

# **Response of cassava and maize to fertilizer application, and a comparison of the factors affecting their growth during intercropping**

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## **Abstract**

A field experiment was conducted on a Paleustalf to examine the effect of fertilizer application and the possible yield limiting factors in a cassava-maize intercropping system. Application of N-fertilizer significantly increased maize grain and cassava root yields as well as N, P and K concentrations of both crops compared with application of non-N fertilizer or with the unfertilized controls. Intercropping, with or without fertilizer application, led to a decrease in the root yield and N, P and K concentrations of cassava, but had no significant effect on nutrient concentrations and grain yield of maize. Growth analysis revealed that from 20 weeks after planting to harvest in cassava and during the flowering to harvest in maize dry matter accumulation in both crops was similar in intercropping. However, during the same period, the mean crop growth rate in cassava was less than a fourth of the mean crop growth rate in maize. It was concluded that the main factor limiting total yield in a cassava-maize intercropping system is the depression of early cassava growth by vigorous maize component, which reduces the amount of assimilate allocated to cassava roots.

Key words cassava - fertilizer - intercropping - maize - paleustalf