

# Postharvest fungicide dips to control fruit rot of ‘Monthong’ durian (*Durio zibethinus*)

Rawat Piasai, Peter Chalmers, Onuma Piasai and Netnapis Khewkhom

European Journal of Plant Pathology 160: 325–336. 2021.

---

## Abstract

Fruit rot diseases are the serious problem in durian production for domestic consumption and export. Fungicides are commonly applied to reduce postharvest loss caused by postharvest diseases. The objective of this research was to study the efficacy of fungicides for controlling durian fruit rot diseases. Diseased durian cv. ‘Monthong’ were collected from three orchards from Tha Mai district, Chanthaburi province. Fungi were then isolated by tissue transplanting method and identified based on morphological characteristics. Three fungi including *Fusarium solani*, *Lasiodiplodia theobromae*, and *Phomopsis* sp. were confirmed as causal agents of fruit rot on durian. Ten concentrations of two ready-mix fungicides, which were Bumper P® (prochloraz 40% + propiconazole 9% W/V EC) and Custodia® (azoxystrobin 12% + tebuconazole 20% W/V SC), were evaluated towards the inhibition of the fungal growths. From in vitro experiment, both treatments could inhibit the mycelial growth at different levels. The EC50 of Bumper P® and Custodia® were 9.7–49.11 and 7.93–196.73 mg L<sup>-1</sup> and respectively. In vivo experiments by dipping fruits showed that Bumper P® and/or Custodia® at the minimum rate of 1 ml L<sup>-1</sup> exhibited strong control durian fruit rot caused by *F. solani* and *Phomopsis* sp., but both fungicide mixtures could not control *L. theobromae*. The results of residue analysis illustrated that no residues were detected in the edible pulp. This is important to ensure that the treated durian is safe for consumptions and these fungicides are suitable for the postharvest application in durian.