

Banana virus threatens culture as well as economy

Kia'i Moku

By Joylynn Paman



Banana bread, banana lumpia, banana cream pie, banana shakes,

banana splits.

Just thinking of all the tasty uses for fresh bananas can really make your mouth water. The banana is not only a key ingredient for many scrumptious treats but it also represents the essence of Hawaiian culture and has its own agricultural market here in the islands.

When the early Polynesian settlers arrived, they brought the first crop of bananas to Hawai'i. For centuries, these master farmers tended their crops and eventually more than 50 varieties of Hawaiian bananas evolved. Banana fruits and plants were used for food, shelter, dyes, religious ceremonies, and the making of kapa and lei. Today, bananas are still used for some of these purposes and continue to be grown in the islands. They also give us the opportunity to spread some aloha by sharing the bounty of our gardens with our neighbors.

With over 190 commercial banana farms throughout the state, bananas provide many with a source of income. In 2005, over 21 million pounds of bananas were harvested in Hawai'i, producing an estimated \$9M in retail sales. Bananas have come a long way since they were first introduced to the islands, but the future of bananas in Hawai'i is threatened by a banana disease that has spread throughout the state.

The disease is called banana bunchy top virus

(BBTV). It stunts the growth of banana plants and may eventually cause them to stop producing fruit. There is no cure for the disease. Symptoms of BBTV include: yellow, narrow, bunched up leaves; a dark green dotted-dash effect along the leaf vein; J-hooks near the leaf's midrib; and small or deformed fruit if any are produced at all.

BBTV was first detected in the state on O'ahu in 1989. It then spread to Hawai'i Island and Kaua'i, devastating hundreds of acres on banana farms and causing millions of dollars in lost revenue. In December 2002, the virus was found for the first time on Maui in Pukalani. Surveys were conducted to measure the extent of the infestation and residents were urged not to move banana plants out of the infected area. Unfortunately, the disease continued to spread. Banana aphids feed upon infected plants, passing the virus onto healthier plants elsewhere and infected plant material is transported by humans to uninfected areas.

Today, the Maui Invasive Species Committee and the Hawai'i Department of Agriculture are working to combat the virus. Through recent survey efforts, it has become evident that the disease has gotten a foothold on Maui. BBTV is now present in Pukalani, Makawao, Kula, Kahului, and Lahaina, with one of the largest infestations in Kihei.

The disease threatens Maui's banana crops and precious collection of native Hawaiian banana varieties.

Here on the Valley Isle, we have more Hawaiian varieties than any other island. O'ahu and Kaua'i had collections which were destroyed in efforts to eradicate the disease, leaving Maui with the challenge of trying to preserve some of the last varieties unique to Hawai'i. Some examples of the island's 19 varieties can be seen at the Maui Nui Botanical Gardens in Kahului and Kahanu Gardens in Hāna.

If action is not taken to prevent the spread of banana bunchy top virus, the banana industry and our cultural connection with bananas will change. Now more than ever, we need all banana lovers to control banana aphids and not move banana plant material from infected areas. You can learn more about how to identify and control BBTV by visiting

www.ctahr.hawaii.edu/bana



Photo above: The stunted banana fruits are about a fourth normal size. The plant is a victim of banana bunchy top virus. Symptoms include yellow, narrow, bunched up leaves; a dark green dotted-dash effect along the leaf vein; J-hooks near the leaf's midrib; and small or deformed fruit if any are produced at all.



Photo left: Banana aphids feed on infected plants, passing the virus on to healthier plants. Infected plant material also is transported by humans to uninfected areas.



Photo at bottom: Maui Invasive Species Committee employee William Midgley treats an infected banana plant with soapy-water solution.

Banana and aphid photos by Scott Nelson// University of Hawai'i College of Tropical Agriculture and Human Resources

Midgley photo by the Maui Invasive Species Committee

na/index.asp. If you suspect that you have BBTV, report it to the Maui Invasive Species Committee at 573-MISC (6472).

• "Kia'i Moku" (or "Guarding the Island") is prepared by the Maui Invasive Species Committee to provide information on protecting the island from invasive plants and animals that can threaten the island's environment, economy and quality of life. Joylynn Paman, is public relations and education specialist with the MISC.