

**EFFECTIVENESS OF THE APPLICATION OF BOTANICAL
INSECTICIDES FROM CLOVE FLOWER POWDER AND LIME
LEAVES POWDER IN CONTROLLING RICE WEEVIL PESTS
(*Sitophilus oryzae* L.) IN STORED RICE**

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ABSTRACT

Sitophilus oryzae L. is a major postharvest pest of rice that is commonly controlled using synthetic insecticides, which can leave residues. This study aimed to evaluate the effectiveness of botanical insecticides, specifically clove flower powder and lime leaves powder, in controlling rice weevils in stored rice. The research was conducted at the Plant Protection Laboratory, Faculty of Agriculture, UPN “Veteran” Yogyakarta. The experiment used a Completely Randomized Design with one factor consisting of 7 treatments: without botanical insecticide (P0), clove flower powder at 15 g (P1) and 30 g (P2), lime leaves powder at 15 g (P3) and 30 g (P4), and combinations of clove flower and lime leaves powders at 7.5 + 7.5 g (P5) and 15 + 15 g (P6). Data were analyzed using ANOVA at a 5% significance level, followed by the Least Significant Difference (LSD) test if significant differences were found. The results showed that clove flower powder at 30 g (P2) significantly reduced rice weight loss and broken rice damage after 2 months of storage, achieving a 100% repellent effect. In contrast, lime leaves powder at 15 g (P3) provided the best organoleptic quality.

Keywords: *Sitophilus oryzae* L., clove flowers, lime leaves, botanical insecticide

**EFEKTIVITAS APLIKASI INSEKTISIDA NABATI SERBUK BUNGA
CENGKEH DAN SERBUK DAUN JERUK NIPIS DALAM
MENGENDALIKAN HAMA KUMBANG BERAS (*Sitophilus oryzae* L.)
PADA BERAS SIMPANAN**

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ABSTRAK

Sitophilus oryzae L. adalah hama utama pada beras pascapanen yang sering dikendalikan dengan insektisida sintetik yang menyebabkan residu. Penelitian ini bertujuan mengetahui efektivitas insektisida nabati serbuk bunga cengkeh dan serbuk daun jeruk nipis dalam mengendalikan kumbang beras pada beras simpanan. Penelitian dilakukan di Laboratorium Proteksi Tanaman Fakultas Pertanian, UPN “Veteran” Yogyakarta. Penelitian menggunakan Rancangan Acak Lengkap dengan satu faktor yang terdiri atas 7 perlakuan, yaitu tanpa insektisida nabati (P0), serbuk bunga cengkeh 15 g (P1) dan 30 g (P2), serbuk daun jeruk nipis 15 g (P3) dan 30 g (P4), serta kombinasi serbuk bunga cengkeh dan daun jeruk nipis 7,5 + 7,5 g (P5) dan 15 + 15 g (P6). Data dianalisis menggunakan ANOVA (*Analysis of Variance*) dengan taraf signifikan 5% dan uji lanjut Beda Nyata Terkecil (BNT) jika ada perbedaan signifikan. Hasil menunjukkan bahwa serbuk bunga cengkeh 30 g (P2) secara signifikan mengurangi bobot beras dan butir beras patah pada penyimpanan 2 bulan serta memiliki daya repellent 100%, sedangkan serbuk daun jeruk nipis dosis 15 g (P3) memberikan kualitas organoleptik terbaik.

Kata kunci : *Sitophilus oryzae* L., bunga cengkeh, daun jeruk nipis, insektisida nabati