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# plant disease

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## Disease Notes

## First Report of a Fruit Rot Disease of Avocado Caused by *Neofusicoccum mangiferae*

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e-Xtra

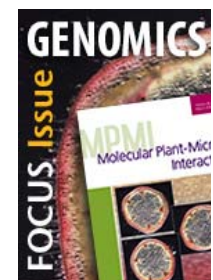
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Production of avocado (*Persea americana*) has increased significantly during the last 10 years in Taiwan and the area of cultivation is approximately 500 ha. The most important postharvest disease of avocado is anthracnose caused by *Colletotrichum gloeosporioides* (Penz.) in Taiwan (1). In 2008, a new disease was found to be infecting avocado fruit at some orchards in Tainan County of southern Taiwan. Infected avocados developed smooth, brown, circular spots first on the surface of harvested fruits. A fungus was always isolated from the margin of lesions and could also be found from symptomless fruit pedicles and stems. Fungal colonies cultured on acidified potato dextrose agar (PDA with lactic acid; pH 3.8) were initially colorless, turned dark gradually, and ultimately became gray to dark gray. After 4 days under fluorescent light at 25°C, pycnidia formed on PDA. Conidia obtained from fruiting bodies were ovate, one celled, and hyaline, with an average length and width of 12.9 (9.9 to 15.6) × 6.4 (5.2 to 7.2) μm. The internal transcribed spacer (ITS) sequence of ribosomal DNA of this fungus was analyzed and submitted to GenBank (No. EU847427). It showed a sequence identity of 99% with *Neofusicoccum mangiferae* ((Syd. & P. Syd.) Crous, Slippers & A.J.L. Phillips) (GenBank No. AY615185). Thus, both morphological and molecular results confirmed the isolated fungus as *N. mangiferae*. Five avocado fruits were used to test the pathogenicity with three different treatment inoculation sites on each fruit. Wounded and unwounded sites on fruit were inoculated with mycelia agar plugs (0.5 mm in diameter) excised from a monoconidial culture and the fruit was kept in a plastic box with high humidity for 2 days at room temperature. Brown lesions appeared on all wounded sites 2 days postinoculation (dpi) and on unwounded sites at 4 dpi. The pathogen was reisolated from the lesions of inoculated fruits and found to be *N.*

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*mangiferae*, thus fulfilling Koch's postulates. In control experiments, sterile agar plugs were placed on the wounded avocado fruits. These fruits remained completely free from symptoms throughout the experiment. Several species of *Botryosphaeria* have been reported on avocado, including *N. parvum* (anamorph of *B. parva*), *Fusicoccum aesculi* (anamorph of *B. dothidea*), and *Dothiorella aromatica* (= *F. luteum*). To our knowledge, this is the first report of *N. mangiferae* causing fruit rot of avocado in Taiwan. Previously, *N. mangiferae* has been reported on mango trees worldwide, especially in Australia and Thailand (2). The presence of *N. mangiferae* in the subtropical area presents a serious disease problem not only to avocado but also to mango.

*References:* (1) Y. P. Tsai, ed. List of Plant Diseases in Taiwan. 4th ed. Taiwan Phytopathological Society, 2002. (2) B. Slippers et al. *Mycologia* 97:99, 2005.