

## ABSTRACT

Sumiswatrika, Ari. 2012 **Diversity of Insect At Tea Plantation Wonosari Lawang With And Without Pesticide Application**. Thesis, Department of Biology, Faculty of Science and Technology of the State Islamic University Maulana Malik Ibrahim Malang. Adviser. Dr. Ulfah Utami M, Si and Umaiatus Syarifah M.A.

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Tea (*Camellia sinensis*) is one of the important subsector in agriculture. Tea plantations as one commodity that can make a major contribution to the Indonesian economy. Lately the production of tea in Indonesia fluctuated and tended to decline. The low production was caused by the bright one factors the presence of pests and diseases. So, the pesticide was used by farmers to control these pests. With the application of pesticides in the field, will cause a reduction of natural enemies (predators and parasitoids) and deaths of other insects (insects neutral) so as to reduce the diversity of insects in the tea plantations.

This study aims to determine the various types of insects and diversity in the tea plantation area free of pesticides and pesticide application areas. The research was conducted at the Tea Plantation and Agro Tourism Wonosari Lawang and in Biology Laboratory of the Faculty of Science and Technology of the State Islamic University (UIN) Maulana Malik Ibrahim Malang, in June-July 2012. The research was conducted in an area of 370.3 ha of tea plantations using exploratory methods, namely by conducting surveillance on a tea plantation free of pesticides and pesticide application using the relative (with *Pitfall traps*, *Window trap* and *Light traps*).

The results obtained in the area of pesticide-free 9 orders, 23 families, and 336 individuals who act as a pollinator (2 families), parasitoids (2 families), herbivores (8 families), scavenger (3 families) and predators (8 families). In the area of application of pesticides obtained 9 orders of 16 families, and 258 individuals who act as a pollinator (1 family), parasitoids (1 family), herbivores (4 families), scavenger (2 families) and predators (6 families). Diversity Index ( $H'$ ) insects obtained cumulatively higher in pesticide-free area (ABP) (2.89) than in the area of pesticide application (AAP) (2.50). Diversity Index ( $H'$ ) by using the method of *Pitfall trap* on a tea plantation area free of pesticides was higher (2.28) than in the area of pesticide application (2.16), while the method of *Window traps* and *Light trap* Diversity Index on pesticide-free area larger than (2.13 and 2.16) area of pesticide application (1.29 & 1.51).