

Improving productivity and household incomes of resourcepoor farmers: The case of cassava-cowpea intercrop

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Abstract. Intercropping is a widespread practice in tropical developing countries. The cassava-cowpea intercrop system was identified as one of the major four cropping systems in the forest and southern Guinea savanna zones of West and Central Africa. The objectives of the study were to evaluate the relative times of planting cowpea, cowpea row arrangement and cassava variety in cassava/cowpea intercrop in farmers' fields on: (a) the crop productivity of the systems, (b) assess their economic return and (c) identify those suitable for further on-farm demonstrations and transfer to farmers. Cassava/cowpea intercrops were tested on farmers' fields in 2000-2002 in the transition and coastal savannah zones of Ghana for sustained crop productivity and household incomes. An incomplete block design was used to assign a factorial combination of three cassava varieties, two relative times of planting and three row arrangements to farmers' fields. The 1 row Afisiafi cassava or local cassava combined with 2- or 3-rows of Asetenapa cowpea; with Asetenapa planted 4 weeks after cassava were the most productive systems. Productivity (LER) over the sole crops ranged from 41% for Afisiafi to 113% for the local variety. Abasafitaa, Afisiafi and local cassava planted 4 weeks before Asetenapa yielded 41-51%, 67-87% and 109- 112% of sole crop, respectively. Asetenapa yielded 20% higher under the local than the improved cassava varieties. Averaged over both years, the 1 row cassava (all varieties)/ 2 rows cowpea with cowpea planted 4 weeks after cassava system gave the highest benefit/ cost ratio (2.72-3.56) and net benefits (¢2.25 million - ¢3.35 million) over the other intercrop systems and the sole crops. Sole cowpea gave the lowest benefit/cost ratio (1.50) and net benefits (¢627,000.00).