

UJI EFEKTIVITAS EKSTRAK SEREH WANGI TERHADAP PENGENDALIAN *SITOPHILUS ZEAMAI*S PADA BENIH JAGUNG

Endang Mariyani

17012089

INTISARI

Hama gudang dapat dikategorikan ke dalam hama utama (*primary pest*) yaitu hama yang mampu memakan keseluruhan biji yang sehat dan menyebabkan kerusakan. Kumbang bubuk *Sitophilus zeamais* termasuk ke dalam kategori ini. Salah satu bahan organik yang dapat dimanfaatkan sebagai biopestisida terhadap hama tersebut adalah serih wangi (*Cymbopogon nardus*). Penelitian ini bertujuan untuk mengetahui toksisitas, konsentrasi terbaik dan pengaruh dari ekstrak serih wangi terhadap *S.zeamais* dan mutu benih jagung selama 4 bulan penyimpanan. Penelitian ini dilaksanakan di Laboratorium Agronomi, Program Studi Agroteknologi, Fakultas Agroindustri, Universitas Mercu Buana Yogyakarta. Penelitian ini dilaksanakan pada bulan Agustus sampai dengan Desember 2019. Penelitian ini merupakan percobaan faktor tunggal yang disusun dalam Rancangan Acak Lengkap (RAL) yang terdiri dari 1 faktor perlakuan dengan 4 taraf konsentrasi larutan ekstrak serih wangi dan setiap perlakuan diulang 4 kali sehingga diperoleh 20 unit percobaan. Perlakuan terdiri dari konsentrasi ekstrak serih wangi 0%, 20%, 30%, 40% dan tanpa ekstrak serih wangi sebagai kontrol. Hasil penelitian menunjukkan bahwa ekstrak serih wangi memiliki daya repelensi, meningkatkan mortalitas imago, dapat menekan populasi telur dan imago, dan mempunyai toksisitas kontak dan pakan terhadap imago *S.zeamais*, dengan nilai LC₅₀ masing-masing sebesar 18.0409% dan 24.9644%. Ekstrak serih wangi pada konsentrasi 40% paling efektif menurunkan populasi *S.zeamais*, dan menekan penyusutan bobot bubuk karena serangan *S. zeamais*, tetapi tidak mempengaruhi mutu benih jagung sampai 4 bulan penyimpanan.

Kata Kunci: benih jagung, *Sitophilus zeamais*, serih wangi.

EFFECTIVENESS TEST OF CITRONELLA GRASS EXTRACT IN CONTROLLING *SITOPHILUS ZEAMAI*S ON CORN SEED

Endang Mariyani

17012089

ABSTRACT

Post-harvest pests can be categorized into primary pest, which pest is able to eat overall healthy seed and cause damage. Maize weevil is included in this category. One of organic ingredients that can be utilized as biopesticide is citronella grass (*Cymbopogon nardus*). The study was aimed to find out the toxicity, determine its best concentration and influence of citronella grass extract against *Sitophilus zeamais* and quality of corn seed during 4 months in storage. This research was conducted in Agronomy Laboratory, Agrotechnology Study Program, Faculty of Agroindustry, Yogyakarta Mercu Buana University. The study had been done from August to December 2019. The method used in this research was a single-factor experiment which was compiled in Completely Randomized Design (CRD) and consisted of 4 concentrations of citronella grass extract and replicated 4 times, thus there were 20 experiment units obtained. The treatments of the research were 0%, 20%, 30%, 40% concentrations of citronella grass extract and without extract as a control. The results of the research indicated that the citronella grass extract had insect repellent, could increase adult mortality, decrease the population of eggs and adults, had contact and feed toxicity to *S. zeamais*, with LC_{50} value 18.0409% and 24.9644% respectively. Citronella grass extract at concentrations of 40% was the most effective to decrease the eggs and adults population of *S. zeamais*, suppress the weight decrease of seed powder which was caused by *S. zeamais* attacks, but did not affect the quality of corn seeds, until 4 months in storage.

Keywords: corn seed, *Sitophilus zeamais*, citronella grass