

**EFFICACY OF *Tithonia diversifolia* BIOINSECTICIDE ON WHITEFLY
(*Bemisia tabaci* Genn.) MORTALITY IN SOYBEAN PLANTS**

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ABSTRACT

*One of the reasons for the decline in yields of soybean crops in Indonesia is the whitefly attack, which can cause losses of up to 80% and even crop failure. An alternative to natural pest control is to use *Tithonia diversifolia* bioinsecticide. This research aims to determine the effectiveness of *Tithonia diversifolia* as a bioinsecticide against the pest *Bemisia tabaci* Genn. This research was conducted at the Plant Protection Laboratory as well as in the Jember Regional Land. Two designs were applied in this study. The first design was a laboratory research design using the spray method. The second design used two fields. The first field was treated with *Tithonia diversifolia* bioinsecticide at a concentration of 15%. The second field was treated with a synthetic insecticide made from abamectin at a concentration of 0.5 ml/liter. The results showed that the bioinsecticide and abamectin treatments were not significantly different in the pest population observation 14–42 HST. The intensity of the whitefly (*Bemisia tabaci* Genn.) attack in the bioinsecticide treatment was significantly different from the abamectin treatment at 14–42 HST observation. The weight of dry soybean pods in the bioinsecticide treatment was significantly lighter than the abamectin treatment.*

Keyword: Soybean, *Bemisia tabaci*, Bioinsecticide, *Tithonia diversifolia*