ABSTRACT

Brown planthopper (*Nilaparvata lugens*) is a very dangerous pest for rice plants which has become a global pest. One of the efforts to eradicate brown planthopper pests is to use vegetable pesticides. Ciplukan leaves are thought to have an effect as a vegetable pesticide against brown planthoppers (*Nilaparvata lugens*) because they are considered to have alkaloid compounds and abatement substances where these substances are able to kill pests and insects. This study aims to determine the effect of ciplukan leaf extract (*Physalis angulata* L.) on the death of brown planthopper (*Nilaparvata lugens*) so that it can provide information to the public that ciplukan leaf can be used as a vegetable pesticide. This study is an experimental study with a completely randomized design (CRD) with 5 treatments and 5 replications. The samples used were brown planthopper (*Nilaparvata lugens*) with P_0 *Dichloro Diphenyl Trichloroethane* (DDT) (100 ml), P1 (10%), P2 (20%), P3 (30%), and P4 (40%). Observations of dead pests were carried out for 24 hours and 48 hours. The results showed that within 24 hours at a concentration of 10% the average dead pests reached 32%, a concentration of 20% reached 48%, a concentration of 30% reached 64%, a concentration of 40% reached 80%, while within 48 hours at a concentration of the average 10% of dead pests reached 48%, the concentration of 20% reached 68%, the concentration of 30% reached 88% and the concentration of 40% reached 100%. Based on analysis of variance (Ansira) showed that ciplukan leaf extract (*Physalis angulata* L.) had a very significant effect ($p > 0.01$) on the death of brown planthopper (*Nilaparvata lugens*). The effective concentration to kill the brown leafhopper (*Nilaparvata lugens*) was 30% concentration.

Key words: Ciplukan leaf extract (*Physalis angulata* L.), vegetable pesticides, brown planthopper (*Nilaparvata lugens*)

ABSTRAK

Wereng cokelat (*Nilaparvata lugens*) merupakan suatu hama yang sangat berbahaya bagi tanaman padi yang telah menjadi hama global. Salah satu upaya untuk membasmi hama wereng cokelat adalah dengan menggunakan pestisida nabati. Daun ciplukan diduga memiliki efek sebagai pestisida nabati terhadap hama wereng cokelat (*Nilaparvata lugens*) karena dianggap memiliki senyawa alkaloid dan zat abate dimana zat ini mampu membunuh hama maupun serangga. Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak daun ciplukan (*Physalis angulata* L.) terhadap kematian hama wereng cokelat (*Nilaparvata lugens*) sehingga dapat memberikan informasi kepada masyarakat bahwa daun ciplukan bisa dimanfaatkan sebagai pestisida nabati. Penelitian ini merupakan penelitian eksperimen dengan rancangan acak lengkap (RAL) dengan 5 perlakuan dan 5 kali ulangan. Sampel yang digunakan adalah wereng cokelat (*Nilaparvata lugens*) dengan perlakuan P_0 *Dichloro Diphenyl Trichloroethane* (DDT) (100 ml), P_1 (10%), P_2 (20%), P_3 (30%), dan P_4 (40%). Pengamatan hama yang mati dilakukan selama 24 jam dan 48 jam. Hasil penelitian menunjukkan bahwa dalam waktu 24 jam pada konsentrasi 10% rata-rata hama yang mati mencapai 32%, konsentrasi 20% mencapai 48%, konsentrasi 30% mencapai 64% , konsentrasi 40% mencapai 80%, sedangkan dalam waktu 48 jam pada konsentrasi 10% rata-rata hama yang mati mencapai 48%, konsentrasi 20% mencapai 68%, konsentrasi 30% mencapai 88% dan konsentrasi 40% mencapai 100%. Berdasarkan analisis sidik ragam (Ansira) menunjukkan bahwa ekstrak daun ciplukan (*Physalis angulata* L.) memberikan pengaruh yang sangat nyata ($p > 0.01$) terhadap kematian hama wereng cokelat (*Nilaparvata lugens*). Konsentrasi yang efektif untuk membunuh hama wereng cokelat (*Nilaparvata lugens*) yaitu konsentrasi 30%.

Kata kunci : Ekstrak Daun ciplukan (*Physalis angulata* L.), pestisida nabati, hama wereng cokelat (*Nilaparvata lugens*)