

**PERTUMBUHAN DAN PERKEMBANGAN *Pheretima* spp.  
PADA MEDIA LIMBAH JERAMI DAN ORGANIK  
DI KASONGAN BANTUL, DAERAH ISTIMEWA YOGYAKARTA**

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**INTISARI**

*Pheretima* spp. merupakan cacing tanah dengan tubuh tersusun atas segmen – segmen. *Pheretima* spp. mampu menyeimbangkan kondisi lingkungan, dan mempercepat degradasi C/N pada bahan organik. *Pheretima* spp. juga mampu hidup di lingkungan kritis bahan organik dengan kondisi pH tanah rendah, sehingga tahan terhadap cekaman. Tujuan penelitian ini adalah untuk mengetahui dan mempelajari pertumbuhan dan perkembangan cacing tanah (*Pheretima* spp.) serta mempelajari kemampuan degradasi terkait nilai C/N rasio pada media limbah Jerami dan organik Di Kasongan Bantul, Daerah Istimewa Yogyakarta. Penelitian ini dilakukan di CV Kasper Rejosari group, jalan Rembulan A6 Perumahan Kasongan Permai desa Kasongan Bantul, Yogyakarta. Pengujian C/N rasio dilakukan di Balai Pengkajian Teknologi Pertanian (BPTP) Yogyakarta. Penelitian ini dilakukan dengan rancangan acak kelompok meliputi 10 tahapan yaitu pembuatan media, penyediaan bibit, perlakuan konsentrasi media, pengukuran biomassa cacing tanah, pengamatan kemampuan produksi kokon, kualitas media, pengukuran parameter lingkungan, pengukuran berat media, berat cacing, pertambahan biomassa, dan lama dekomposisi. *Pheretima* spp. sebanyak 50 gram dipelihara selama 90 hari dalam media limbah jerami dan limbah organik dengan perlakuan konsentrasi perbandingan yaitu 5 : 0, 4 : 1, 3 : 2, 2,5 : 2,5. 4 : 1, 2 : 3, 1 : 4, 0 : 5. Hasil yang diperoleh kemudian dianalisis menggunakan analisis variansi satu langkah dilanjutkan dengan uji DMRT. Hasil penelitian menunjukkan bahwa kemampuan pertumbuhan dan perkembangan *Pheretima* spp. paling optimal terdapat pada perlakuan 4 : 1 dengan media 80 % limbah jerami dan 20 % limbah organik. *Pheretima* spp. yang mampu mendegradasi bahan organik jerami dan limbah organik tercepat adalah media 4 : 1 dan C/N rasio yang optimum untuk pertumbuhan cacing tanah *Pheretima* spp. terdapat pada perlakuan media 4:1.

Kata Kunci : *Pheretima* spp., pertumbuhan, perkembangan, rasio C/N, limbah jerami, limbah organik.

## **GROWTH AND DEVELOPMENT OF *Pheretima* spp. ON STRAW AND ORGANIC WASTE MEDIA IN KASONGAN BANTUL YOGYAKARTA**

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### **ABSTRACT**

*Pheretima* sp. is an earthworm with a body composed of segments. *Pheretima* spp. is able to balance environmental conditions, and accelerate the degradation of C/N in organic matter. *Pheretima* spp. is also able to live in critical environmental that lacks of the organic material with low pH condition in the soil, so it is resistant to stress. The purpose of this study is to investigate and study the growth and development of the earthworm (*Pheretima* spp.) as well as learn the skills associated with degradation of C/N ratio in straw waste and organic waste media in Kasongan, Bantul, Yogyakarta. This research was done in CV Kasper Rejosari group, Rembulan street A6 Kasongan Permai Residence Kasongan, Bantul, Yogyakarta. Examination of C/N ratio was performed in Balai Pengkajian Teknologi Pertanian (BPTP) Yogyakarta. This research was conducted by randomized block design includes 10 stages of media creation, seeds provision, media concentration treatment, measurements of earthworms biomass, observation of cocoon production, media quality, measurement of environmental parameters, media weight, worms weight, biomass accretion, and the length of decomposition. 50 grams of *Pheretima* spp. was maintained for 90 days in a straw waste and organic waste media using treatment of concentration with ratio of 5: 0, 4: 1, 3: 2, 2,5: 2,5, 4: 1, 2: 3, 1: 4, and 0: 5 respectively. The results were then analyzed using analysis of variance followed by DMRT test. The results shows that the most optimal growth and development capabilities of *Pheretima* spp. is contained in 4: 1 treatment with 80% straw waste and 20% organic waste. *Pheretima* spp. is capable of degrading organic material of straw and organic waste is the fastest in 4: 1 treatment. C/N ratio which is optimum for the growth of earthworms *Pheretima* spp. contained in the media treatment of 4: 1.

Keywords: *Pheretima* spp., growth, development, C/N ratio, straw waste, organic waste