THE INVESTIGATION OF CHILI PEPPERS EXTRACT USED AS BIOINSECTICIDE TO CONTROL THE FRUIT FLIES, *Drosophila melanogaster*

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ABSTRACT

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The fruit flies' *Drosophila melanogaster* is a common pest to the crops. Its larvae inside the fruit cause the fruit to be rotten. The synthetic insecticides used to kill this pest can cause pollution to the soil and water. Thus, bioinsecticides which were extracted from chili peppers were used. The aims of this research were to identify the characteristics of the *D. melanogaster* in each stages of its life cycle, to investigate the effects of the chili peppers' crude extract towards the *D. melanogaster* mortality, also to compare the effectiveness of the crude extract samples with synthetic insecticide to control the *D. melanogaster*. At first, the stages in *D. melanogaster* life cycle were observed each day from the egg stage until it became adult. It takes seven days for the egg to become adult fruit flies. Then, there were four types of insecticidal solution which are the distilled water, *C. annuum* L. crude extracts, *C. frutescens* crude extract and malathion were used to be spray at the *D. melanogaster* samples. The samples were sprayed with 1 ml of each of the solutions and were left for 15 minutes. After 15 minutes, the dead and the alive samples were counted. The results show that the mortality rate of *D. melanogaster* samples with distilled water as treatment is 0%. The mortality rate for samples treated with the *C. annuum* L. crude extract is 82.75 % and *C. frutescens* crude extract is 80.75 %. The mortality rate of samples treated with malathion is 97.75%. As a conclusion, chili peppers potentially can be used as natural insecticides with advantages such as biodegradable and do not cause pollution.

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