INTISARI

Hama merupakan salah satu faktor utama yang harus diperhitungkan karena sangat merugikan, utamanya terhadap tanaman kedelai. Salah satu alternatif pengendalian yang ramah bagi lingkungan adalah dengan menggunakan agensia hayati sebagai biopestisida. Penelitian ini bertujuan untuk mengetahui pengaruh pengaplikasian *Bacillus velezensis* terhadap pertumbuhan tanaman dan populasi hama perusak daun serta hama penghisap polong pada tanaman kedelai hitam. Penelitian dilakukan di Desa Donokerto, Kecamatan Turi, Sleman, Daerah Istimewa Yogyakarta. Penelitian disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan 8 perlakuan yaitu (P1, P2, P3, KO, KO+P1, KO+P2, KO+P3). Parameter yang diamati diantaranya tinggi tanaman, jumlah daun, jumlah cabang, jumlah bunga, jumlah polong, bobot kering, bobot basah, panjang akar, hama dan kerusakan. Hama yang telah ditemukan pada penelitian yaitu hama perusak daun (*Oxya chinensis* dan *Atractomorpha crenulata*), serta hama penghisap polong (*Riptortus linearis* dan *Nezara viridula*). Perlakuan KO+P3 menunjukkan jumlah populasi hama penghisap polong tertinggi. Sementara itu, pada populasi hama perusak daun, perlakuan P1 mencatat jumlah populasi hama *A. crenulata* tertinggi, dan perlakuan kontrol menunjukkan jumlah populasi hama *O. chinensis* tertinggi.

Kata kunci: kedelai hitam, hama penghisap polong, hama perusak daun

ABSTRACT

Pests are a principal factor that must be considered due to their highly detrimental effects, particularly on soybean crops. One environmentally friendly alternative for pest control is the use of biological agents as biopesticides. This study aims to ascertain the impact of *Bacillus velezensis* application on plant growth and the populations of leaf-damaging pests and pod-sucking pests in black soybean plants. The research was conducted in Donokerto Village, Turi District, Sleman, Special Region of Yogyakarta. The study was designed using a Randomized Completely Block Design (RCBD) with 8 treatments, namely (P1, P2, P3, KO, KO+P1, KO+P2, KO+P3). The parameters observed included plant height, number of leaves, number of branches, number of flowers, number of pods, dry weight, wet weight, root length, pests, and damage. The pests identified in the study were leaf-damaging pests (*Oxya chinensis* and *Atractomorpha crenulata*) and pod-sucking pests (*Riptortus linearis* and *Nezara viridula*). The KO+P3 treatment exhibited the highest population of pod-sucking pests. Meanwhile, regarding leaf-damaging pests, the P1 treatment recorded the highest population of *A. crenulata*, and the control treatment exhibited the highest population of *O. chinensis.*

Keywords: black soybean, pod-sucking pests, leaf-damaging pests.