

Cassava Cultivation Management for Sustainable Vegetable Production in Intercropping with Okra

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Abstract

A five-year field experiment evaluated the effects of growing okra [*Abelmoschus esculentus* (L.) Moench] in inter-row spaces of cassava (*Manihot esculenta* Crantz) and at three sowing dates on yield of both crops. Two contrasting cassava cultivars (TMS 30572-early maturing, short with full-branch and dense canopy and Odongbo-late maturing, tall with less-branch and sparse canopy) were evaluated. In the first experiment, okra was sown on 30 July, 20 August and 3 September as a late-season crop in 1999 and on 27 May, 10 June and 24 June as an early-season crop in 2000. In the second experiment, okra was sown on 29 May, 21 June and 12 July as an early-season crop in 2001 and on 13 August, 29 August and 12 September as a late-season crop in 2002. Leaf area index (LAI), days to 50% flowering and first pod harvest, yield and yield components of okra in mixed stands were the same as in monoculture in both experiments. However, cassava Odongbo/okra intercrop resulted in an increase in fresh pod yield and economic returns of okra by 19-21% and 20-26%, respectively, compared with monoculture and cassava TMS 30572/okra intercrop. LAI of okra was significantly increased by 20-45% in the first and second sowing dates, but it took 2-10 days longer for the first and second-sown okra plants to reach 50% flowering and first pod harvest over those of the third-sowing date in any experiment. Mean increase in okra fresh pod yield with first and second sowing dates was 2.4-5.6 tha⁻¹ over the third sowing date in either experiment. The mean economic returns with the first and second sowing dates were 105% and 50% in the first experiment and 125% and 50% in the second experiment, respectively, over those of the third sowing date regardless of cropping system. The cassava yields were not affected by cropping system and okra sowing date. For sustainable okra production in wide inter-row spaces of cassava, growing both crops in May for the early-season crops and in early August for the late-season crops and using tall, sparse canopy cassava is recommended.