

# Ridging, a Mechanized Alternative to Mounding for Yam and Cassava Production

S. A. Ennin<sup>1\*</sup>, E. Otoo<sup>1</sup> and F. M. Tetteh<sup>2</sup>

<sup>1</sup> CSIR-Crops Research Institute, P. O. Box 3785, Kumasi, Ghana

<sup>2</sup> CSIR-Soil Research Institute, Academy Post Office, Kumasi, Ghana

\*Corresponding author; E-mail: stella@cropsresearch.org

## Abstract

A cassava seedbed preparation field study was established at Fumesua in the forest and Ejura in the forest-savanna transition agro-ecologies of Ghana in 2004/2005. The experimental design was split plot with three seed bed preparation methods as the main plots and three nitrogen rates as sub plots, with basal application of 45-90 kg ha<sup>-1</sup> P<sub>2</sub>O<sub>5</sub> - K<sub>2</sub>O on the fertilized plots. A similar study was conducted on yam seedbed preparation in 2003/2004, with a 2<sup>3</sup> factorial design. Cassava and yams on ridges resulted in highest root and tuber yields, on both Lixisols in the coastal and forest-savanna transition and Acrisols in the forest agro-ecologies. However, yam tuber yield on mounds was not statistically different from yields on ridges. Number of roots per plant was identified as a major contributory factor to the yield increase of cassava on ridges. Seed bed preparation method was, however, not an important determinant of cassava root yield at high rates of fertilizer application of 90-45-90 kg ha<sup>-1</sup> N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O. Planting on mounds resulted in slender, cylindrically shaped cassava roots and yam tubers, while ridging produced oblong shaped roots and tubers. Weeding and fertilizer application were easier on manual ridging than on manual mounds. The study points to ridging as a potential option to mounding for cassava and yam production, with the feasibility of mechanization of ridges to reduce drudgery associated with roots and tuber crop production in the West African sub-region.