

ICS 65.020
CCS B 16

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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

SN/T 1822-2006

**Identification of black leaf streak disease (*Mycosphaerella
fijiensis* Morelet) of banana**

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(English Translation)

Issued on: November 10, 2006

Implemented on: May 16, 2007

**Issued by: The General Administration of Quality Supervision, Inspection
and Quarantine**

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Foreword

Appendix A, Appendix B and Appendix C of this standard are informative annexes.

This standard is proposed and managed by the National Certification and Accreditation Administration.

This standard was drafted. Zhuhai Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China, Hebei Entry-Exit Inspection and Quarantine Bureau, South China Tropical Agriculture University.

1 Scope

This standard stipulates the quarantine and identification methods for the leaf spot pathogen of banana black spot in the phytosanitary.

This standard is applicable to the propagation materials such as sprouts and bulbs of the genus *Musa*, banana leaves, buckwheat and other packaging, filling materials, and incense.

Quarantine and identification of banana black leaf spot pathogens carried by banana fruit.

2 Principle

Disease and banana brown spot gray spot disease are similar and different in disease and pathogen, and attention should be paid to distinguish when identifying (see Appendix A). The germ can invade Dyed plants, especially bananas and plantains, mainly affecting leaves, bracts, sucking buds, bulbs and fruits, causing early leaves and lowering of leaves the quality of the fruit. The pathogen can be based on its sexual ascus, ascus, ascospores, and asexual conidiophores and conidia.

Morphological characteristics, as well as the symptomatic characteristics of infected plants.

3 Instruments, reagents

Hand-held magnifying glass, binocular dissection mirror (10x~50x), microscope (100x~1000x), slicer, blade, scalpel, anatomy Scissors, tweezers, markers, alcohol lamps, gauze, beakers, enamel cups, colonization needles, transplanting rings, petri dishes, flasks, cotton plugs, slides, covers Sheet, aluminum platinum paper, Parafilm film, ultra clean bench, lactophenol oil (mixed from phenol 20mL, glycerol 40mL, lactic acid 20mL, distilled water 20mL) Prepared), sodium hypochlorite (NaClO), alcohol, V8 vegetable juice, agar powder, calcium carbonate (CaCO₃).

4 Symptom check

At the time of on-site quarantine, it is necessary to carefully check whether the origin, packaging, marking, name and quantity of the goods to be inspected are consistent with the relevant documents. Carefully check the incense the saplings, bulbs, leaves, bracts and fruits of bananas, especially the new leaves, have symptoms of banana black leaf spot. The disease is mainly harmful to the leaves, at the beginning the disease usually produces a chlorotic spot with a diameter of 0.25 mm on the back of the 3rd or 4th new leaf, and then expands to a 3 mm x 1 mm strip.

Brownish black stripes, parallel to the veins. The mid-stripes expand to form a brown oval-shaped lesion with a clear border between the disease and the outer ring with a narrow yellow halo.

The late stage of the lesion is dark brown or black, and the central tissue gradually becomes dry and grayish white; after multiple lesions are combined with each other, the leaf tissue is necrotic in large areas.

The handle is dry, the whole leaf is drooping, and it is dead early.

For goods from infected areas, the loading vehicles and packaging materials should also be carefully checked. Then, directly take the part with suspicious symptoms Send to the laboratory for inspection.

5.1 Pathogen examination

Use a anatomical needle to pick or scrape the mold on the back of the lesion or make a small black spot under the epidermis of the diseased tissue. Check directly under the microscope.

Fruit-free fruiting bodies, recorded morphological characteristics, measuring the size of conidiophores, conidia and ascospores and ascospores.

5.2 Separation and culture

If suspicious symptoms are found, but the pathogens cannot be obtained from the diseased department according to 5.1 examination, separation and culture methods should be adopted for further identification.

Select fresh disease tissue (sucking seedlings, bulbs, leaves, bracts or epidermal tissue of the fruit), rinse off the surface soil and other debris, and get healthy in the disease Cut a small piece of about 0.5cm² from the boundary, disinfect it with 70% alcohol for 2s~3s, then disinfect it in 3% sodium hypochlorite solution for 3min~