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*Full Length Research Paper*

## Productivity of cassava/okra intercropping systems as influenced by okra planting density

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### Abstract

The productivity of cassava (*Manihot esculentus* Crantz)/okra (*Abelmoschus esculentus* L. Moench) intercropping system as influenced by okra planting density (0; 14,000; 28,000; 42,000 and 56,000 plants/ha) in intercropping with cassava (10,000 plants/ha) were investigated in 2000/2001 and 2001/2002 cropping seasons at Umudike, a rainforest location in south-eastern Nigeria. The results showed that sole cassava plants were shorter than the intercrops between 6 to 12 weeks after planting (WAP) in 2000/2001 but throughout the growing period (6 - 48 WAP) in 2001/2002 as okra planting density in the mixture increased. Similarly, sole okra plants were shorter than the intercropped ones. The leaf production and the leaf area index (LAI) of okra were reduced by high okra planting densities intercropped with cassava. The LAI of cassava increased up to 36 WAP and thereafter declined while in okra it declined up to 10 WAP in both years. It was always higher in sole okra than in the intercrops. Intercropping reduced the total number of tubers but the tuber yield was not affected. Intercropping significantly ( $P < 0.05$ ) reduced the number of fresh pods, pod length and diameter, pod weight per plant and pod yield/ha. Within the intercrops, okra pod yield was not affected by okra planting density in 2000/2001 whereas in 2001/2002 season, 42,000 plants/ha okra plots yielded higher than the other intercrops. The results showed that it was more productive to grow the two crops together as depicted by yield advantages of 25-30% and that there was higher monetary returns in the mixtures. The optimum okra planting density for intercropping with cassava was 42,000 plants/ha as it had the highest yield advantage of 30% in both seasons and gross monetary returns of ₦ 142,000.00 and ₦ 153,900.00 in 2000/2001 and 2001/2002 seasons, respectively.

**Key words:** Okra (*Abelmoschus esculentus* L. Moench) plant density, cassava (*Manihot esculenta* Crantz), intercropping

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