

ABSTRAK

PERBANDINGAN PERTUMBUHAN DAN PRODUKSI TIGA KLON UBI KAYU (*Manihot esculenta* Crantz) YANG BERASAL DARI KULTUR *IN VITRO* DAN STEK DI LAHAN PT GREAT GIANT PINEAPPLE LAMPUNG TENGAH

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Penelitian ini bertujuan untuk membandingkan pertumbuhan dan produksi tiga klon ubi kayu (*Manihot esculenta* Crantz), yaitu Vamas 1, Cino (CN), dan Tanaman Daun Sembilan Lebar (TDSL), yang diperbanyak melalui teknik kultur *in vitro* dan stek konvensional. Penelitian dilaksanakan pada bulan April hingga Desember 2024 di lahan PT Great Giant Pineapple, Lampung Tengah, menggunakan rancangan petak terbagi (split plot) dengan klon sebagai petak utama dan metode pembiakan sebagai anak petak. Variabel pertumbuhan yang diamati meliputi tinggi tanaman, diameter batang, dan jumlah daun, sedangkan variabel produksi mencakup jumlah ubi, diameter ubi, panjang ubi, bobot ubi, kadar pati, dan indeks panen. Data dianalisis menggunakan analisis ragam (ANOVA) dan uji Beda Nyata Terkecil (BNT) pada taraf 5%. Hasil penelitian menunjukkan bahwa tidak terdapat perbedaan yang signifikan antara metode pembiakan maupun antar klon terhadap seluruh parameter pertumbuhan dan produksi. Pada parameter jumlah ubi, tidak terdapat perbedaan yang nyata antara klon TDSL dan klon Vamas 1, namun berbeda nyata pada klon Cino. Tanaman hasil kultur *in vitro* yang telah melalui proses aklimatisasi menunjukkan performa fisiologis dan produktivitas yang sebanding dengan hasil stek konvensional.

Kata Kunci: Aklimatisasi, klon, kultur *in vitro*, pertumbuhan tanaman, produksi, stek batang.

ABSTRACT

GROWTH AND YIELD OF THREE CASSAVA (*Manihot esculenta* Crantz) CLONES DERIVED FROM *IN VITRO* CULTURE AND CONVENTIONAL STEM CUTTINGS ON THE PLANTATION OF PT GREAT GIANT PINEAPPLE CENTRAL LAMPUNG

By

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This study aimed to compare the growth and yield of three cassava (*Manihot esculenta* Crantz) clones—Vamas 1, Cino (CN), and Tanaman Daun Sembilan Lebar (TDSL)—propagated through *in vitro* culture and conventional stem cuttings. The research was conducted from April to December 2024 at the plantation of PT Great Giant Pineapple, Central Lampung, using a split-plot design with clone as the main plot and propagation method as the subplot. The observed growth parameters included plant height, stem diameter, and number of leaves, while the yield parameters included number of tubers, tuber diameter, tuber length, tuber weight, starch content, and harvest index. Data were analyzed using analysis of variance (ANOVA) and the Least Significant Difference (LSD) test at the 5% significance level. The results showed no significant differences between propagation methods or among clones for all growth and yield parameters. For the number of tubers, there was no significant difference between the TDSL and Vamas 1 clones, but a significant difference was observed in the Cino clone. *In vitro*-derived plants that had undergone acclimatization exhibited physiological performance and productivity comparable to those propagated through conventional stem cuttings.

Key words: Acclimatization, clone, *in vitro* culture, plant growth, stem cutting, yield.