PENGARUH PENERAPAN STANDAR OPERASIONAL PROSEDUR (SOP) BUDIDAYA TANAMAN CABAI RAWIT (*Capsicum frutescens* L.) TERHADAP KEANEKARAGAMAN ARTROPODA

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ABSTRAK

Cabai rawit (*Capsicum frutescens* L.) merupakan komoditas hortikultura bernilai ekonomi tinggi di Indonesia, namun produktivitasnya sering menurun akibat serangan hama. Penelitian ini bertujuan untuk mengetahui pengaruh penerapan standar operasional prosedur (SOP) budidaya tanaman cabai rawit terhadap keanekaragaman artropoda. Penelitian dilakukan di Desa Mlese, Kecamatan Ceper, Kabupaten Klaten, Jawa Tengah pada empat lahan dengan SOP berbeda, yaitu Fertigasi Edufarmers, Fertigasi BRIN, BRIN Regeneratif, dan Non-Fertigasi Pak Dayat. Waktu penelitian dilakukan pada bulan Juni 2025 hingga September 2025. Pengambilan sampel menggunakan *yellow sticky trap* dan *pitfall trap*. Hasil penelitian menunjukkan jumlah artropoda pada lahan Fertigasi Edufarmers sebanyak 3.875 individu (89 genus), Fertigasi BRIN 3.627 individu (93 genus), BRIN Regeneratif 2.960 individu (89 genus), dan Non-Fertigasi Pak Dayat 2.823 individu (87 genus). Puncak populasi terjadi pada umur tanaman 101–108 hari setelah tanam (HST). Indeks keanekaragaman Shannon-Wiener berada pada kategori sedang hingga tinggi (H’ = 2,86–3,18), kemerataan tinggi (E = 0,64–0,70), dan dominansi rendah (D = 0,09–0,16). Komposisi peran menunjukkan hama dan parasitoid dominan pada Fertigasi Edufarmers, predator dan artropoda netral lebih tinggi pada Fertigasi BRIN, sedangkan dekomposer paling melimpah pada Non-Fertigasi Pak Dayat. Lahan Fertigasi BRIN memiliki jumlah genus dan keanekaragaman tertinggi.

Kata kunci: Cabai rawit, keanekaragaman artropoda, perangkap, Standar Operasional Prosedur (SOP)

THE EFFECT OF IMPLEMENTING STANDARD OPERATING PROCEDURES (SOPs) FOR THE CULTIVATION OF CAYENNE PEPPERS (*Capsicum frutescens* L.) ON ARTHROPOD DIVERSITY

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ABSTRACT

Cayenne pepper (*Capsicum frutescens* L.) is a horticultural commodity with high economic value in Indonesia; however, its productivity is often reduced due to pest attacks. This study aimed to determine the effect of implementing standard operating procedures (SOP) in cayenne pepper cultivation on arthropod diversity. The research was conducted in Mlese Village, Ceper District, Klaten Regency, Central Java, on four fields with different SOP applications, namely Fertigation Edufarmers, Fertigation BRIN, Regenerative BRIN, and Non-Fertigation Pak Dayat, from June 2025 to September 2025. Sampling was conducted using yellow sticky traps and pitfall traps. The results showed that the number of arthropods recorded in the Fertigation Edufarmers field was 3,875 individuals (89 genera), Fertigation BRIN 3,627 individuals (93 genera), Regenerative BRIN 2,960 individuals (89 genera), and Non-Fertigation Pak Dayat 2,823 individuals (87 genera). The population peak occurred at 101–108 days after planting (DAP). The Shannon–Wiener diversity index was categorized as moderate to high (H' = 2.86–3.18), with high evenness (E = 0.64–0.70) and low dominance (D = 0.09–0.16). Functional role composition showed that pests and parasitoids were dominant in the Fertigation Edufarmers field, predators and neutral arthropods were higher in the Fertigation BRIN field, while decomposers were most abundant in the Non-Fertigation Pak Dayat field. The Fertigation BRIN field had the highest number of genera and the highest diversity.

Keywords: Cayenne pepper, Arthropod diversity, Traps, Standard Operating Procedures (SOP)