25. Alley cropping system integrating Elm (*Ulmuswallichiana*) with Kharif and Rabi crops in Kashmir valley

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Name of Inventor

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Description of technology

The technology has been developed for sloppy lands under rainfed conditions with up to 30% of slope.

Elm trees to be planted at different widths of 1, 1.5 and 2 m for evaluation. The trees are regularly pruned at a height of 3 m for fodder and fuel wood.

Impact

With the increase in alley width from 1.0m to 2.0 m there is an increase in the yield of annual crops as well as that of the bio-economic productivity. The 2.0m spacing resulted in maximum yield of Kharif-(Tomato+Potato) and Rabi (Garlic+Peas) crops respectively.

Yield of fodder and fuel wood from trees was more in 1m spacing recording a yield of 12.58 and 51.02 q ha^{-1} respectively. Cultivated grasses in buffer zone (*Festucapretense, Festucarubra and Trifoliumpretense)* recorded yield of 78.72 q ha^{-1}

Commercial applicability

In the Kashmir region of Jammu and Kashmir huge tracts are barren and uncultivated and these areas can be targeted for agroforestry systems.

Alley cropping system with different crop combinations and tree spacing reduce the soil erosion due to rains and at the same times improves water infiltration and water holding capacity