PROJECT SCOPE
PURPOSE

• First in a series of electronic field trips focusing on important issues facing agriculture and food systems, and natural resource management in the State of Hawaii

• Develop local agricultural and food production workforce through education, training, and the expansion of agricultural and food production in Hawaii through more productive agribusiness

• Students will gain experiences and knowledge available on other campuses and other islands in an efficient and cost-effective manner
AGRIBUSINESS EDUCATION, TRAINING AND INCUBATION (AETI)

Consortium of University of Hawaii campuses located across four different islands.
Bee Smart:
The Buzz on Pollination and Pollinators
Pollinator Threats

Objectives
In this segment you will learn about:
- the common threats to pollinators
- the threats to honeybee and its impact

Resources:
To learn more, check out some additional resources:
- Deformed Wing Virus FAQ by The UH Honeybee Project
- Biology of the Varroa Mite by The UH Honeybee Project
- Threats to Honeybee Health by The UH Honeybee Project
Pollination is important because it leads to the production of fruits we can eat, and seeds that will create more plants. Pollination begins with flowers. Flowers have male parts that produce very small grains called pollen. Pollination is the transfer of pollen grains from one flower to another. Many insects help move pollen between flowers and act as “pollinators”. Butterflies, moths, bees, and flies are examples of insect pollinators. When a pollinator visits a flower it is looking for food but while feeding these insects accidentally transfer pollen grains between flowers and help the plants produce fruits and seeds. The images below were taken using a scanning electron microscope and show the microstructure details of insect pollinators and of the pollen they help transfer.
In 2010, another bee parasite, the small hive beetle (*Aethina tumida*), has now invaded the islands and is contributing to large colony losses among the local beekeepers. The warm, humid weather seems to favor beetle reproduction and may be contributing to the explosive beetle population levels recorded on the Hawaiian Islands. We are working directly with beekeepers and small scale farmers to promote management strategies to reduce colony collapse due to beetle infestation, and to promote pesticide free control against this new parasite.
Bee Smart: The Buzz on Pollination and Pollinators

http://cms.ctahr.hawaii.edu/beesmart/Home.aspx