

Effectivity of Various Concentrations of Cashew Nut Shell Liquid (CNSL) on Mortality and Growth of *Plutella xylostella* L. on Mustard Plants (*Brassica juncea* L.)

By : Siti Nurazizah Ihwani

Supervisor : Ir. Chimayatus Solichah, MP.

ABSTRACT

Cashew Nut Shell Liquid (CNSL) is a thick dark brown liquid extracted from cashew nut shells which has the main components consisting of anacardic acid compounds, cardanol and cardol. CNSL is reported to have the ability to control *Crocidolomia pavonana* (Lepidoptera), but the extract is not yet known for its potential toxicity to *Plutella xylostella* L. (Lepidoptera). This study was conducted to test the effect of CNSL on the mortality and growth of *P. xylostella* larvae. The toxicity of the extract was tested by the residue method on larval feeding leaves. The experiment was arranged in a Completely Randomized Design (CRD), consisting of 7 treatments and 4 replicates. The extract concentrations tested were 0.4%, 0.3%, 0.2%, 0.1%, 0.05%, as well as pesticide control and no treatment. Data were analyzed using the variance analysis test and continued with the DMRT cluster test at the 5% test level. The use of CNSL as a botanical insecticide can affect the mortality and growth of *P. xylostella* with a concentration of 0.3% was able to kill 50% of the insect population. CNSL is more effective in handling *P. xylostella* on mustard plants that have developed resistance than deltamethrin pesticide.

Keywords : CNSL, *Plutella xylostella*, mortality, toxicity