

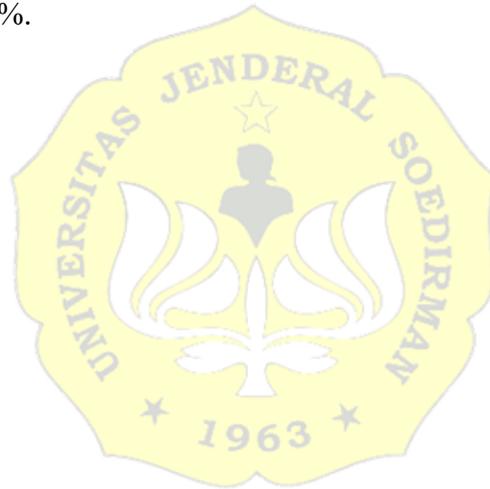
RINGKASAN

Jagung merupakan salah satu produk pertanian yang memiliki peran strategis dalam upaya pemenuhan swasembada pangan, namun dalam budidayanya terkendala adanya serangan hama. Upaya yang dapat dilakukan untuk mengendalikan hama adalah dengan memanipulasi lingkungan sekitar pertanaman jagung dan memanfaatkan musuh alami seperti predator hama. Penelitian ini bertujuan untuk mengetahui: pengaruh refugia terhadap keanekaragaman dan kelimpahan arthropoda predator pada pertanaman jagung, pengaruh jamur entomopatogen *F. oxysporum* terhadap keanekaragaman dan kelimpahan arthropoda predator pada pertanaman jagung, populasi dan jenis arthropoda predator pada pertanaman jagung yang ditanami berbagai jenis refugia dan diaplikasikan jamur entomopatogen *F. oxysporum*.

Penelitian dilakukan di Desa Pasir Kulon, Kecamatan Karanglewas, Kabupaten Banyumas dan Laboratorium Perlindungan Tanaman Fakultas Pertanian Universitas Jenderal Soedirman, pada bulan November 2023 hingga Februari 2024. Penelitian menggunakan metode rancangan petak tersarang dengan 2 faktor. Faktor pertama refugia yang terdiri atas *Turnera subulatus*, *Zinia* sp., *Helianthus annuus*, *Cosmos sulphureus* dan perlakuan tanpa refugia, faktor kedua adalah kerapatan spora jamur entomopatogen *Fusarium oxysporum* dengan kerapatan 10^6 , 10^8 dan tanpa kerapatan spora jamur. Setiap perlakuan diulang 3 kali. Pengambilan data dilakukan pengamatan secara langsung dan jaring ayun. Variabel yang diamati adalah jenis dan populasi arthropoda predator, indeks keanekaragaman arthropoda predator, kelimpahan relatif arthropoda predator, dan indeks dominansi arthropoda predator. Data yang diperoleh kemudian dianalisis dengan menghitung indeks keanekaragaman Shannon (H'), nilai dominansi (C) dan indeks kelimpahan relatif (KR). Kemudian dilakukan analisis ragam dengan Uji F pada taraf kesalahan 5%, apabila ada beda nyata antar perlakuan dilanjutkan dengan *Duncan's Multiple Range Test* (DMRT) pada taraf kesalahan 5%.

Hasil penelitian ditemukan arthropoda predator 1415 individu. Arthropoda predator yang ditemukan terdiri atas 8 spesies yaitu *Odontomantis planiceps*,

Menochilus sexmaculata, *Oxyopes javanus*, *Pardosa sp.*, *Chilocorus politus*, *Coelophora inaequalis*, *Mantis religiosa*, dan *Pantala flavscenes*. Indeks keanekaragaman jenis arthropoda predator dengan perlakuan tanpa refugia, *T. subulata*, *Zinnia sp.*, *H.annuus*, dan *C. sulphureus* tergolong rendah. Nilai keanekaragaman tertinggi berada pada petak *H. annuus*, dengan total indeks keanekaragaman sebesar 0,7034 dan kelimpahan relatif 17%. Kemudian indeks keanekaragaman arthropoda pada perlakuan kerapatan spora jamur entomopatogen *F. Oxysporum* 10^6 dan 10^8 serta tanpa aplikasi kerapatan spora jamur entomopatogen *F. Oxysporum* juga tergolong rendah. Berdasarkan total keseluruhan pengamatan, keanekaragaman tertinggi berada pada perlakuan tanpa kerapatan spora jamur entomopatogen *F.oxysporum* sebesar 0,9029 dengan kelimpahan relatif 23%.



SUMMARY

Corn is one of the agricultural products that has a strategic role in fulfilling food self-sufficiency, but its cultivation is constrained by pest attacks. Efforts can be made to control pests by manipulating the environment around corn plants and utilizing natural enemies like pest predators. This research aims to determine: the effect of refugia on the diversity and abundance of predatory arthropods in corn plants, the effect of entomopathogenic fungi *Fusarium oxysporum* on the diversity and abundance of predatory arthropods in corn plants, population and species of predatory arthropods in corn plants planted with various types of refugia and applied with entomopathogenic fungi *Fusarium oxysporum*.

The research was conducted in Pasir Kulon Village, Karanglewas District, Banyumas Regency and Plant Protection Laboratory, Faculty of Agriculture, Jenderal Soedirman University, from November 2023 to February 2024. The research used a nested plot design method with 2 factors. The first factor was refugia consisting of *Turnera subulata*, *Zinia* sp., *Helianthus annuus*, *Cosmos sulphureus*, and treatment without refugia, the second factor was the spore density of entomopathogenic fungi *Fusarium oxysporum* with a density of 10^6 , 10^8 and without fungal spore density. Each treatment was repeated 3 times. Data were collected by direct observation and swing net. Variables observed were predatory arthropod species and populations, predatory arthropod diversity index, predatory arthropod relative abundance, and predatory arthropod dominance index. The data obtained were then analyzed by calculating the Shannon diversity index (H'), dominance value (C), and relative abundance index (KR). Then the analysis of variance was carried out with the F test at the 5% error level if there were significant differences between treatments followed by Duncan's Multiple Range Test (DMRT) at the 5% error level.

The results of the research found 1415 predatory arthropods. Predatory arthropods found consisted of 8 species, namely *Odontomantis planiceps*, *Menochilus sexmaculata*, *Oxyopes javanus*, *Pardosa* sp., *Chilocorus politus*, *Coelophora*

inaequalis, *Mantis religiosa*, and *Pantala flavescens*. The diversity index of predatory arthropod species was low in the treatments without refugia, *T. subulata*, *Zinnia* sp., *H. annuus* and *C. sulphureus*. The highest diversity value was found in the *H. annuus* plot, with a total diversity index of 0.7034 and a relative abundance of 17%. Then, the arthropod diversity index in the treatment of entomopathogenic fungus *F. oxysporum* spore density 10^6 and 10^8 and without application of entomopathogenic fungus *F. oxysporum* spore density was also low. Based on the total observations, the highest diversity was in the treatment without spore density of entomopathogenic fungus *F. oxysporum* of 0.9029 with a relative abundance of 23%.

