

RINGKASAN

Penelitian ini dilaksanakan di lahan Percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jln. Karya Wisata, Kecamatan Medan Johor, Kota Medan, Provinsi Sumatera Utara, Ketinggian tempat \pm 25m dpl, dengan topografi datar dengan jenis tanah ordo Inceptisol. Penelitian ini telah dilakukan pada bulan Januari sampai Mei 2024.

Penelitian ini bertujuan untuk mengetahui pengaruh tingkat pemberian air terhadap pertumbuhan semai bibit karet di dalam polybag. Untuk mengetahui pertumbuhan semaian bibit karet di dalam polybag terhadap tingkat pemberian air. Untuk mengetahui interaksi dari tingkat pemberian air terhadap pertumbuhan. Penelitian menggunakan Rancangan Petak Terpisah (RPT) dalam Rancangan Acak Kelompok (RAK) Faktorial. Faktor pertama sebagai petak utama adalah klon (K) yakni: K_1 = Klon PB 260 (*Quick Starter*); K_2 = Klon GT 1 (*Slow Starter*). Faktor kedua tingkat pemberian air (P) yakni: P_1 = 360 mL/polybag; P_2 = 720 mL/polybag; P_3 = 1080 mL/polybag; P_4 = 1500 mL/polybag. Variabel pengamatan terdiri dari tinggi bibit, diameter batang, luas daun, panjang akar, dan kerapatan stomata.

Berdasarkan hasil analisis menunjukkan bahwa tingkat pemberian air berpengaruh kecil terhadap pertumbuhan semai bibit karet di dalam polybag. Perlakuan terbaik terdapat pada tingkat pemberian air 720 mL/polybag (P_2). Semaian bibit karet di polybag berpengaruh besar terhadap pertumbuhan semai bibit karet di dalam polybag. Semaian bibit karet klon PB 260 (*Quick Starter*) (K_1) menunjukkan hasil terbaik dalam meningkatkan pertumbuhan semai bibit karet. Interaksi dari tingkat pemberian air dengan semaian bibit karet memberikan pengaruh besar terhadap pertumbuhan semai bibit karet di dalam polybag terdapat pada K_1P_2 , yaitu klon PB 260 (*Quick Starter*) dengan tingkat pemberian air 720 mL/polybag.

Kata Kunci : Air, Tingkat pemberian air, Pertumbuhan, Bibit karet, Klon, PB 260 dan GT 1.

SUMMARY

This research was conducted at the Experimental Field of the Faculty of Agriculture, Islamic University of North Sumatra, located on Karya Wisata Street, Medan Johor District, Medan City, North Sumatra Province. The site is situated at an altitude of approximately 25 meters above sea level, with flat topography and soil classified as Inceptisol. The research was carried out from January to May 2024.

This study aims to evaluate the effect of different water application levels on the growth of rubber seedlings cultivated in polybags. The objectives are to assess the growth performance of rubber seedlings in response to varying amounts of water and to analyze the interaction between water application levels and seedling growth. The experiment was designed using a Split Plot Design (SPD) within a Randomized Complete Block Design (RCBD) in a factorial arrangement. The main plot factor was the rubber clone (K), consisting of two types: $K_1 = \text{PB 260}$ (Quick Starter) and $K_2 = \text{GT 1}$ (Slow Starter). The subplot factor was the level of water application (P), with four treatments: $P_1 = 360 \text{ mL/polybag}$, $P_2 = 720 \text{ mL/polybag}$, $P_3 = 1080 \text{ mL/polybag}$, and $P_4 = 1500 \text{ mL/polybag}$. Observations were made on several growth parameters, including seedling height, stem diameter, leaf area, root length, and stomatal density.

Based on the analysis results, the level of water application had a minor effect on the growth of rubber seedlings in polybags. The best treatment was found at the water application level of 720 mL/polybag (P_2). The type of rubber seedling had a significant influence on the growth of rubber seedlings in polybags. The PB 260 clone (Quick Starter) (K_1) showed the best performance in promoting seedling growth. The interaction between the level of water application and the type of rubber seedling had a significant impact on the growth of rubber seedlings in polybags, with the best results observed in the K_1P_2 treatment, which combined the PB 260 clone (Quick Starter) with a water application level of 720 mL/polybag.

Keywords : *Water, Water application level, Growth, Rubber seedlings, Clone, PB 260, GT 1.*