

IMPACT OF DIFFERENT AGRO-FORESTRY SYSTEMS ON GROWTH AND YIELD OF TURMERIC AT TARAI REGION OF UTTARAKHAND, INDIA

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Abstract: An experiment was carried out to evaluate the effect of different agroforestry system on turmeric with reference to vegetative growth, rhizome yield and its attributes of turmeric (*Curcuma longa* L.). Turmeric showed positive response to the agroforestry system as compared to open system. Turmeric with (T2) *Diospyrus embryophytum* had the taller plant height, maximum number of leaves, maximum leaf area index (5.02), maximum curcumin per cent (4.12) and maximum curing per cent (27.41). Maximum number of tillers was showed by the turmeric grown under T9 (*Terminalia chebula*), fresh yield (22.20 t ha⁻¹) and cured yield (6.08 t ha⁻¹) of rhizome was obtained under open condition however, among the different agroforestry system it was higher under T9. Moreover, the soil parameters such as SOC (0.99%), available N (304.51 kg ha⁻¹), P (18.23 kg ha⁻¹) and K (161.52 kg ha⁻¹) were also highly influenced by the T9 (*Terminalia chebula*).

Keywords: Agroforestry, *Curcuma longa* L., Rhizome yield, Curcumin

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