RUTGERS
New Jersey Agricultural Experiment Station

The BLUEBERRY BULLETIN

A Weekly Update to Growers
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April 28, 2014 **Vol. XXX No. 3**

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 honey bee which performs this task. While bumble bees 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.

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.

Blueberries have a tremendous number of blossoms per acre. A single bush may have 2,000 to 3,000 blossoms. At a planting density of 870 bushes per acre, that's 1.75 to 2.6 million flowers! Large-block single-variety plantings make it essential that high numbers of pollinators be available at one time.

The number of colonies needed per acre is determined by weather during the bloom period, colony size, variety, and blossom density per acre.

AT A GLANCE...

BLUEBERRY GROWER TWILIGHT MEETING
THURSDAY, MAY 22, 2014 @ 5:30PM
ATLANTIC BLUEBERRY CO
7201 WEYMOUTH RD., HAMMONTON, NJ
FOR DIRECTIONS, CALL 609-561-8600

Weather during blossom time affects the honey bee's foraging efficiency. Honey bee 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. Honey bee 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 honey bees the answer? Many of you have seen your bees fly out of the hive, past your 'Duke' bushes, and over to your neighbor's 'Bluecrop' field. This preference for one variety over another is not fully understood. It may be related to the quantity of nectar, pollen, sugar concentration, or flower color.

At this time, honey bees are the best bet. For the long term, we need to learn to cultivate the wild pollinators.

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:	MODERATELY ATTRACTIVE:	POOR ATTRACTIVE:
1 Hive/2 Acres:	1 Hive/Acre:	2 Hives/Acre:
Rancocas	Weymouth	Stanley
June	Bluetta	Concord
Rubel	Blueray	Berkeley
GN-87	Pemberton	Coville
	Darrow	1316-A
	Bluecrop*	Elliott
	Duke	Jersey*
		Earliblue*

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

Sincerely,

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

Editor - Blueberry Bulletin
GP/slp

Insects

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

Cranberry Weevil: Between 24 April through 26 April, 17 sites were examined with beating tray samples. Of these, 75% were positive for cranberry weevil, and 2 samples had populations over 5 weevils per bush. One field had 5 weevils per bush on the woods edge and 6 per bush up to 8 rows in. The window for treatment is now closed, since bloom is present and bees are in the fields.

Plum Curculio (PC): No PC has been seen in blueberry fields to date, although some adults were active in Cumberland County where a high population is present in the woods by peaches.

Leps. And Other Larvae: One sample was seen with the presence of spanworm, but at very low levels and well below the 1 larva per 100 cluster threshold.

Thanks to Gene Rizio for collecting data for this week.

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April 21, 2014 Vol. XXX, No. 1

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If you have any comments about this newsletter, please make them in the space below and mail to:
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6260 Old Harding Highway, Mays Landing, NJ 08330

I would like to see an article on the following subjects:_____

I would like to comment on the following articles:_____
Title:_____ Date:_____

Comment:_____

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The Blueberry Bulletin
Weekly Newsletter
Published By
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