

# EFFECTIVENESS OF STINGLESS BEE DOMESTICATION IN DURIAN ORCHARD

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## ABSTRACT

Stingless bees (Apidae: Meliponini) are common visitors to flowering plants in the tropics, but evidence for their importance and effectiveness as crop pollinators is lacking for most plant species. They are known to visit the flowers of approximately 90 crop species. A study to investigate the effectiveness of stingless bee in durian orchards in MARDI Kuala Kangsar since 2019. The objectives were to understand the foraging behavior of stingless bees in durian orchards in relation of honey production and fruit production. This included the real time temperature and humidity inside the colony and the changes of behavior related to change of temperature and humidity. The ANOVA showed that the foraging behavior in durian orchards from 8am to 5pm was significantly different for a six month period from March 2020 to August 2020 ( $F = 20.39$ ;  $df = 5, 359$ ;  $P < 0.05$ ). The durian flowers open from 1400h and the anthesis took place at 2100h. The stigma of durian lasted for 72 hours after anthesis. The honey production of stingless bees can be up to 1 kg per month during the durian flowering season. Thus, domestication of stingless bees in durian orchards will benefit farmers through better yields as a result of increased pollination and additional income through honey production.

Keywords: Stingless bees, *Heterotrigona thoracica*, foraging behavior, honey production, temperature