

ABSTRACT

SHOOT REMOVAL STUDIES IN CASSAVA
(Manihot esculenta Crantz)

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Two field experiments were conducted to assess the effects of shoot removal on growth, development and yield of leaf vegetable and tubers of two improved IITA cassava varieties. In one experiment the effects of time to first shoot removal on the performance of the two varieties were investigated; while in the other, the effects of the amount of shoot harvested on the performance of the same varieties was determined.

The time to first shoot removal and the amount of shoot harvested did not significantly affect the tuber yield. First harvest of shoot tips at 8, 14 and 20 weeks after planting and repeated every 8 weeks for 52 weeks did not significantly affect dry matter accumulation. Defoliating up to five fully developed leaves at the same harvesting frequency also had no effect on the total plant dry matter.

The leafy variety, TMS 91934 gave a higher fresh shoot yield than TMS 30572. Hence the morphology of the plant should be taken into account when considering a variety for both leaf vegetable and tuber

production. Detopping five fully developed leaves (SR4) gave the highest fresh shoot yield. However, plucking of individual leaves (SR5) in the field may not be practical because it is time consuming and tedious with no distinct yield or nutritional advantage.

Detopping starting at 14 weeks after planting (SR14) gave a higher fresh shoot yield and leaf nutrient concentration. In general, cassava leaves are rich in protein, iron and calcium, and compare favourably with other leaf vegetables such as amaranthus, chinese cabbage and pumpkin. Cassava leaves have a higher HCN content than the tubers and may therefore pose a greater risk of toxicity if not properly prepared before consumption.

For further research it is recommended that the maximum quantity of shoot that can be harvested without a reduction in tuber yield should be determined for the more promising varieties and under different environmental conditions. The possible toxic effects of residual levels of cyanide in prepared cassava products should be ascertained. Further more, there is a need to investigate processing techniques that are more effective in reducing HCN levels in cassava leaves without reducing the nutrient content.

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