

## **ABSTRACT**

*Solar panel-based power supply is a solution for electricity providers for places far from PLN. The purpose of making a solar panel power supply is to provide a power source to operate controlling and monitoring tools for maggot cultivation houses. The existence of this research is due to the need for electricity in maggot cultivation houses located in areas far from PLN access. Then the solar panels used are equipped with current and voltage sensors that are used to measure the voltage that will be generated by the battery and the power needed in the operation of controlling and monitoring the Maggot house.*

*The method used in this study is a quantitative method in which the researcher takes data directly on the tools that have been made and processes data from the results obtained and analyzes them. The results obtained from this study are control and monitoring tools for maggot cultivation houses can already operate using electrical power generated from solar panels. Then the use of electricity to operate the maggot cultivation house can be met on a constant basis. Making applications for monitoring maggot cultivation houses and the use of power for maggot cultivation houses can already be done and can display information in the form of temperature and humidity conditions of maggot cultivation houses and information on voltage, current, and power for load power of maggot cultivation houses and batteries. Then the results of the data obtained in this study indicate that the battery voltage obtained is relatively stable and it can be concluded that the condition of the battery is safe for the operation of the maggot house control and monitoring device. On the data load power and battery power obtained good data where the power obtained from the battery is always higher than the load power. The results show that the electricity needs for the maggot house are met. In this study, the assumption of the use of load power for one day is 525 Wh, then in this study using a battery size of 1,200 Wh so that the load power needs can be met for 2 days if there is no battery charging by solar panels.*

**Keywords:** *internet of things, solar panels, current sensor, voltage sensor*