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Evaluation of cropping systems for livelihood security of farmers in rainfed sub-tropics of Jammu

A.P. Singh*, Vikas Gupta, Brinder Singh, Jai Kumar, Mahender Singh, Vikas Abrol and Permendra Singh
Advanced Centre for Rainfed Agriculture (SKUAST-J), Rakh Dhiansar-181133, India
*Corresponding author e-mail: apsinghagron@gmail.com
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Abstract
In this study, *Leucaena leucocephala* was introduced in the traditional agriculture system and total six systems *viz*., cereal-cereal, pulse-cereal, agri-pastoral, agri-silvi-pastoral, agri-horti-pastoral and vegetable-vegetable were evaluated for livelihood security of farmers under rainfed sub-tropical foot hill plains of Jammu. The agri-silvi-pastoral system recorded an overall increase in gross income (43.23%), maize equivalent yield (50.73%), rain water use efficiency (55.57%), sustainable yield index (44.17) and employment days (34.7 md) in comparison to the other systems studied. The *Leucaena leucocephala* plots were also characterized by higher organic carbon content and available nitrogen, phosphorus and potassium availability. This technological intervention also increased the fuel and fodder (mixed fodder and green leaves) production and enhanced the B: C ratio (61.6%) of the system when compared to other systems in vogue in rainfed sub-tropical foot hill plains of Jammu.

Keywords: Agri-horti-pastoral system, Agri-silvi-pastoral system, Legumes, Multi-purpose trees