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Intercropping elephant foot yam is an economical cultivation practice for Indian goose berry (*Phylanthus emblica*) orchard management

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ABSTRACT : *Amorphophallus* is shade loving plant and can be economically grown in Aonla orchard**.** The assessment of economic values of different intercropping systems in terms of cost of cultivation, gross-income and net-income clearly indicated that the highest cost: benefit ratio (1:2.884) was recorded from T_8 (Aonla + Suran + 25% N_2 from Mustard cake + 25% N_2 from Vermicompost + 50% N_2 from Urea) followed by 1:2.841 in T_2 (Aonla + Suran + 25% N_2 from Vermicompost + 75% N_2 from Urea), 1:2.821 in T_3 (Aonla + Suran + 50% N_2 from Vermicompost + 50% N_2 from Urea) and 1:2.727 in T_5 (Aonla + Suran + 25% N_2 from Mustard cake + 75% N_2 from Urea), as compared to sole crop aonla (1:2.650); whereas the least cost: benefit ratio (1:1.955) was estimated in T_{10} (Aonla + Suran + 100% N_2 from Mustard cake). From the experimental findings obtained in present investigation by growing Suran as intercrop in aonla plantation with various sources of nitrogen, it may be concluded that the growing suran as intercrop was found most to be suitable under aonla plantation when it was provided with vermicompost and mustard cake as organic sources of nutrients along with urea. Among the different cropping systems, the most economically viable and feasible cropping system was found to be **(i)** T_8 (Aonla + Suran + 25% N_2 from Mustard cake + 25% N_2 from Vermicompost + 50% N_2 from Urea) **(ii)** T_2 (Aonla + Suran + 25% N_2 from Vermicompost + 75% N_2 from Urea), **(iii)** T_3 (Aonla + Suran + 50% N_2 from Vermicompost + 50% N_2 from Urea) and **(iv)** T_5 (Aonla + Suran + 25% N_2 from Mustard cake + 75% N_2 from Urea), which were estimated on the basis of growth, yield and quality parameters of intercrop as well as aonla, and soil fertility status, orchard fertility, gross income, net income and cost benefit ratio.

Key Words : *Phylanthus emblica*, cultivation practice, intercropping, suran, aonla plantations.