

Title Preharvest application of fungicides for postharvest disease control on early season tangerine hybrids in Florida

Author Jiuxu Zhang, and L.W. Timmer

Citation Crop Protection, Volume 26, Issue 7, July 2007, Pages 886-893

Keywords Citrus fruit; Fungicide; Anthracnose; Green mould; Stem-end rot; *Colletotrichum gloeosporioides*; *Penicillium digitatum*; *Lasiodiplodia theobromae*; Benomyl; Azoxystrobin; Fludioxonil; Thiophanate methyl; Pyraclostrobin

Abstract

Postharvest anthracnose and stem-end rot, caused by *Colletotrichum gloeosporioides* and *Lasiodiplodia theobromae*, respectively, can be severe problems to certain ethylene-degreened early season citrus cultivars in Florida. Preharvest application of fungicides can be an effective approach for control of these diseases. The potential of five fungicides, benomyl, thiophanate methyl, azoxystrobin, fludioxonil and pyraclostrobin applied 2, 14, 21, and 28 d before harvest for control of postharvest anthracnose, stem-end rot, and green mould (*Penicillium digitatum*) was evaluated on early season Florida Fallglo and Sunburst tangerine hybrids in 2003 and 2004. Most fungicides significantly reduced anthracnose incidence on Fallglo when applied 2 d before harvest in both years and at 14 and 21 d before harvest in 2003. At other application dates, none of the fungicides was effective. On Fallglo fruit in 2004, the five tested fungicides reduced postharvest anthracnose by 37.4–62.6% when sprayed 2 d before harvest. Little anthracnose was observed on Sunburst fruit in either year. On both cultivars and in both years, benomyl and thiophanate methyl consistently and significantly reduced stem-end rot incidence. Other fungicides were less effective or ineffective in controlling stem-end rot. Benomyl and thiophanate methyl also reduced green mould incidence by 58.9–100% on Sunburst tangerines in 2004, but were ineffective in 2003 due to the presence of resistant strains. Thiophanate methyl appears to be an excellent alternative to benomyl for citrus postharvest disease control since benomyl, the only registered fungicide for preharvest application for postharvest decay control, is no longer being produced in the USA.