

ABSTRAK

APLIKASI PEMANFAATAN CACAHAN BATANG UBI KAYU SEBAGAI PUPUK KALIAM ORGANIK DALAM UPAYA PENINGKATAN TRANSLOKASI FOTOSINTAT DAN PRODUKSI UBI KAYU (*Manihot esculenta* Crantz)

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Penelitian ini bertujuan untuk mengkaji pengaruh pemberian pupuk kalium organik berupa cacahan batang ubi kayu (CBU) terhadap peningkatan translokasi fotosintat dan produksi tanaman ubi kayu (*Manihot esculenta* Crantz) pada beberapa klon yang dibudidayakan. Penelitian dilakukan di Divisi Riset dan Pengembangan PT Great Giant Food (GGF), Lampung Tengah, pada bulan Desember 2023 hingga Desember 2024. Penelitian menggunakan Rancangan Acak Kelompok (RAK) *strip plot* yang terdiri dari dua faktor, yaitu dosis CBU (0, 20, dan 40 ton/ha) serta enam klon ubi kayu (Vati 1, Vamas 1, D9, Soponyono (SN), Cino (CN), dan Kasetsart (UJ5)). Variabel yang diamati meliputi tinggi, diameter batang, jumlah daun, bobot segar dan kering bagian tajuk dan akar, serta kadar dan bobot pati.

Hasil penelitian menunjukkan bahwa perlakuan baik CBU ataupun Klon berpengaruh nyata terhadap bobot batang, daun dan ubi, baik segar maupun kering. Klon D9 diikuti Uj5 memberikan hasil lebih baik pada berbagai variabel pengamatan tanaman tersebut, dengan pemberian CBU dosis 40 ton/ha cenderung meningkatkan bobot batang, daun, serta bobot kering dan segar ubi, serta bobot patinya. Interaksi antara klon dan CBU berpengaruh nyata terhadap variabel bobot kulit ubi, bobot ubi dan tinggi tanaman. Kadar pati klon Vati 1 lebih adaptif terhadap pemberian CBU dan lebih baik daripada kelima klon lainnya, dengan dosis CBU 20 ton/ha lebih baik daripada kedua dosis lainnya dengan nilai 28,70% yang diikuti klon Vamas 1 26,05% dengan selisih masing-masing dari Uj5 berkadar 23,00 yakni 5,7% dan 3,05%. Dengan demikian, pemanfaatan CBU sebagai pupuk

kalium organik dengan dosis 20 ton/ha direkomendasikan untuk meningkatkan efektivitas translokasi fotosintat serta menunjang produktivitas ubi kayu, khususnya pada klon unggul seperti vati1.

Kata kunci: cacahan batang ubikayu, kalium organik, klon, ubi kayu, translokasi fotosintat.

ABSTRACT

APPLICATION OF CASSAVA STEM CHOPPING AS AN ORGANIC POTASSIUM FERTILIZER TO ENHANCE PHOTOSYNTHATE TRANSLOCATION AND YIELD OF CASSAVA (*Manihot esculenta* Crantz)

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This study aimed to examine the effect of applying organic potassium fertilizer in the form of chopped cassava stems (CBU) on photosynthate translocation and the production of cassava (*Manihot esculenta* Crantz) cultivated across several clones. The research was conducted at the Research and Development Division of PT Great Giant Food (GGF), Central Lampung, from December 2023 to December 2024. The experimental design used was a strip-plot randomized complete block design (RCBD) with two factors: CBU dosage (0, 20, and 40 tons/ha) and six cassava clones (Vati 1, Vamas 1, D9, Soponyono (SN), Cino (CN), and Kasetsart (UJ5)). Observed variables height, stem diameter, number of leaves), fresh and dry biomass of shoot and root parts, as well as starch content and starch yield.

The results indicate that both CBU and clone treatments significantly affect the weight of stems, leaves, and tubers, both fresh and dry. Clone D9, followed by Uj5, yielded better results across various observed plant variables with the application of CBU at a dose of 40 tons/ha tending to increase stem weight, leaf weight, as well as fresh and dry tuber weight, along with starch weight at the same dosage. The interaction between clone and CBU significantly influenced the variables of tuber skin weight, tuber weight, and plant height. The starch content of clone Vati 1 showed greater adaptability to CBU application and performed better than the other five clones, with a CBU dose of 20 tons/ha yielding superior results compared to the other two doses, recording a value of 28.70%. This was followed by clone Vamas 1 at 26.05%, with differences of 5.7% and 3.05%, respectively, compared to Uj5, which had a starch content of 23.00%. Thus, the use of chopped cassava

stems as organic potassium fertilizer at a dose of 20 tons/ha can enhance the effectiveness of photosynthate translocation and support cassava productivity, particularly in high-performing clones such as Vati 1.

Keywords: cassava, cassava chopped stem, clone, organic potassium, photosynthate translocation.