

## ABSTRACT

*Tribolium castaneum* is a secondary pest because the imago of this pest eat grain that has been damaged due to feeding activities by the primary pest or damage due to inappropriate post-harvest handling when the insects are more severe as a result of the living activity of this pest can turn the flour gray and has a sharp aroma so it is not suitable for human consumption. In general, control of the *T. castaneum* pest is often carried out using synthetic insecticides, which are often applied by fumigation. The use of synthetic insecticides can cause many negative impacts, including environmental pollution, residue, and resistance to the pests being controlled. One alternative to control this pest is the use of basil and bay leaf powder insecticides. This botanical insecticide has insecticidal properties, which can inhibit feeding, inhibit growth and cause mortality to insect pests. This research aims to test the toxicity of basil leaf powder and bay leaves such as imago mortality. Testing of vegetable insecticides from basil and bay leaf powder against pests was carried out at the Plant Pest and Disease Laboratory, Faculty of Agriculture, Malikussaleh University. The research implementation period starts from July 2023 to September 2023. The implementation of this research consists of cultivating test insects, testing methods include toxicity tests and inhibitors of the emergence of *T. castaneum* imago. Treatment This was arranged in a completely randomized non-factory design . The treatments in this study were concentrations consisting of 2 gr, 4 gr, 8 gr, 16 gr. as well as control. The application of basil and bay leaf powder is effective against *T. castaneum* mortality. The application of basil and bay leaf powder has an LC<sub>50</sub> value of 2.528% and 2.390%. Application of basil and bay leaf powder can be used to control *T. castaneum* pests in flour or grain during storage

Keyword: Basil Leaf Powder, Bay Leaf Powder, Toxicity, And *Tribolium castaneum*,