

**LIQUID SMOKE OF COCONUT SHELL WASTE AS THE PEST
REPELLANT IN SHALLOT**

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ABSTRACT

The purpose of the study was to determine the optimum concentration of liquid smoke and application frequency in controlling *Spodoptera exigua* infesting Shallot. The study was conducted throughout April to July 2018 in Samas street, Kretek, Bantul, Yogyakarta. The research was a 3X3 factorial experiment both added with a negative control and arranged in completely-randomized design with 3 replications. The first factor was application frequency composed of three levels, of which were F1 (every-4-day application), F2 (every-7-day application), F3 (every-10-day application), and the second was liquid smoke concentration consisted of K1 (10ml/16L), K2 (16ml/16L), K3 (20ml/16L). The observed parameters were pest population, pest infestation intensity, plant height and leaves number, plant and bulb fresh and dryweight, as well as number and diameter of bulb. The data were analyzed using ANOVA followed by Duncan's Multiple Range Test ($\alpha : 5\%$). The results show that there is no any interaction between the factors. However, the pest population and infestation intensity are significantly suppressed by the concentration of smoke liquid 15ml/16L. Furthermore, it also yields better amount and weight of shallot bulb, though it is not significantly different with 10ml and 20ml/16L. In contrast, The entire parameters were not affected by the spraying frequency whether in 4, 7 or 10 days repetition. Therefore, it can be concluded that the optimum smoke liquid concentration utilized for controlling the pest is 15ml/16L sprayed each 10 days.

Keywords: shallot, smoke liquid, *Spodoptera exigua* Hub.