

***EFFECTS OF COCONUT SHELL LIQUID SMOKE
CONCENTRATION ON GRAYAK WORM PESTS
(Spodoptera litura F.) ON TOBACCO PLANTS***

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ABSTRACT

Tobacco plants are plantation commodities used as raw materials for the cigarette and cigar industries. In recent years, cigarette production in Indonesia has decreased. One of the factors causing the decline in tobacco production and quality is OPT attacks. One of the biggest threats to tobacco plants is grayak worm attacks. In overcoming the problems that occur, so far farmers have carried out grayak worm pest control by using synthetic pesticides that can leave residual effects on plants and the environment. The use of natural ingredients by utilizing plant parts can be one solution to reduce the negative impacts arising from the use of synthetic insecticides. Coconut shells are categorized as hardwood, but have higher lignin levels and lower cellulose levels. The coconut shell that will be applied to the plant is processed using the pyrolysis method and will later produce a liquid called liquid smoke. The type of liquid smoke used is grade 3 liquid smoke which can be used as antibacterial and antioxidant. The implementation of this study aims to determine the effect of coconut shell liquid smoke on grayak worm pests (Spodoptera litura F.) on tobacco plants. This study used a Non-Factorial Complete Randomized Design (RAL) with 5 treatments and 4 repeats (P1 0%, P2 3%, P3 6%, P4 9% and P5 12%). The data was analyzed using Anova and further tested using BNJ 5%. The results of this study showed that the application of coconut shell liquid smoke had a significant effect on the mortality of grayak worms (Spodoptera litura F.), with an average mortality rate of P2 of 72.5%, P3 of 80%, P4 of 87.5%, and P5 of 100%.

Keywords: *Coconut Shell Liquid Smoke, Spodoptera litura F., Mortality*