

# The Blueberry Bulletin

## A Weekly Update to Growers

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- ❖ Visit the Blueberry Bulletin webpage at [njaes.rutgers.edu/blueberry-bulletin](https://njaes.rutgers.edu/blueberry-bulletin)
- ❖ The 2022 Commercial Blueberry Pest Control Recommendations for New Jersey is available on [njaes.rutgers.edu](https://njaes.rutgers.edu)

## BLUEBERRY CULTURE

**Dr. Gary C. Pavlis, PhD.**  
**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.

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

Sincerely,



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

**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.