

**PENGARUH BERBAGAI KONSENTRASI GIBERELIN (GA₃) TERHADAP
DAYA GERMINASI, PERTUMBUHAN DAN PRODUKSI BIOMASSA
TAYUMAN (*Bauhinia purpurea* L.)**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi giberelin (GA₃) dari konsentrasi terendah sampai dengan konsentrasi tertinggi terhadap daya germinasi, pertumbuhan, dan biomassa tayuman (*Bauhinia purpurea* L.). Penelitian ini menggunakan biji tayuman sebanyak 300 biji, giberelin (GA₃), alkohol 98%, humus bambu, tanah, pupuk kandang, dan *polybag*. Konsentrasi giberelin (GA₃) yang digunakan terdiri dari 6 taraf yaitu 0 ppm, 100 ppm, 200 ppm, 300 ppm, 400 ppm, dan 500 ppm. Perendaman dilakukan didalam gelas plastik selama 24 jam. Penelitian ini dilakukan pada bulan Desember 2021. Masing-masing perlakuan dilakukan pengulangan sebanyak 5 ulangan. Penanaman dilakukan di dalam *polybag* yang berisi campuran tanah, humus bambu, dan pupuk kandang dengan perbandingan 3: 1: 1 di rumah kaca Hijauan Makanan Ternak dan Pastura Universitas Gadjah Mada. Penyiraman dilakukan sehari dua kali, yaitu pagi dan sore. Pengamatan dilakukan pada tanaman umur 30 Hari Setelah Tanam (HST). Parameter yang diamati meliputi daya kecambah, tinggi tanaman, panjang tanaman, jumlah daun, warna daun, panjang daun, lebar daun, panjang akar, jumlah akar, panjang hipokotil, dan diameter hipokotil. Pada umur 135 HST diukur diameter batang, dipanen, dihitung produksi segar dan produksi kering. Rancangan yang digunakan dalam penelitian ini adalah Rancangan Acak Pola Searah, apabila terdapat perbedaan antar perlakuan diuji dengan *Duncan Multiple Range Test* pada tingkat signifikansi 5%. Berdasarkan hasil uji lanjut DMRT menunjukkan bahwa hasil tertinggi daya kecambah dan jumlah daun yaitu pada perendaman giberelin 300 ppm. Hasil tertinggi panjang tanaman, tinggi tanaman, panjang daun, lebar daun, panjang hipokotil, dan diameter hipokotil yaitu pada perendaman giberelin 500 ppm, tetapi perendaman giberelin tidak berpengaruh terhadap panjang akar dan jumlah akar. Berdasarkan hasil penelitian dapat disimpulkan bahwa pemberian giberelin sampai dengan 300 ppm mampu meningkatkan daya kecambah dan jumlah daun dan mengalami penurunan pada konsentrasi 400 ppm sampai dengan 500 ppm.

Kata kunci: *Bauhinia purpurea* L, Giberelin, Zat Pengatur Tumbuh.

**THE EFFECT OF VARIOUS CONCENTRATIONS OF GIBBERELLINS (GA₃)
ON GERMINATION, GROWTH AND BIOMASS PRODUCTION OF
TAYUMAN (*Bauhinia purpurea* L.)**

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ABSTRACT

This study aimed to determine the effect of gibberellin (GA₃) concentration from the lowest concentration to the highest concentration on germination, growth, and biomass of tayuman (*Bauhinia purpurea* L.). This study used 300 seeds of tayuman seeds, gibberellins (GA₃), 98% alcohol, bamboo humus, soil, manure, and polybags. The concentration of gibberellins (GA₃) used consisted of 6 levels, namely 0 ppm, 100 ppm, 200 ppm, 300 ppm, 400 ppm, and 500 ppm. Soaking is done in a plastic cup for 24 hours. This research was conducted in December 2021. Each treatment was repeated 5 replication. Planting was carried out in polybags containing a mixture of soil, bamboo humus, and manure with a ratio of 3: 1: 1 in the Greenhouse for Animal Food and Pasture, Gadjah Mada University. Watering is done twice a day, in the morning and evening. Observations were made on plants aged 30 days after planting (DAP). Parameters observed included germination, plant height, plant length, number of leaves, leaf color, leaf length, leaf width, root length, number of roots, hypocotyl length, and hypocotyl diameter. At the age of 135 DAP stem diameter was measured, harvested, calculated fresh production and dry production. The design used in this study was Randomized Unidirectional Pattern Design, if there were differences between treatments, it was tested using Duncan's Multiple Range Test at a significance level of 5%. Based on the results of the DMRT further test, it showed that the highest yield of germination and number of leaves was at 300 ppm gibberellin immersion. The highest yield of plant length, plant height, leaf length, leaf width, hypocotyl length, and the diameter of the hypocotyl was at 500 ppm gibberellin immersion, but the gibberellin immersion had no effect on root length and root number. Based on the results of the study, it can be concluded that the administration of gibberellins up to 300 ppm was able to increase germination and number of leaves and decreased at concentrations of 400 ppm to 500 ppm.

Keywords: *Bauhinia purpurea* L, Gibberellins, Growth Regulators.