Title First report of *Fusarium solani* fruit rot of pumpkin (*Cucurbita pepo*) in Trinidad

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Abstract

Trinidad is a major exporter of pumpkins (*Cucurbita pepo* L.) to other Caribbean countries, Canada, and the United States. Producers and exporters have reported 50 to 80% yield losses because of soft rot and overnight collapse of fruit at the pre- and postharvest stages. Severe fruit rot occurred in fields in Victoria County in South Trinidad between April and May 2006 (mid-to-late dry season) with an increase in the severity and number of affected fruit in the rainy season (July to December). Symptoms began as water-soaked lesions on the fruit of any age at the point of contact with the soil. The disease progressed to a soft rot with leakage and whole fruit collapse. A dark brown, soft decay also developed at the base of the main vines. *Fusarium solani* was isolated on selective fusarium agar and potato dextrose agar (PDA) (1) after 7 to 10 days of incubation at 25°C. The pathogen was identified by morphological characteristics and pathogenicity tests. Colonies were fast growing with white aerial mycelia and a cream color on the reverse side; hyphae were septate and hyaline, conidiophores were unbranched, and microconidia were abundant, thin walled, hyaline, fusiform to ovoid, generally one to two celled, and 8 to 10 × 2 to 4 μm. Macroconidia were hyaline, two to three celled, moderately curved, thick walled, and 25 to 30 × 4 to 6 μm. Pathogenicity tests for 10 isolates were conducted on 2-week-old pumpkin seedlings (cv. Jamaican squash; seven plants per isolate) and mature pumpkin fruit (2). Briefly, seedlings were inoculated by dipping their roots in a spore suspension (1×10^4 spores per ml) for 20 min. The plants were repotted in sterile potting soil. For negative controls, plant roots were dipped in sterile water. After the rind of fruit was swabbed with 70% ethanol followed by three rinses with sterile distilled water, 0.4-cm-diameter agar plugs of the isolates were inserted into wounds made with a sterile 1-cm-diameter borer. Sterile PDA plugs served as negative controls. Fruit were placed in sealed, clear, plastic bags. Inoculated plants and fruit were placed on greenhouse benches (30 to 32°C day and 25 to 27°C night temperatures) and monitored over a 30-day period. Tests were repeated once. Inoculated fruit developed a brown, spongy lesion that expanded from the initial wound site over a period of approximately 17 days after inoculation. White mycelia grew diffusely over the lesion. Inoculated plants developed yellow and finally

necrotic leaves and lesions developed on stems at the soil line approximately 21 days after inoculation. No symptoms developed on the control plants. The fungus was reisolated from symptomatic tissue, fulfilling Koch's postulates. To my knowledge, this is the first report of Fusarium fruit rot of pumpkin in Trinidad.