ABSTRACT

Nabila Septiani Rizki, 2024. Testing the Effectiveness of Ocimum basillicum L. (Basil) Straw Extract as a Plant Insecticide in Fruit Flies Pest Control (Bactrocera sp.). Guided by Dr. Ida Yayu Nurul Hizqiyah, S.Pd., M.Si., and Saiman Rosamsi, M. Pd.

Fruit is an important part of the daily diet, in accordance with the principle of 4 healthy 5 perfect nutrition that encourages the consumption of fruit as the primary source of nutrients for the health of the body. However, pest attacks such as fruit flies (Bactrocera sp.) often threaten the quality and availability of fruit, which can cause significant damage to the crop. Fruit flies (Bactrocera sp.) are the main pest in horticultural crops, causing significant damage to the crop. The aim of this study was to test the effectiveness of the extract of the stems of Ocimum basilicum L. as a plant insecticide in controlling the population of fruit flies. The research method uses a complete random experimental design (RAL) with treatment variations using an extract of the stems in adult fruit flies. Its effectiveness was tested at extract concentrations of 30%, 35%, 40%, 45%, and 50%. The measured parameter is the mortality rate of fruit flies after 24 hours of exposure to the extract. The validity of the results is strengthened by using well-controlled experimental methods and adequate statistical analysis to test the significance and reliability of the effects of the extract against fruit flies. The results of the study showed that the extract of the stalk contains active compounds such as saponins, flavonoids, and eugenols that are effective in controlling fruit flies. The most effective concentration of strawberry extract is 45%, with the mortality rate of fruit flies reaching 87,50 % after 24 hours of exposure. This extract shows potential as an environmentally friendly plant insecticide alternative to pest control in agriculture. Implications of this research are the development of sustainable and natural pest control strategies to support agricultural sustainability.

Keywords: Basil Stems, Efficiency, Fruit flies, Herbal Insecticides.