

**REPELLENCY OF LEMONGRASS EXTRACT IN SOLID AND LIQUID
FORMULATION ON VARIOUS DURATION OF APPLICATION
AGAINST THE PEST OF CITRUS PLANTS *Diaphorina citri***

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ABSTRACT

Diaphorina citri is an important pest in citrus cultivation. Alternative botanical pesticides from lemongrass extract can be used to control *D. citri*. The type of formulation and the best duration of application need to be studied because of the nature of botanical pesticides which are volatile and have low usability. The aims of this study were (1) to examine the effect of lemongrass extract in solid and liquid formulations with various duration of application in suppressing the attraction of *Diaphorina citri* to the host and (2) to determine the best type of formulation and duration of application of lemongrass extract in suppressing the attraction of *Diaphorina citri* to host. The method used was a choice test method and a non-choice test in the laboratory. The data analysis technique used was an analysis of variance (ANOVA) with a significant level of 5% using a completely randomized design (CRD) with replications, if there was a significant difference between treatments, further tests were carried out with Duncan's multiple range test (DMRT). The results of the choice test showed that the mean number of *D. citri* moving towards the liquid formulation of lemongrass extract was 5.10 psyllids, the solid formulation was 4.25 psyllids, and 0.63 psyllids was not moved. In the 1st to 6th-hour of non-choice test, the results of *D. citri* were 0-4 psyllids in the odor source and 5-9 psyllids outside the odor source. The average number of *D. citri* at 24 hours inside the odor source was 8.63, 6.38, and 5.13 respectively, while the mean outside the odor source was 1.50, 3.63, and 4.88 respectively. Differences in the duration of application of lemongrass extract influenced suppressing the interest of *D. citri*. The solid formulation of lemongrass extract with a duration of application of 0 week had the best repellency in suppressing *D. citri*.

Keywords: *Diaphorina citri*, Repellency, Formulation, Duration of Application, Lemongrass Extract