Evaluation of GRAS compounds for the control of crown rot disease of banana 'Hom Thong'

B. Chirawut, A. Chinaphuti

Acta Horticulturae 973: 125-130: 2013.

Abstract

Crown rot disease caused by *Lasiodiplodia theobromae, Fusarium* sp., *Colletotrichum musae, Pestalotiopsis* sp., and *Phomopsis* sp. is the major problem for postharvest quality in banana. This research was conducted to study the effect of generally recognized as safe (GRAS) compounds viz. potassium sorbate, oxalic acid, and salicylic acid at concentrations of 100, 250, 500 and 1,000 mg/L on control of crown rot disease in banana 'Hom Thong'. The experimental design was a completely randomized design with 16 treatments. The results showed significant differences in mycelial inhibition. Salicylic acid at 1,000 mg/L was the most effective for inhibiting mycelial growth of *Fusarium* sp., *C. musae, Pestalotiopsis* sp., *Phomopsis* sp., and *L. theobromae* to 100.00, 100.00, 82.35, 79.45, and 45.67% respectively. The most effective treatment to control crown rot of banana was potassium sorbate at 500 mg/L, inhibiting disease incidence by 46.67% and disease severity by 81.65%. The results indicated that potassium sorbate at 500 mg/L, oxalic acid at 100 mg/L, and salicylic acid at 250 mg/L were effective GRAS compounds for the control of crown rot disease in banana.