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Full Length Research Paper

Impact of water stress on fresh tuber yield and dry matter content of cassava (*Manihot esculenta* Crantz) in Côte d'Ivoire

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Abstract

The production and transformation of cassava (*Manihot esculenta* Crantz) roots are increasing in Côte d'Ivoire. Characteristics of cassava, at different times of planting and harvesting were studied. For the September plantings, the local cultivar produced less than the improved varieties but maintained a superior dry matter content. In the June plantings, there was no significant difference in fresh root weight. In June planting, the fresh tubers yields showed significant increases up to the harvest after 15 months (43.1 t ha⁻¹) and declined thereafter about 37.01 t ha⁻¹ at 18 months, while dry matter were highest from September plantings with

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37.32% at 12 months and regularly reduced until 18 months about 33.18%. The highest dry matter content of cassava tubers is attained when the water stress does not exceed one period in the first 6 months. Dry roots yields were highest (15.27 t ha⁻¹) when roots were harvested in September, but continued to decrease up to 12.59 t ha⁻¹ in December with June planting. These findings suggest that the best time to harvest cassava is September if the aim is to transform cassava into “*attiéké*” for example. Dry roots yield is markedly influenced by environmental conditions, especially water stress immediately before root harvest.

Key words: Cassava, seasons, water stress, yields, Côte d'Ivoire.

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