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Performance of Aonla with *in-situ* Moisture Conservation Techniques

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Abstract: The investigation was carried out to assess the response of various *in-situ* moisture conservations on growth and yield of anola under agroforestry system on sloping lands. The experiment was laid out with four treatments *viz*., farmer's practice of aonla planting with 0.027 m^3 pit (control), Pit filled up to 0.75 m with 1 m^3 pit, crescent shaped and V-shaped micro-catchment with 1 m^3 pit with four replications in runoff plots of 21 m × 14 m at 2% slope. Data revealed that soil moisture techniques significantly influenced the plant growth and yield of anola. Plant treated with V-shaped micro-catchment recorded highest plant height, collar diameter, canopy spread and number of branches (4.57 m, 12.45 cm, 4.62 m and 11, respectively) followed by pit filled up to 0.75 m, crescent shaped while minimum in farmer's practices. The percentage increase in fruit yield of aonla over farmer's practice was observed by 8, 13 and 40% with75% pits, crescent shaped and V-shaped micro-catchment, respectively. Based on present findings, V-shaped micro-catchment could be a suitable in-situ moisture conservation practice for enhancing growth and yield of aonla under agroforestry system.

Keywords: Soil moisture conservation, Aonla , *Emblica officinalis*, Litterfall, Agroforestry, Bundelkhand region