



UH Honeybee Project

The Importance of Honeybee Pollination

Honeybees are perhaps the most important insect pollinator for agriculture in the world, unfortunately, honeybee populations are in decline, possibly due to a combination of pests, diseases, poor diet, and pesticides. Bee pollination is critical to the production of many important crops in Hawaii including, macadamia nuts, pumpkin, winter melon, coffee, rambutan, lychee, and strawberries.



Honeybee pollination often results in an increase in fruit yield, weight and overall quality of bee dependent crops.

Lychee



Fruit production can be increased 2 to 3 times with the introduction of managed hives to the orchards. Many other tropical fruits including rambutan and longan, also depend heavily on honeybee pollination.

Coffee



Coffee fruit set and fruit weight can increase up to 25 % through honeybee pollination.

Macadamia Nuts



Honeybees are the most common pollinator of Macadamia nut and fruit set can increase up to 10 fold if bees are abundant in the orchard.

Watermelon



A watermelon flower must receive 1000 pollen grains to produce a marketable fruit.

Zucchini



Poor pollination results in misshapen fruits and low yields in zucchini. At least one strong honeybee hive per acre is recommended.

Pumpkins



Bees are the most important pollinators of vine crops (pumpkins, squashes, cucumbers, zucchini, etc), and fruit weight increases proportionally to the amount of pollen transferred to each flower.



In some cases honeybee pollination is not directly involved in a yield increase, but rather helps produce seeds for future use.

Asparagus



The production of seeds for asparagus involves pollination by bees. Honeybees visit the asparagus flowers to collect the bright orange pollen and inadvertently help pollinate the plant.

Carrots



Honeybees are essential for carrot seed production. The recent decline of bee populations has resulted in a high price for colony rentals for pollination services and carrot farmers now pay up to \$70 per hive to pollinate carrots.

Herbs



The flowers of basil, mint, lavender, and thyme, are extremely attractive to honeybees and the bee visitation contributes greatly to the production of seed stock for these valuable herb species.

Broccoli



Honeybees are the primary pollinator of broccoli flowers. The bees transport pollen from one plant to another ensuring cross-pollination and high seed quality.



Alfalfa



Honeybee pollination of alfalfa produces large increases in seed set and indirectly contributes to the production of hay for the \$4.6 billion per year livestock industry (beef and dairy).



Outreach, Extension, and Education

The UH Honeybee Project is committed to working with the stakeholders on the development of sustainable farming and beekeeping practices that support a diversified agriculture in Hawaii.

Our program is working to disseminate information about pesticide reduction strategies, as well as habitat modifications that promote pollinator friendly farms and gardens.

You too can contribute to the conservation of honeybees and other important pollinators by:

- Using alternative methods for pest control.
- If you use insecticides choose the least harmful pesticide formulations possible.
- Plant bee friendly plants, preferably natives or non invasive species.
- Make sure there is always something blooming in your garden that can provide food for bees.

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