EFFECTS THE USE OF COCONUT SHELLS LIQUID SMOKE ON THE PEST *Spodoptera frugiperda* IN CORN PLANTS

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ABSTRACT

Spodoptera frugiperda is the most detrimental pest in maize cultivation where it attacks and damages shoots, young leaves or plant growth points which can kill plants. Coconut shell liquid smoke is a vegetable pesticide that has been proven to controlpests *S. frugiperda*. This research was carried out in two stages, namelythe first stage of research was carried out at the Jember State Polytechnic Plant Protection Laboratory and the second stage was a field test, carried out on the Jember State Polytechnic field. The purpose of the first stage was to determine the reference concentration in the field based on mortality and insecticide efficacy tests, then the second stage was to observe the intensity of the attack of *S. frugiperda* with the application of Liquid Smoke and compared it with the land where the synthetic chemical insecticide with the active ingredient Profenovos was applied and to*observe theshells.* weight of the cobs and dryper plant. Phase 1 data analysis used a completely randomized design with 6 treatments repeated 5 times. Further test using the Least Significance Different (LSD) 5%. Test data analysis in the field usingnon-parametric analysis Mann Whitney. The result of this study was that the efficacy of liquid smoke insecticides to control *3rd S. frugiperda* instarlarvae was 90ml/L and became the reference concentration in thefield. The results in the field also showed that the application of liquid smoke compared to the application of chemical insecticides was not significantly different in its effect on controlling *S.* frugiperda, which means that the use of liquid smoke could replace chemical insecticides in controlling *S. frugiperda*. Wet cobs weight on land with liquid smoke application 238.68gr and dry shelled per sample 158.3gr. The weight of wet cobs on the profenofos application area was 149.74gr and dry shelled 168.38gr.

Keywords*: Coconut Shell Liquid Smoke; Corn ; Spodoptera frugiperda*