

EFFECTIVENESS OF LIME AND KAFFIR LIME LEAF POWDER AS A REPELLENT FOR RICE WEEVIL (*Sitophilus oryzae* L.)

by Mohamad Hafidh Adityawan

Supervisors:

Siwi Hardiastuti EK and R.R. Rukmowati Brotodjojo

ABSTRACT

Kaffir lime (*Citrus hystrix*) and lime (*Citrus aurantiifolia*) leaves contain essential oils, alkaloids, and flavonoids that act as appetite suppressants and have potential as botanical pesticides. The study aimed to determine the effectiveness of kaffir lime and lime leaf powder in controlling the rice weevil *Sitophilus oryzae* during rice storage. The research was conducted at Caturtunggal, Depok Subdistrict, Sleman Regency, Yogyakarta Special Region, from June 2025 to July 2025. The study used a completely randomized design with a single factor consisting of 7 treatments and 4 replications, namely no treatment, 10 grams of kaffir lime leaf powder, 15 grams of kaffir lime leaf powder, 20 grams of kaffir lime leaf powder, 10 grams of lime leaf powder, 15 grams of lime leaf powder and 20 grams of lime leaf powder. Data were analyzed using analysis of variance (ANOVA) at 5% level and then further tested by Duncan's Multiple Range Test (DMRT) at 5% level. The results showed that the treatment with 20 grams dose of lime and kaffir lime leaf powder had the highest repellency test value at the 2 HSA observation. At the 5 HSA observation, the treatments with 15 grams, 20 grams of kaffir lime leaf powder, and 20 grams of lime leaf powder had the highest repellency test values. A dose of 20 grams of lime leaf powder and kaffir lime leaf powder increased mortality, demonstrated high effectiveness, suppressed the population of *Sitophilus oryzae* imagoes, reduced weight loss in rice, and exhibited high repellency values.

Keywords: Leaves Powder, Lime, Kaffir lime, *Sitophilus oryzae*