

**PENGARUH CASHEW NUT SHELL LIQUID (CNSL) BERBAGAI
KONSENTRASI TERHADAP MORTALITAS DAN PERKEMBANGAN *Sitophilus
zeamais* L. PADA BENIH JAGUNG DALAM SIMPANAN**

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ABSTRAK

Cashew Nut Shell Liquid (CNSL) adalah cairan kental berwarna coklat tua yang diekstrak dari kulit kacang mete yang memiliki komponen utama yang terdiri dari senyawa asam anakardat, kardanol dan kardol. CNSL memiliki kemampuan untuk mengendalikan hama kutu beras (*S. oryzae*), namun ekstrak tersebut belum diketahui potensi toksisitasnya terhadap hama kutu jagung (*S. zeamais*). Penelitian ini dilakukan untuk menguji pengaruh CNSL terhadap mortalitas pada hama *S. zeamais*. Toksisitas ekstrak diuji dengan metode perendaman benih pada ekstrak CNSL kemudian dikeringkan. Percobaan disusun dalam rancangan acak lengkap (RAL), yang terdiri dari 5 perlakuan dan 4 kali ulangan. Perlakuan konsentrasi ekstrak yang diuji adalah 3%, 4%, 5%, dan 6% serta tanpa perlakuan atau kontrol dengan masa simpan benih 30 hari dan 60 hari. Parameter yang diamati adalah mortalitas hama, populasi hama, susut benih, kadar air benih, daya kecambah, indeks vigor, bobot kering kecambah dan daya hantar listrik. Data dianalisis menggunakan uji analisis varians dan dilanjutkan dengan uji kluster DMRT pada taraf uji 5%. Pemberian perlakuan dengan berbagai konsentrasi mampu mempertahankan mutu benih jagung dibandingkan tanpa pemberian CNSL. Konsentrasi CNSL 6% yang paling baik dalam meningkatkan mortalitas *S. zeamais*, menekan perkembangan populasi *S. zeamais* dan dapat mempertahankan mutu benih jagung dibandingkan perlakuan CNSL 5%, 4%, 3%, dan kontrol.

Kata Kunci: Benih jagung, *Sitophilus zeamais*, dan CNSL.

**THE EFFECT OF CASHEW NUT SHELL LIQUID (CNSL) IN VARIOUS
CONCENTRATIONS ON MORTALITY AND DEVELOPMENT OF *Sitophilus
zeamais* L. IN CORN SEEDS IN STORAGE**

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ABSTRACT

Cashew Nut Shell Liquid (CNSL) is a dark brown thick liquid extracted from cashew nut shells that has main components consisting of anacardic acid, cardanol and cardol compounds. CNSL has the ability to control rice weevil pests (*S. oryzae*), but the extract's toxicity potential to corn weevil pests (*S. zeamais*) is not yet known. This study was conducted to test the effect of CNSL on mortality in *S. zeamais* pests. The toxicity of the extract was tested by soaking seeds in CNSL extract and then drying them. The experiment was arranged in a completely randomized design (CRD), consisting of 5 treatments and 4 replications. The extract concentration treatments tested were 3%, 4%, 5%, and 6% and without treatment or control with a seed storage period of 30 days and 60 days. The parameters observed were pest mortality, pest population, seed shrinkage, seed water content, germination power, vigor index, dry weight of seedlings and electrical conductivity. Data were analyzed using analysis of variance test and continued with DMRT cluster test at 5% test level. Giving treatment with various concentrations was able to maintain the quality of corn seeds compared to without giving CNSL. The best CNSL concentration of 6% was in increasing *S. zeamais* mortality, suppressing the development of *S. zeamais* population and was able to maintain the quality of corn seeds compared to CNSL treatments of 5%, 4%, 3%, and control.

Keywords: Corn seeds, *Sitophilus zeamais*, and CNSL.