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

R.A. SINGH, M.K. SINGH AND H.K. SINGH

**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.

**Key words**: Innovative, Socio-economic, Tree melon, Riverine soils, Synergistic