HAWAII COOPERATIVE EXTENSION SERVICE
Hawaii Institute of Tropical Agriculture and Human Resources
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COMMODITY FACT SHEET BAN-4(A)
FRUIT

BUNCHY TOP DISEASE OF BANANAS

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CAUSAL AGENT

Bunchy Top Virus is one of the most important diseases of bananas. It is widespread in most of Southeast Asia, the Philippines, Taiwan, most of the South Pacific Islands, and parts of India and Africa.

DESCRIPTION

The first symptoms consist of darker green streaks on the lower portion of the midrib, and later on the secondary veins of the leaf. Removing the "white fuzz" or wax covering the midrib makes it easier to see the streaking clearly. Streaks consist of a series of "dots" and short lines often referred to as "morse code" streaking (Figure 1). As infection progresses, streak symptoms become evident on the leaf blade (Figure 2). When fruit is produced, some of the hands may have distorted and twisted fruit.

Figure 1. Initial symptoms: dark green interrupted (or "Morse code") streaks on midribs of infected banana plants.

Figure 2. Closeup of an infected banana leaf showing streaks, characteristic of bunchy top virus.

Keikis or suckers that develop after infection are usually severely stunted, resulting in leaves "bunched" at the top of the stem. Leaves are usually short, stiff, erect, and more narrow than normal. Leaves display marginal yellowing or chlorosis and necrosis or burning (Figure 3). These plants will not produce any fruit.

Figure 3. Advanced symptoms: stunted plants displaying narrow, erect, stiff leaves with marginal chlorosis and burning. Notice, also, the rosetting or bunching of leaves at shoot apex of diseased plants.

DISEASE SPREAD AND DEVELOPMENT

The virus is spread by the banana aphid, which can acquire the virus after about an 18-hour feeding period and can retain the virus for about two weeks. During this time, an aphid can transmit the disease after feeding for about two hours on a healthy plant. Disease symptoms appear approximately one month after infection.

Since heliconia and flowering ginger are known hosts of the banana aphid, it is possible for virus "infected" aphids to move from infected banana plants to heliconia or flowering ginger (or both). Therefore, when shipping these plants between islands, precautions should be taken to make sure that they are free of the banana aphid.

CONTROL

Complete control of the aphid vector and proper removal of diseased mats are the most important factors for disease control.

The first step in disease management is effective aphid control. The use of a contact, systemic insecticide is suggested so that there is residual anti-aphid activity and aphids are not stimulated to move from treated, infected plants to healthy ones. Clearance has been obtained for the temporary use of diazinon.

Only after spraying to control aphids can diseased plants be rogued. Chemical roguing with Roundup or Tordon is suggested. Even if only a single sucker is is infected, the entire mat must be destroyed. If regrowth occurs, both aphid control and roguing *must be repeated* until the mat is completely killed.

It is necessary to obtain the appropriate pesticide use labels from the Hawaii Department of Agriculture or Cooperative Extension Service. Instructions for use of the pesticides can be found on the special labels.

Since the disease is widely distributed on Oahu, a quarantine prohibiting movement of banana plants and plant parts (except fruit) from Oahu to all neighbor islands has been imposed. Your help in reporting this disease or plants suspected of having this disease is vital to our effort to protect the banana industry.

Home owners should not attempt to dispose of any suspect plants. For help in dealing with suspect plants or if you have any questions, please contact the Plant Disease Clinic, University of Hawaii (Oahu, 948-8053 or Hilo, 959-9155), or your local county extension agent.

Or phone the Pest Control Branch, Hawaii Department of Agriculture (Oahu, 548-7123; Hilo, 961-7447; Kona, 323-2608; Wailuku, 244-4471; or Lihue, 245-4413).

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