

## Native Bee Facts

Native bees are solitary nesters.

Male native bees do not have stingers.

Females do, but are reluctant to sting. The sting of larger native bees such as Carpenter and Bumble Bees can hurt. However, the smaller native bee stings would feel more like a mild pin prick if the stinger could penetrate the skin at all.

Native bees nest using leaves, soil, mud, stems, and wood holes. Females provides nectar/pollen for eggs, then the eggs hatch, feed, pupate through winter. Adults emerge in spring or summer.

The average native bee adult lives four weeks.

Some species of native bees can pollinate crops and flowers earlier and faster than honeybees.

Natural herbicides and botanical insecticides can harm bees. Pesticides should be applied in the evening when bees are in their nest.

Native plants are four times more attractive to bees than non-native plants. Native Bees are also attracted to a wide range of flower shapes and colors.

## NE SARE Native Bee Project Summary

Our 4-year Northeast Sustainable Agriculture Research and Education (NE SARE) Grant work will continue with surveys being conducted at field edges and road sides adjacent to vine crops and natural areas.

Three plastic vain traps and fifteen small cups will be set up along the edge of the field for one day.

In the future years, trap nests may be set-up in coordination with the grower to boost pollination services.

The information gathered from this research will help develop management practice recommendations to enhance native bee pollinator populations and to enhance this valuable pollination activity in vine crops.

Two additional publications will be developed through a grant from the Natural Resources Conservation Service (NRCS). The first will detail groups of native plants that provide forage and habitat for native pollinator insects. The second will provide best management practices for creating and improving habitat for pollinators in row crop systems.

## Questions or Comments?

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Bumblebee on goldenrod, with full pollen baskets.

Photo: Susan Ellis

**Delaware Department of Agriculture:**

**Serving Agriculture and**

**Protecting Consumers**

The Delaware Department of Agriculture, Plant Industries, in cooperation with the University of Delaware Cooperative Extension Service has initiated a joint research "Farming for Native Bees". This project is designed to inventory and catalog native pollinators in the vine crop (watermelon, cucumber, squash and cantaloupes, etc.) production areas of Delaware and Maryland.

During our pilot project in the summer of 2006, more than 2,500 native bees were collected. Of these bees there were 76 different species of bees. During 2006, six new Delaware State record bees were collected. These native bees were never previously recorded in Delaware. Another important finding was that the squash bee, *Peponapis pruinosa*, was found at multiple locations in Delaware. This is promising, as this native bee is a specialist and only visits flowers of vine crops.



Pumpkin blossom. Photo: Susan Ellis

## Why are Native Bees Important?

§ *Apis mellifera*, the main managed honey bee, has suffered major declines in the past 30 years due to mites, disease, habitat loss, and a decline in beekeepers.

§ Roughly 4,000 species of native bees occur in North America and over 100 varieties of crops benefit from the native bee pollinators.

§ The beneficial role of native bees to pollinated native crops such as blueberries and cranberries has long been recognized, but only recently have researchers begun to quantify and understand these native bee services.

§ When native bees interact with managed honey bees, the pollination can increase yield by five-fold.



Squash bee, *Peponapis pruinosa*  
Sussex County, DE  
July 28, 2006

## Do You Enjoy These Fruits and Vegetables?



Many fruits and vegetables are insect pollinated. Roughly one in every three bites of food we consume is insect pollinated.

The following Delaware crops are pollinated by insects:

Apple, Asparagus, Blueberry, Broccoli, Brussels Sprout, Cabbage, Cantaloupe, Cucumber, Eggplant, Honeydew Melon, Lima Bean, Nectarines, Peach, Peppers, Pumpkin, Squash, Strawberry, Tomato, Turnip, and Watermelon.