

RINGKASAN

Jagung manis (*Zea mays saccharata* Sturt) merupakan sumber pangan kedua setelah padi, yang kebutuhannya selalu meningkat setiap tahunnya. Kendala dalam budidaya jagung salah satunya adalah hama, yang menyerang tanaman jagung selama masa pertumbuhannya dari fase bibit sampai fase generatif. Penggunaan pestisida untuk pengendalian hama dapat membahayakan kesehatan baik pada manusia maupun lingkungan. Pengendalian Hama Terpadu (HPT) dilakukan melalui penanaman refugia berbunga di sekitar pertanaman jagung serta aplikasi kerapatan konidia jamur entomopatogen *Fusarium oxysporum* sebagai alternatif dari pestisida.

Penelitian dilaksanakan pada November - Februari 2024 di Lahan Pasir Kulon, Kecamatan Karanglewas, Kabupaten Banyumas, dan Laboratorium Perlindungan Tanaman Universitas Jenderal Soedirman, Purwokerto. Penelitian dilakukan dengan Rancangan Tersarang menggunakan 2 faktor. Faktor sarang merupakan refugia berbunga yaitu B0 = kontrol; B1 = *Cosmos sulphureus*; B2 = *Turnera subulata*; B3 = *Helianthus annuus*; dan B4 = *Zinnia* sp. Faktor tersarang merupakan kerapatan konidia *Fusarium oxysporum* dengan 3 taraf yaitu F0 = kontrol; F1 = kerapatan 10^6 ; dan F2 = kerapatan 10^8 . Data dianalisis dengan uji analisis ragam apabila terdapat beda nyata, dilanjutkan dengan *Duncan's Multiple Range Test* (DMRT).

Parameter penelitian meliputi indeks keanekaragaman dan dominansi serangga hama, jenis parasitoid, intensitas serangan hama, dan hasil produksi bobot tongkol jagung. Pada penelitian ini, ditemukan 10.563 serangga hama. Hasil analisis menunjukkan bahwa perlakuan *H. annuus* memberikan rerata keanekaragaman serangga hama tertinggi dan rerata indeks dominansi terendah. Perlakuan *Zinnia* sp. mampu menekan intensitas serangan hama pada pertanaman jagung hingga 8 – 33%. Petak kontrol memberikan intensitas serangan hama tertinggi dan hasil produksi bobot tongkol per petak terendah. Jamur *F. oxysporum* dengan kerapatan 10^8 memberikan rerata hasil produksi yang lebih tinggi dibandingkan dengan kontrol dan kerapatan 10^6 .

SUMMARY

*Corn (*Zea mays saccharata* Sturt) is the second most important food source after rice, with its demand increasing every year. One of the obstacles in corn cultivation is pests, which attack corn plants during their growth period from the seedling phase to the generative phase. The use of pesticides for pest control can endanger the health of both humans and the environment. Integrated Pest Management (IPM) is carried out by planting flowering refuges around corn fields and applying the conidial density of the entomopathogenic fungus *Fusarium oxysporum* as an alternative to pesticides.*

*The research was conducted from November to February 2024 at Pasir Kulon Land, Karanglewang District, Banyumas Regency, and the Plant Protection Laboratory of Jenderal Soedirman University, Purwokerto. The research was conducted using a nested design with 2 factors. The nesting factor is refugia plants, namely B0 = control; B1 = *Cosmos sulphureus*; B2 = *Turnera subulata*; B3 = *Helianthus annuus*; and B4 = *Zinnia* sp. The nested factor is the conidia density of *Fusarium oxysporum* with 3 levels, namely F0 = control; F1 = density 10^6 ; and F2 = density 10^8 . Data were analyzed using analysis of variance (ANOVA) if there were significant differences, followed by Duncan's Multiple Range Test (DMRT).*

*The research parameters include the diversity index and dominance of pest insects, types of parasitoids, pest attack intensity, and the production yield of corn cob weight. In this study, 10,563 pest insects were found. The analysis results show that the treatment with *H. annuus* provided the highest average insect pest diversity and the lowest average dominance index. The treatment with *Zinnia* sp. was able to reduce the intensity of pest attacks on corn crops by 8 – 33%. The control plot showed the highest pest attack intensity and the lowest ear weight production per plot. The fungus *F. oxysporum* with a density of 10^8 showed a significant difference and provided a higher average production yield compared to the control and a density of 10^6 .*