

**MORPHOLOGICAL CHARACTERISTICS AND PRODUCTION OF
CHICORY (*Cichorium intybus* L. var. *chico*) PLANT BIOMASS IN
THIRD AND FOURTH REGROWTH WITH
DIFFERENT PLANT DENSITY**

Deni Wahyu Nugroho
16/399105/PT07223

ABSTRACT

The aim of this research was to obtain data on the effect of planting density on morphological characteristics and biomass production of *Cichorium intybus* in the third and fourth regrowth. The study was conducted at the Faculty of Animal Science, Gadjah Mada University. *Cichorium intybus* is planted by spreading seeds (2 g / m², 3 g / m², and 4 g / m²) in a plot measuring 1x1.5 m at each regrowth. Variables observed included plant height and length, number of leaves, leaf width, number of plants, and biomass production. Defoliation is done every 28 days at each regrowth. The data obtained were analyzed using the split plot design, followed by the Duncan Multiple Range Test when showing significant results. Based on research that has been done shows that plant density has a significant difference ($P < 0.05$) on height, length, number of leaves and number of plants, while regrowth (third and fourth) has a significant difference ($P < 0.05$) plant height, plant length, leaf width, number of plants, and dry matter production. The main factor is the level of planting density (2 g / m², 3 g / m², and 4 g / m²). Plant density of 3 g / m² has higher biomass production (0.786 tons / ha) ($P < 0.05$) compared to plant density of 2 and 4 g / m² (0.709 and 0.741 tons / ha). The third regrowth had higher biomass production ($P < 0.05$) (1.03 tons/ha) than the ourth regrowth (0.86 tons/ha). Based on the research, it can be concluded that the planting density is 4 gram / m² and the third regrowth has the highest production.

Keywords: *Cichorium intybus*, Morphological characteristics, Biomass production, Planting density, Regrowth.

**KARAKTERISTIK MORFOLOGI DAN PRODUKSI BIOMASSA
TANAMAN CHICORY (*Cichorium intybus* L. var. *chico*) PADA
REGROWTH KETIGA DAN KEEMPAT DENGAN
KERAPATAN TANAM YANG BERBEDA**

Deni Wahyu Nugroho
16/399105/PT/07223

INTISARI

Penelitian dengan tujuan untuk mendapatkan data tentang pengaruh kerapatan tanam pada karakteristik morfologi dan produksi biomassa *Cichorium intybus* pada *regrowth* ketiga dan keempat. Penelitian dilakukan di Fakultas Peternakan Universitas Gadjah Mada. *Cichorium intybus* ditanam dengan cara menyebar biji (2 g/m^2 , 3 g/m^2 , dan 4 g/m^2) dalam plot berukuran $1 \times 1,5 \text{ m}$ pada setiap *regrowth*. Variabel yang diamati meliputi tinggi dan panjang tanaman, jumlah daun, lebar daun, jumlah tanaman, dan produksi biomassa. Defoliiasi dilakukan setiap berumur 28 hari pada setiap *regrowth*. Data yang diperoleh dianalisis menggunakan rancangan *split plot design*, dilanjutkan dengan uji *Duncan Multiple Range Test* apabila menunjukkan hasil yang signifikan. Berdasarkan penelitian yang telah dilakukan menunjukkan bahwa kerapatan tanaman memiliki perbedaan yang nyata ($P < 0,05$) terhadap tinggi, panjang, jumlah daun dan jumlah tanaman, sedangkan *regrowth* (ketiga dan keempat) memiliki perbedaan yang nyata ($P < 0,05$) terhadap tinggi tanaman, panjang tanaman, lebar daun, jumlah tanaman, dan produksi bahan kering. Faktor utama yaitu tingkat kerapatan tanam (2 g/m^2 , 3 g/m^2 , dan 4 g/m^2). Kerapatan tanaman 3 g/m^2 memiliki produksi biomassa ($1,022 \text{ ton/ha}$) yang lebih tinggi ($P < 0,05$) dibanding kerapatan tanaman 2 dan 4 g/m^2 ($0,889$ dan $0,939 \text{ ton/ha}$). *Regrowth* ketiga memiliki produksi biomassa yang lebih tinggi ($P < 0,05$) ($1,03 \text{ ton/ha}$) dibanding *regrowth* keempat ($0,86 \text{ ton/ha}$). Berdasarkan penelitian dapat disimpulkan bahwa kerapatan tanam 4 gram/m^2 dan *regrowth* ketiga memiliki produksi tertinggi.

Kata kunci : *Cichorium intybus*, Karakteristik morfologi, Produksi biomassa, Kerapatan tanam, *Regrowth*.