07)										
THIS WEEK 239 (Ending 7/30/07)										

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**Pesticide User Responsibility:** Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

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