

ABSTRACT

EFFECT OF DIFLUBENZURON AND NEEM LEAF EXTRACT (*Azadirachta indica*) ON ARTHROPODA ABUNDANCE, GROWTH AND PRODUCTION OF CORN (*Zea mays* L.) ZIG-ZAG CROPPING SYSTEM

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Maize is the world's most important carbohydrate-producing food crop, besides wheat and rice. Corn has an important and strategic role in national and regional development, as well as in food security and economic improvement. One of the factors causing the low production of corn is due to pest attacks. This study aims to determine the abundance of arthropods treated with the chemical insecticide diflubenzuron and neem leaf extract insecticide and to determine the correlation between the abundance of arthropods and the growth and yield of maize. This research was carried out from March to July 2022 which is located at the Lampung BPTP Experimental Garden and the Plant Pest Science Laboratory, Faculty of Agriculture, University of Lampung. This study was arranged in a randomized block design (RBD) with 6 treatments and 3 replications. The treatment consisted of control or without insecticide (I0), neem leaf extract insecticide concentration of 1% (I1), neem leaf extract insecticide concentration of 2% (I2), diflubenzuron insecticide concentration of 0.05% (I3), diflubenzuron insecticide concentration of 0.1 %, and insecticide active ingredients Chlorpyrifos and Cypermethrin (I5). The results showed that the application of various types of insecticides had an effect on the abundance of arthropod populations with arthropod diversity values included in the low to moderate category. The application of diflubenzuron insecticides is superior to neem leaf extract vegetable insecticides in reducing crop loss.

Keyword: *Arthropoda, neem insecticide, IGR diflubenzuron*

ABSTRAK

PENGARUH DIFLUBENZURON DAN EKSTRAK DAUN MIMBA (*Azadirachta indica*) TERHADAP KELIMPAHAN ARTROPODA, PERTUMBUHAN DAN PRODUKSI TANAMAN JAGUNG (*Zea mays* L.) SISTEM TANAM ZIG-ZAG

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Tanaman jagung merupakan tanaman pangan penghasil karbohidrat terpenting di dunia, selain gandum dan padi. Jagung memiliki peran yang penting dan strategis dalam pembangunan nasional dan regional, serta terhadap ketahanan pangan dan perbaikan perekonomian. Salah satu faktor yang menyebabkan rendahnya produksi jagung yaitu karena serangan hama. Penelitian ini bertujuan mengetahui kelimpahan artropoda dengan perlakuan insektisida kimiawi diflubenzuron dan insektisida ekstrak daun mimba serta mengetahui korelasi antar kelimpahan artropoda dengan pertumbuhan dan hasil produksi tanaman jagung. Penelitian ini dilaksanakan pada bulan maret sampai juli 2022 yang berlokasi di Kebun Percobaan BPTP Lampung dan Laboratorium Ilmu Hama Tumbuhan, Fakultas Pertanian, Universitas Lampung. Penelitian ini disusun dalam Rancangan Acak Kelompok (RAK) dengan 6 perlakuan dan 3 ulangan. Perlakuan terdiri atas kontrol atau tanpa insektisida (I0), insektisida ekstrak daun mimba konsentrasi 1 % (I1), insektisida ekstrak daun mimba konsentrasi 2 % (I2), insektisida diflubenzuron konsentrasi 0,05 % (I3), insektisida diflubenzuron konsentrasi 0,1 %, dan insektisida bahan aktif Klorpirifos dan Sipermetrin (I5). Hasil penelitian menunjukkan bahwa aplikasi berbagai jenis insektisida memberikan pengaruh terhadap kelimpahan populasi artropoda dengan nilai keragaman artropoda termasuk dalam kategori rendah hingga sedang. Aplikasi insektisida diflubenzuron lebih unggul dibandingkan insektisida nabati ekstrak daun mimba dalam mengurangi kehilangan hasil tanaman.

Kata kunci: artropoda, insektisida ekstrak daun mimba, IGR diflubenzuron