

Banana bunchy top disease continues to be the main pest concern for banana growers across the state. The disease is caused by the *banana bunchy top virus* (BBTV). The banana aphid, *Pentalonia nigronervosa*, is the insect vector of the banana bunchy top virus. BBTV was first discovered on O'ahu in 1989. Since then, the disease has been detected in the Kona, Hilo, and North Kohala areas of Hawai'i and on Kaua'i, Maui, and Moloka'i. Continued spread of BBTV is a significant threat to Hawai'i's banana industry.

For more information about BBTV, please contact the Hawai'i Department of Agriculture, your local Cooperative Extension office, or the Banana Bunchy Top website: [www.ctahr.hawaii.edu/banana](http://www.ctahr.hawaii.edu/banana)

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 Maui ..... 873-3558  
 Hawai'i ..... 974-4140  
 Kona ..... 323-7594  
 Kaua'i ..... 274-3069

### University of Hawai'i at Mānoa

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Agricultural Diagnostic Service  
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 Honolulu ..... 956-7138  
 Pearl City Urban Garden Center ... 453-6050  
 Wahiawa ..... 622-4185  
 Kaneohe ..... 247-0421

Maui ..... 244-3242

Moloka'i ..... 567-6929

Kaua'i ..... 274-3471

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 Kona ..... 322-4892

## Produced by the Banana Action Group

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# Banana Bunchy Top

## Symptoms and Control Methods



Clockwise from top left: adult female wingless aphid, adult winged aphid, and banana plants with severe bunchy top symptoms

### PLEASE REMEMBER!

Do not transport banana plants  
 into or between the  
 islands of Hawai'i.  
 Transporting banana fruit  
 is allowed.

# Stop the spread!

With many small-acreage farms and urban backyard gardens in close proximity, BBTV suppression efforts in one location will not have a sustainable impact on the environment without a collaborative effort from everyone who grows bananas. It is imperative that BBTV prevention occurs in both banana-producing agricultural areas and in the community at large.

## Insect Vector



Winged banana aphid    Aphid colony on banana petiole

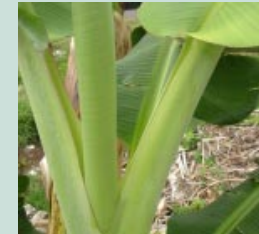
## BBTV Best Management Practices

- 1) Disease Identification:** Bunchy top disease is diagnosed by symptom identification or by a lab test for the virus. If you suspect BBTV in your banana orchards, please contact the Hawai'i Department of Agriculture or your local Cooperative Extension office for more information. For a nominal fee, the UH-CT AHR Agricultural Diagnostic Service Center can test banana leaves for the banana bunchy top virus.
- 2) Insect Control:** Controlling aphids is essential to reducing the spread of BBTV. Aphid populations may increase during the spring or during warm, dry weather, and they can often be found on suckers. Please contact the Hawai'i Department of Agriculture, your local Cooperative Extension office, or the Banana Bunchy Top website <[www.ctahr.hawaii.edu/banana](http://www.ctahr.hawaii.edu/banana)> for a list of available aphicides.
- 3) Disease Prevention:** To minimize the spread of BBTV, all infected plants and their mats must be destroyed with an approved herbicide. Destroying infected plants with Roundup Ultra Max can help reduce the spread of BBTV. Fruits must be removed before treatment. Please read and follow the label instructions. Aphids on infected plants should be killed with an approved insecticide before injecting Roundup Ultra Max into a hole made at the base of the stem. Do not immediately cut the plants—the foliage is needed to move the herbicide throughout the plant. Allow injected plants to dry completely before moving them off your property.
- 4) Routine Monitoring:** Commercial and neighborhood banana plantings should be monitored for BBTV symptoms.
- 5) Alternative Host Management:** Control banana aphids on all known alternate hosts such as ginger, heliconia, and taro.
- 6) Fresh Start:** Backyard and new growers should avoid planting bananas until they can verify that their planting material is free of BBTV. Only BBTV-free plants should be used for planting.
- 7) Prevent Contamination:** Prevent the spread of BBTV by not transporting banana plants around your island or to other islands in the state.

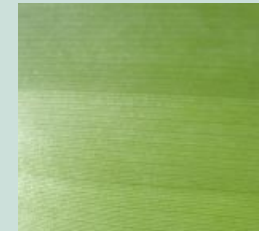
## Healthy



Leaves normal



Healthy petiole



No Mosaic code



No hooking



Healthy fruit

## Infected



Leaves bunched up



Petiole with mottling



Mosaic code



Veins form green hooks



Stunted fruit