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Synergistic cropping system of *Lakha bari* for sustainable development of horticulture in Uttar Pradesh

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ABSTRACT

An innovative farmers participatory adaptive trial was carried out during winter (*Rabi*) season of 2002 and 2003 on farmers fields, located on riverine soils in the catchments area of Kali river, it is a tributary of river Gangetic, near Bhogaon at Mainpuri district of U.P. The site typically represents soils, climate and socio-economic condition of semi-arid zone. The main objective of this study was to improve the socio-economic status of farmers under change in climate. The three synergistic cropping systems *i.e.* tree melon + garlic + pumpkin, tree melon + garlic + bottle gourd and tree melon + garlic + sponge gourd were framed and executed on ten farmers fields. The filler crop of garlic yielded bulbs as 87.50 q/ha, 88.10 q/ha and 87.60 q/ha from tree melon + garlic + pumpkin, tree melon + garlic + bottle gourd and tree melon + garlic + sponge gourd cropping systems, respectively. The pumpkin, bottle gourd and sponge gourd yielded marketable size fresh fruits as 120 q/ha, 128 q/ha and 115 q/ha, respectively, rose under synergistic cropping system. The fruits of tree melon plucked of 960 q/ha from tree melon + garlic + sponge gourd, 880 q/ha from tree melon + garlic + bottle gourd and 800 q/ha from tree melon + garlic + pumpkin. Likewise, the companionship of tree melon + garlic + pumpkin, tree melon + garlic + bottle gourd and tree melon + garlic + sponge gourd gave net return of Rs. 265900/ha, Rs. 291885/ha and Rs. 330180/ha, respectively, to the farm families.

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