

**UJI EFEKTIVITAS PADATAN HASIL FERMENTASI *Lantana camara*
DENGAN *Bacillus thuringiensis* UNTUK MENGENDALIKAN ULAT API
KELAPA SAWIT
(THE EFFECTIVENESS OF SOLID FERMENTATION *Lantana camara*
AND *Bacillus thuringiensis* RESULT TO CONTROL PALM OIL NETTLE
CARTERPILLAR)**

Achmad Iqbal
Agung Astuti/Dina Wahyu Trisnawati
Jurusan Agroteknologi Fakultas Pertanian UMY

ABSTRACT

*The purpose of this research was conducted to understand effectiveness and to determine formulation of solid extraction from fermented of *Lantana camara* and *Bacillus thuringiensis* for controlling the nettle carterpillar on palm oil. Experimental research compiled in Completely Randomized Design (CRD), with single factor experimental design. That are: The ratio of natural media LCPKS (Waste Liquid of Palm Oil) and Coconut Water, consisting of 5 treatments: (A) LCPKS: Coconut Water (1: 0), (B) LCPKS and Coconut Water (1: 3), (C) LCPKS and Coconut Water (1: 1), (D) LCPKS and Coconut Water (3: 1), (E) LCPKS and Coconut Water (0: 1). The researcher parameters were: physical characteristics during the fermentation such as: (temperature, pH, color, aroma, water contents and TDS), population dynamics and identification of *Bacillus thuringiensis*, and Bioassay in nettle carterpillar on palm oil. The parameters used consisted of mortality (%), death rate (day) and efficacy (%). The result showed the physical characteristic in fermentation process was change such as: decrease in temperature up to 25.66°C, pH 3.63, Dark Brown colour, Strong aroma, an increase of TDS value up to 1360 ppm and decrease water contents 69%. The result of solid extraction of fermented *Lantana camara* and *Bacillus thuringiensis* in a Wettable powder showed resulted in the comparison treatment of natural media of LCPKS and Coconut Water (1: 1) with the highest growth of *Bacillus thuringiensis*. In the bioassay test each formula is tested on the nettle (*Setora nitens*). The solid of *Lantana camara* fermented by *Bacillus thuringiensis* with LCPKS : Coconut water (0 : 1) and (3 : 1) has 70% mortality, 4.00 death rate, and 70% efficacy.*

*Keywords: *Bacillus thuringiensis*, Bioassay, *Lantana camara*, Waste Liquid of Palm Oil, Fermentation, Total Dissolved Solid, Wettable powder.*