

Title Fuzzy pedicel: a new postharvest disease of banana
Authors Tara L. Tarnowski, José M. Pérez-Martínez and Randy C. Ploetz
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Abstract

Banana fruit of the Cavendish subgroup, *Musa acuminata*, are significant international commodities. Recently, a transnational company attempted to develop single fruit (fingers) as a product in the United States. In the summer of 2007, an unknown problem developed (hereafter, “fuzzy pedicel”), wherein mats of fluffy gray to white mycelial mats covered large portions of the pedicel surface of fruit when they were packed in gas-permeable containers. Fungi from two genera sporulated on examined pedicels: *Sporothrix*, which occurred on 72% of the affected pedicels, and *Fusarium* (6%); other fungi were sterile. From pedicel tissue, four genera of fungi were isolated on potato dextrose agar: *Sporothrix* and *Fusarium* and, less frequently, *Pestalotiopsis* and *Nigrospora*. Based on alignment with internal transcribed spacer and β -tubulin sequence data, the *Sporothrix* isolates were closely related to those in an environmental *Ophiostoma/Sporothrix* clade that contains *Sporothrix stylites*, *S. humicola*, and *S. pallida* but not the human pathogen *S. schenkii*. Based on EF1 α gene sequences, four species in the *Gibberella fujikuroi* species complex (*Fusarium proliferatum*, *F. pseudocircinatum*, *F. sacchari*, and *F. verticillioides*) and two unnamed taxa in the *F. incarnatum-equiseti* species complex were identified. After artificial inoculation, representative *Sporothrix* and *Fusarium* isolates caused fuzzy pedicel symptoms on fruit of ‘Grand Nain,’ a commercial Cavendish cultivar. Fuzzy pedicel development was inhibited at 14°C (temperature at which fruit are shipped) but developed at 25°C (temperature at which fruit are marketed). *Sporothrix* isolates were insensitive to thiophanate-methyl fungicide in vitro and when used to treat pedicel surfaces prior to inoculation. Thus, it appears that benzimidazole fungicides would be ineffective as postharvest treatments for this problem. In summary, a new postharvest disease of banana, fuzzy pedicel, affects single fingers. It is caused by *Sporothrix* sp. and several species of *Fusarium*. *Sporothrix* spp. and *F. pseudocircinatum* have not been reported previously on banana.