Title Fungicidal activity of compounds extracted from the pericarp of *Areca catechu* against *Colletotrichum gloeosporioides in vitro* and in mango fruit

Author Punnawich Yenjit, Montree Issarakraisila, Warin Intana and Kan Chantrapromma

Citation Postharvest Biology and Technology, Volume 55, Issue 2, February 2010, Pages 129-132

Keywords Anthracnose; Antifungal; *Areca*; *Colletotrichum*; Mango

Abstract

Areca catechu L., a member of the Palmaceae family, is one of the most commonly used drugs in the world. Compounds obtained from the hexane, ethyl acetate and methanol extracts of the pericarp of *A. catechu* L. were assessed *in vitro* and in mango fruit for antifungal activity against *Colletotrichum gloeosporioides* Penz. *In vitro* studies also indicated that three triterpenes, namely fernenol (fern-9(11)-en-3α-ol), arundoin (fern-9(11)-en-3α-ol ME), and a mixture of stigmasterol and β-sitosterol, and one fatty acid, lauric acid, could inhibit the mycelial growth of *C. gloeosporioides* with EC_{50} values of 36.7, 47.5, 56.7 and 111.5 mg L^{-1}, respectively. Furthermore, fernenol, arundoin, and the mixture of stigmasterol and β-sitosterol highly inhibited spore germination and germtube elongation. Mango fruit studies suggested that fernenol, arundoin and the mixture of stigmasterol and β-sitosterol were significantly more effective than benomyl for controlling postharvest anthracnose disease when used at 100 and 200 mg L^{-1}.