

Efficacy of *Allium sativum* extract as post-harvest treatment of fruit rot of mango

ABSTRACT

Fruit rot caused by *Lasiodiplodia* species is among the most significant post-harvest fungal disease of mango fruit. The use of chemical synthetic fungicides to control plant diseases can contaminate the environment and affect human health. An alternative method to circumvent these problems is to use extracts from plants that can produce antifungal compounds. Aqueous extract of garlic (*Allium sativum*) was screened for its inhibitory effect against *L. theobromae* in vitro and it was shown to have antifungal activity by forming an inhibition zone. In addition, *L. theobromae* growing on garlic extract amended agar did not produce any conidia. Healthy unripe mango fruits were soaked in different concentration of garlic extract for different times. Soaking fruit for 4 hours in 100% concentration extract prevented lesion development. It is concluded that garlic extract can suppress growth of *L. theobromae* and improve the marketability of mango fruit without using chemical synthetic fungicides to control post-harvest diseases.

Keyword: Antifungal; Mango; *Lasiodiplodia theobromae*; Garlic extract; Inhibition