Introduction

Bananas are one of the most important food crops in American Samoa and most Samoans grow them on their land. Bananas do not hold the same place in traditional Samoan culture as taro but they are still a main source of carbohydrate in the diet. Bananas are not an export crop but consumed locally. They are either baked, boiled or fried when still green, or eaten ripe.

Banana Bunchy Top Virus (BBTV) is one of the most important diseases of banana. It is caused by a virus and carried over short distances by the banana aphid. Long and short distance spread is by infected pieces of the mat (rhizome), transplanted suckers, or virus-infected tissue culture plants. BBTV was first recorded in Fiji in 1889, where it caused serious damage. It arrived in Samoa in the late 1950s and in American Samoa shortly after.

Symptoms

Infected plants are dwarfed and their emerging leaves small and narrow with brittle, yellow edges. The leaves grow upright and have a stunted, bunched appearance (Fig. 1).

Mature plants infected with the disease usually do not produce fruit, or the fruit may not emerge from the stem. The virus eventually infects the whole mat and banana production is permanently lost (Fig. 2).

A campaign by the American Samoa Community College Land Grant Program (Land Grant) Extension Service from 1996 to early 1998 put the problem before the people of American Samoa. Public awareness was raised and a few farmers now control BBTV on their land. There is a Bunchy Top Law (American Samoa Government Administrative Code 24.04) that places responsibility for eradication of BBTV on occupiers of the land, but it is not usually enforced.

In March 1999, Land Grant and the American Samoa Department of Agriculture conducted a BBTV survey of the Territory. Over 30,000 banana mats were evaluated in 20 villages and 10 commercial farms on the main island of Tutuila; 10,000 mats were counted on the islands of Ofu, Olosega, Ta’u and Aunu’u. The average number of mats infected with BBTV on Tutuila was less than 5% in villages and just over 5% on the 10 commercial farms and Aunu’u; no BBTV was found on Ofu, Olosega or Ta’u. Several factors may have led to low percentages of BBTV in American Samoa. First, there is a period of up to 125 days between the time a virus-carrying aphid infects a plant and when the plant begins to show symptoms of the disease. These plants and others with early, mild symptoms were not counted in the survey. Second, in many areas dense undergrowth on unkempt farms may have hidden infected suckers from the surveyors. Also, mats recently killed by the disease were not counted. Finally, Samoans traditionally cut down plant stems with symptoms of BBTV in an effort to control the disease. This practice was probably a major reason for the low number of infected mats counted.
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For further information on recognizing or controlling Banana Bunchy Top Virus, please contact: American Samoa Community College Land Grant Extension Service; tel. 684-699-1394; fax 684-699-5011.

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