

SUMMARY

German cockroaches (*Blattella germanica* L.) are one of the insect pests of settlements whose lives are close to humans and have caused losses in the health, economic, and aesthetic fields. To minimize the development of resistance in German cockroaches, one of the efforts is to use insecticides that are safer and environmentally friendly, one of which is by utilizing the natural enemy of insects, namely the entomopathogenic fungi *Beauveria bassiana*. To determine the susceptibility of German cockroaches to organic insecticides of the entomopathogenic fungi of *B. bassiana*.

This study used an experimental method with a randomized block design. To calculate Lethal Concentration 50 and 90, 7 treatments were used, namely positive and negative controls (with distilled water and fipronil 0.05%) and treatment in the form of secondary metabolites of *B. bassiana* B10 with concentrations of 0.1%, 0.5%, 1%, 5%, and 10% (v/w). Each experimental treatment unit used 10 (ten) male German cockroaches. Mortality data were analyzed using the ANOVA (analysis of variance) test, if significantly different, then continued with Duncan's test at the 95% confidence level and lethal concentration 50% (LC₅₀), and 90% (LC₉₀) was analyzed using Probit analysis with the SPSS application.

The results showed that the application of *B. bassiana* B10 secondary metabolite was quite effective in controlling German cockroaches (*B. germanica*), which was indicated by the fasted death of German cockroaches at a concentration of 10% with a death time 11,8 days after application and with mortality 7,19%. The result of the probit analysis test showed the LC₅₀ and LC₉₀ values were 10,053% and 15,204%. *B. germanica* is susceptible to the secondary metabolites of *B. bassiana*.

Keywords : *Beauveria bassiana*, entomopathogenic fungi, german cockroach, secondary metabolites, susceptibility