

**KEANEKARAGAMAN ARTROPODA TANAH PADA
BERBAGAI UMUR TANAMAN KELAPA SAWIT
DI PERKEBUNAN KELAPA SAWIT
PT. BINA PRATAMA SAKATO
JAYA KILIRAN JAO**

SKRIPSI

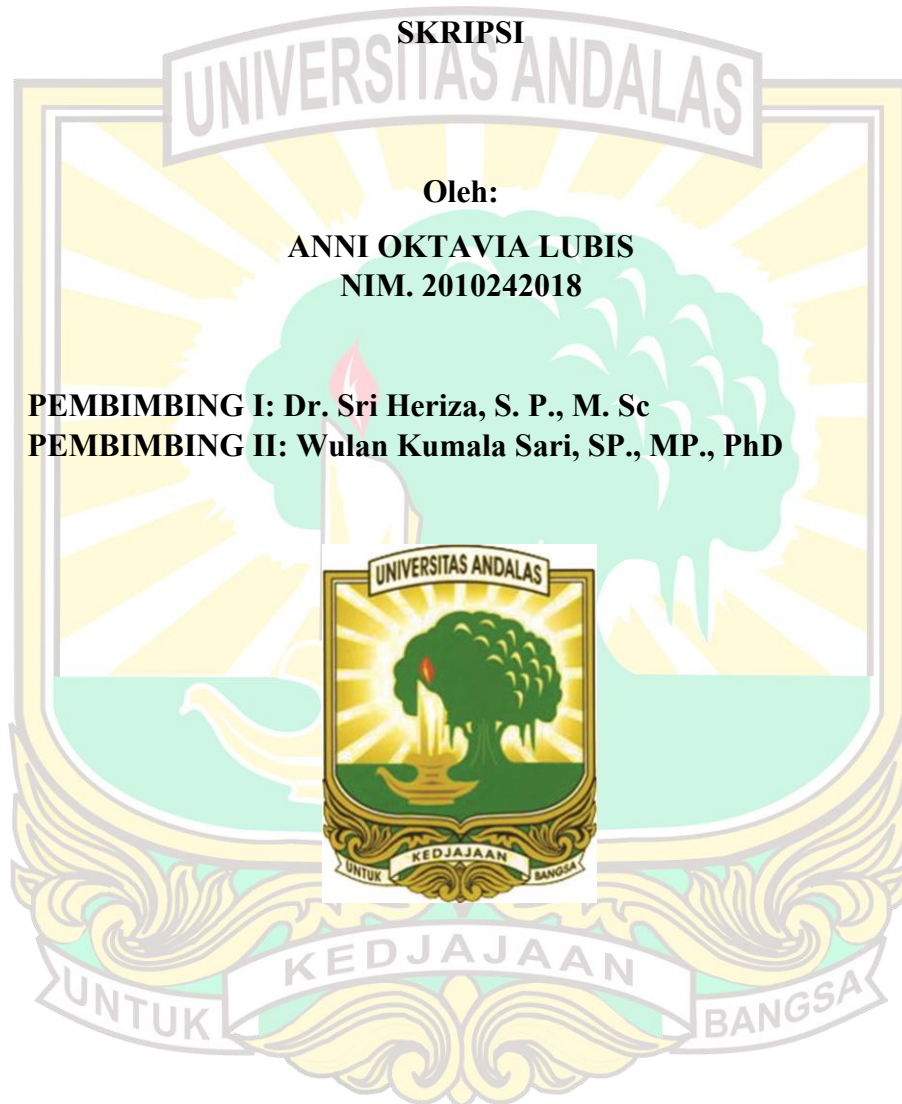
UNIVERSITAS ANDALAS

Oleh:

**ANNI OKTAVIA LUBIS
NIM. 2010242018**

PEMBIMBING I: Dr. Sri Heriza, S. P., M. Sc

PEMBIMBING II: Wulan Kumala Sari, SP., MP., PhD



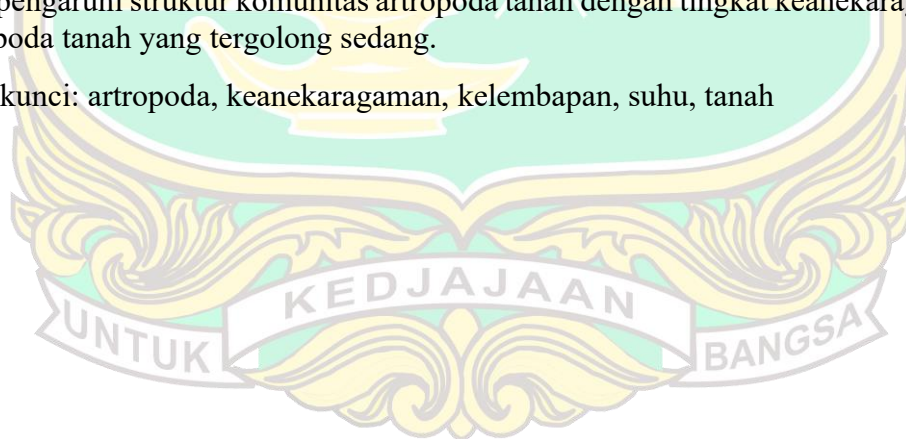
**FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
DHARMASRAYA
2025**

KEANEKARAGAMAN ARTROPODA TANAH PADA BERBAGAI UMUR TANAMAN KELAPA SAWIT DI PERKEBUNAN KELAPA SAWIT PT. BINA PRATAMA SAKATO JAYA KILIRAN JAO

Abstrak

Keanekaragaman artropoda tanah merupakan salah satu indikator penting kestabilan ekosistem dan dipengaruhi oleh perubahan lingkungan, termasuk umur tanaman. Perbedaan umur tanaman kelapa sawit dapat berdampak pada mikroklimat tanah dan ketersediaan sumber daya bagi artropoda tanah. Penelitian ini bertujuan untuk mengetahui pengaruh umur tanaman terhadap keanekaragaman artropoda tanah di perkebunan kelapa sawit di PT. Bina Pratama Sakato Jaya, Kiliran Jao. Sampel artropoda diambil dari lahan kelapa sawit pada umur <1, 4, 27, dan 31 tahun menggunakan metode *pitfall trap* dan tangkap langsung. Hasil identifikasi menunjukkan sebanyak 1.765 individu dari 15 spesies artropoda tanah yang terbagi dalam 10 ordo dan 11 famili. Indeks keanekaragaman Shannon-Wiener (H') tertinggi didapatkan pada umur tanaman kelapa sawit <1 tahun ($H'=1,86$) dan terendah pada umur tanaman kelapa sawit 4 tahun ($H'=1,50$). Spesies *Anoplolepis gracilipes*, *Leptogenys diminuta*, dan *Parafroneta marrineri* ditemukan di seluruh umur tanaman kelapa sawit, artinya menunjukkan tingkat adaptasi yang tinggi. Keanekaragaman artropoda menunjukkan hubungan negatif dengan umur tanaman dan kelembapan tanah, tetapi positif dengan intensitas cahaya. Hasil penelitian ini menunjukkan bahwa umur tanaman kelapa sawit mempengaruhi struktur komunitas artropoda tanah dengan tingkat keanekaragaman artropoda tanah yang tergolong sedang.

Kata kunci: artropoda, keanekaragaman, kelembapan, suhu, tanah



**DIVERSITY OF SOIL ARTHROPODS IN VARIOUS AGES
OF OIL PALM CROPS AT OIL PALM PLANTATIONS
PT. BINA PRATAMA SAKATO JAYA KILIRAN JAO**

Abstract

The diversity of soil arthropods is one of the important indicators of ecosystem stability and is influenced by environmental changes, including plant age. Differences in the age of oil palm crop can affect soil microclimate and resource availability for soil arthropods. The objective of this study was to determine the effect of oil palm age on the diversity of soil arthropods in oil palm plantations at PT. Bina Pratama Sakato Jaya, Kiliran Jao. Arthropod samples were taken from oil palm land at ages <1, 4, 27, and 31 years using the methods of pitfall trap and direct catch. The identification results showed that 1.765 individuals from 15 species of soil arthropods divided into 10 orders and 11 families. The highest Shannon-Wiener diversity index (H') was found in oil palm plants aged <1 year ($H'=1,86$) and the lowest in oil palm plants aged 4 years ($H'=1,50$). The species *Anoplolepis gracilipes*, *Leptogenys diminuta*, and *Parafroneta marrineri* were found on all the oil palm plant age, indicating a high level of adaptation. Arthropod diversity showed a negative relationship with plant age and soil moisture, but positive relationship with light intensity. The results of this study indicate that plant age of oil palm affects the structure of soil arthropod communities with a moderate level of soil arthropod diversity.

Keywords: arthropods, diversity, moisture, temperature, soil

