



# Monitoring of species and population of important insect pest of tomato plants using yellow sticky trap during conventional and integrated pest management system

Eva Lienneke Baideng<sup>1</sup>, Ventje Memah<sup>2</sup>, Trina Ekawati Tallei<sup>1\*</sup>

<sup>1</sup>Department of Biology, Faculty of Mathematics and Natural Sciences, Sam Ratulangi University

<sup>2</sup>Department of Plant Pests and Diseases, Faculty of Agriculture, Sam Ratulangi University

\*Corresponding email: [trina.tallei@unsrat.ac.id](mailto:trina.tallei@unsrat.ac.id)

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## 1 ABSTRACT

Tomato crop area expansion is an effort to keep up and anticipate market needs for tomatoes, but the pest causes the low production of tomatoes. Information on insect pest species and its population is needed as a first step to address the integrated management of pests. This study aimed at investigating species and population of important insect pest trapped using yellow sticky trap (YST). The YST was installed at integrated pest management (IPM) and conventional areas. At IPM area, black silver plastic mulch was assembled and controlled botanical pesticide was applied, while at conventional area, provision of insecticide was done on a scheduled basis according peasant habits. The botanical pesticide was prepared from the leaves of *Derris elliptica*. The YST was assembled when the tomato plants were three weeks old until harvest time. Monitoring of pest was done by letting the trap for one week and then replaced with a new trap. Important pest insects trapped were collected in a bottle containing 70% alcohol, the number of population was calculated and their types were identified. Results showed that at IPM and conventional areas, four species of important pests were found: *Liriomyza sativae*, *Nesidiocoris tenuis*, *Bactrocera* sp. and *Helicoverpa armigera*. Population of *L. sativae* was the highest at both areas, with 75.73 individuals at conventional area and 53.29 individuals at IPM area. This shows that IPM technique can suppress *L. sativae*. Population of other insect pests was not reducing significantly on tomato plants. The lowest population was *H. armigera*, either at IPM area (0.93 individual) or at conventional area (0.91 individual).

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