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"Adoption of Control Strategies and Rehabilitation of Areas
Affected by Banana Bunchy Top."



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BANANA BUNCHY TOP



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BANANA BUNCHY TOP

I. Introduction

Banana bunchy top is the most important virus disease affecting the Musa family. It was recognized, as a disease in Fiji in 1889. In 1890, Taiwan reported its occurrence and was in Egypt in 1901. In Australia, symptoms were seen in 1913. In the Philippines, it was reported that bunchy top first appeared in abaca. It is caused by a virus with isometric particles transmitted by a brown banana aphid, Pentalonia nigronervosa Coq. that feeds and multiplies primarily on banana, abaca, gabi-gabi and camia. They were commonly found in the funnel leaf and in between leaf sheaths of banana and abaca.

The disease is called bunchy top due to its rosette appearance with narrow, upright and progressively shorter leaves.

II. Transmission

Once P. nigronervosa Coq. acquired the virus after feeding on an infected plant, it can transmit the virus to a healthy plant throughout its life. The virus multiplies, translocated to all parts of the plant and stays there for life. The earliest symptom appears 28 days after infection.

III. Symptom

The virus can infect bananas at any stage of growth.

Early stage of infection is mostly seen along the basal region of the leaf blade as dark green broken dashes. Succeeding leaf shows whitish dashes or

vein clearing and numerous dark green streaks along the veins which may unfurl in a slightly abnormal manner.

Advanced symptoms constitute dark green streaks or dashes along the veins and dark green dots or broken lines along the midrib and petiole. The leaf maybe smaller than usual and slightly rolled upwards. Succeeding leaves appear to be more and more abnormal and become progressively smaller with slightly yellow color along the margins. These leaves are very brittle and easily snap off when bent or crushed.

Severely infected plants are typically bunched together at the apex forming rosette resulting in severe stunting.

Infected banana plants seldom bear fruit, if ever a bunch is produced hands are deformed and fingers are severely reduced in size.

IV. Cultivar Reaction

All commercially grown cultivars e.g. 'Cavendish', 'Grand Maine', 'Lakatan', 'Latundan', 'Bungulan', 'Saba', or 'Cardaba' and 'Señorita' are susceptible to this disease.

V. Control Measures

- A. Use virus-free planting materials e.g. suckers or tissue culture derived plantlets.
- B. Immediate removal of infected plants using the following strategy:

1. spray plants growing within a radius of 6 m including the soil with

suitable insecticide to kill the aphids. Twenty-four (24) hours after spraying, completely dig out the plants, chop into small pieces, allow to dry to prevent regrowth, or,

2. spray plants growing within a radius of 6 m including the soil with suitable insecticide to kill the aphids. After 24 hours, cut the pseudostem close to the ground, chop into small pieces and allow to dry. Stab the middle of the remaining pseudostem in the ground with a herbicide impregnated bamboo stick (2-4-D or Round up + urea) to prevent regrowth. If regrowth occurs, repeat application to the suckers arising from the same mat.

C. Regular spraying of insecticides e.g. diazinon, malathion, pyrethroids, etc. at manufacturer's recommendation to control aphids.

D. Enforce quarantine regulations.

V. References

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