

Title First report of *Lasiodiplodia* fruit rot of jackfruit in Taiwan
Authors H. F. Ni, R. S. Chen, S. F. Chang and H. R. Yang
Citation Plant Disease 92(7): 1137. 2008.
Keywords jackfruit; *Lasiodiplodia*

Abstract

Jackfruit (*Artocarpus heterophyllus* Lam.) is a tropical fruit that is native to India. Five diseases, including Rhizopus fruit rot and anthracnose fruit rot, have been recorded in Taiwan (2). In 2003, brown lesions were observed on mature or harvested fruits at the Chiayi Agricultural Experiment Branch. The disease caused fruits to collapse and was easily distinguished from anthracnose and Rhizopus fruit rot. In the field, Rhizopus fruit rot was characterized by black flocci sporangia and mycelia covering the flowers and young fruits. *Lasiodiplodia* fruit rot often occurred on mature or wounded fruit and diseased fruit were covered with gray or black flat mycelia under humid conditions. In the early stage of *Lasiodiplodia* fruit rot, tiny yellow-brown lesions appeared on the peel. The lesions could rapidly expand to 10 cm in diameter within 5 days and became dark brown with a light margin. The rot symptoms progressed quickly from the peel surface into the sarcocarps that eventually turned black and soft. A fungus was isolated from the margin of the lesions and cultured on acidified potato dextrose agar (PDA) (pH 3.8). The morphology of the fungus was similar to *Lasiodiplodia theobromae* (Pat.) Griff. & Maubl. (synonym *Botryodiplodia theobromae* Pat.), which causes the stem-end rot of mango, papaya, and banana in Taiwan. The fungus grew well and produced pycnidia and conidia on PDA. Young conidia were ovate, hyaline, and thin walled without septa. Mature conidia (20 to 28 × 12 to 15 μm) were dark brown and thick walled with one median septum and longitudinal striations. The internal transcribed spacer (ITS) sequence of ribosomal DNA of this fungus was submitted to GenBank (Accession No. EU 407235) and showed 100% sequence identity with that of *Botryosphaeria rhodina* (anamorph *Lasiodiplodia theobromae*; GenBank Accession No. DQ458890). On the basis of morphological and molecular criteria, the fungus was identified as *L. theobromae* (1). Three healthy jackfruit fruits were wounded and inoculated with 2 × 2 mm mycelial agar plugs of the fungus from a monoconidial culture. A sterile agar plug was placed on the wounded site as a control. The fruits were kept in a box to maintain high humidity for 2 days at room temperature. Brown lesions were observed on all inoculated sites 6 days post infection. The pathogen was reisolated from the lesions of inoculated fruits, fulfilling Koch's

postulate. The experiment was repeated twice. To our knowledge, this is the first report of *L. theobromae* causing fruit rot of jackfruit in Taiwan.