YELLOW SIGATOKA (Leaf Spot of Banana)



Rene Rafael C. Espino Lydia V. Magnaye Rafaela T. Calendacion

DEPARTMENT OF HORTICULTURE COLLEGE OF AGRICULTURE U.P. LOS BAÑOS

1997

Published through the UPLB-PCARRD-DOST Project "Adoption of Control Strategies and Rehabilitation of Areas Affected by Banana Bunchy Top."



University of the Philippines, Los Baños (UPLB)



Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)



Department of Science and Technology (DOST)

YELLOW SIGATOKA (Leaf Spot of Banana)

I. Introduction

The causal organism of yellow sigatoka is a fungus, Mycosphaerella musicola Leach ex. Mulder. The fungus produces spores called conidia and ascospores. This is present in all banana growing areas of the world.

II. Infection

Infection of this disease leads to early drying of the leaves, resulting in the production of small sized bunch and fingers. 'Saba' or 'Carbada' is resistant while 'Lakatan', 'Latundan', 'Bungulan' and 'Señorita' are susceptible cultivars.

When the conidia are released, they are disseminated by water while the ascospores are discharged during wet periods and dispersed by wind. The unfurling leaf and the first open leaf are initially infected.

III. Symptom

The first symptom of the disease is the appearance of yellow-green specks in the lower surface of the third and fourth youngest open leaf. The specks elongate and expand into clearly visible brown streaks. As the streaks further increase in size, they become elliptical brown spots surrounded by a yellow halo that separate the spot from the normal green leaf tissue. When the spots become fully developed, the central areas turn gray, which eventually are surrounded by dark brown or black margin with yellow halo. The spots group together to form large areas of light brown, dried-up leaf tissue. This leads

to premature drying of the leaves. Moreover, it accelerates fruit maturation which leads to premature ripening and result in low yields.

IV. Control Measure

- A. Space bananas according to the recommended population per unit area depending on the variety to avoid overlapping of leaf canopy that would create a favorable microclimate for disease development.
- B. Remove infected leaves to prevent faster spread of the disease. Cut whole leaf when 75% of entire leaf is spotted, 50% or less infection must be trimmed to remove spotted areas. Deleafing should not be overdone.
- C. Provide drainage canals to avoid waterlogging which triggers high humidity favorable for disease development.
- D. Maintain proper plant nutrition.
- E. Institute a planned chemical control program. For small farmers, apply fungicidal spray at the rate of 100 li/ha with either Dithane M-45 at 3-5 g/li, Daconil at 2 g/li, or Benlate at 1-2 g/li water at an interval of 14-21 days. Proper and adequate shaking up of the spray solution must be maintained to avoid phytotoxicity on banana leaves and fruits.

V. References

- Espino, R.R.C. 1994. Banana production. ASAP-USAID. 8 p.
- Jones, D.R. 1994. Risk involved in the transfer of banana and plantain germplasm. In: The improvement and testing of <u>Musa</u>: A global partnership. INIBAP, France. 85-98.
- Magnaye, L.V. 1995. Major banana diseases and their control. Unpublished, Davao City. 10 p.
- PCCARD. 1992. The Philippines recommends for banana. PCARRD DOST, Los Baños, Laguna. 136 p.
- Pedrosa, A.M. 1992. Locally-grown bananas and plantains and their management. ASAP-USAID, 8 p.