Postharvest durability of *Heliconia bihai* flower stem treated with essential oils for insect control

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Abstract

The *Heliconia* species are among the most cultivated tropical cut flower plants. The bracts accumulate exudates, water and floral parts favoring the insects. The main practices to control insects are the immersion in insecticides solutions and the cleaning processes, and removing the floral parts. This research aimed to identify the insect stage, order and families associated to *Heliconia bihai* inflorescences, evaluate the insecticidal potential of essential oils from *Piper marginatum, Piper aduncum* and *Eucalyptus citriodora*, and the effect of these oils in postharvest durability. The oils were used at 1% concentration and Diazinon (2 g/L), Natuneem (1%) and water as control treatments. Inflorescences were dipped individually in plastic trays with 10 L of the treatments solutions. Insect mortality from the *Hemiptera* order was 100% in bracts immersed in the *P. aducum* solution. There was no significant difference in *Diptera* larvae percentage removed comparing the oil treatments and the commercial controls. There was no effect on the inflorescences durability in all treatments tested. It is necessary to develop further experiments using higher oil concentrations to establish the most suitable concentration for the insect control in *H. bihai* inflorescences that does not reduce the postharvest durability.