Exploration of Entomopathogenic Nematodes in Corn and Rice Agricultural Land

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ABSTRACT

Entomopathogenic nematodes are nematodes that can be used as biological agents because they are parasitic (live in the body) against insect pests. There are two genera of entomopathogenic nematodes that have potential as biological agents, namely the genera Steinernema and Heterohabditis. This study aims to determine the genus of entomopathogenic nematodes that exist in corn and rice agricultural land by carrying out assistance and characterization and followed by calculating the population. This research was carried out in September-November 2022 at the Phytopathology Laboratory, University of Jember, corn fields in Darsono Village, Arjasa District, and rice fields in Andongsari Village, Ambulu District. This research was conducted using exploratory and descriptive methods. Data collection was carried out using qualitative and quantitative. Qualitative descriptive includes visual cuticle symptom test, morphological observation, and soil texture. Quantitative descriptive includes population calculation, morphometric measurement, organic matter analysis, soil pH, temperature, and humidity. The results showed that the entomopathogenic nematodes found in corn and rice farms belonged to the genus Steinernema. The characteristics obtained were a sharp tail, and smooth head, female nematodes had a vulva that protruded in the middle of their body, and male nematodes had spicules that protruded posteriorly. Entomopathogenic nematode populations in maize and rice fields were not significantly different.

Keywords : Exploration, Entomopathogenic nematodes, *Steinernema*