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Medicinal herbs in agroforestry under dryland conditions

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An experiment was conducted in agroforestry system with the existing plantations of amla and terminalia at College of Agriculture, Rajendranagar, Hyderabad during kharif season of 2008 and 2009. The medicinal crop of andrographis was intercropped in amla and terminalia, respectively. The experiment consisted of six integrated nutrient management (INM) treatments : M_1 -Control (no manuring), M_2 -20 kg N ha⁻¹ alone (through urea), M_3 -Vermicompost @ 2 t ha⁻¹, M_4 -FYM @ 5 t ha⁻¹, M_5 -20 kg N ha⁻¹ through urea + Vermicompost @ 2 t ha⁻¹ and M_6 -20 kg N ha⁻¹ through urea + FYM @ 5 t ha⁻¹ laid out in split plot design replicated thrice.

The results indicated that among different integrated nutrient management practices studied, application of 20 kg N ha⁻¹ through urea + Vermicompost @ 2 t ha⁻¹ recorded maximum growth parameters like plant height, dry matter production and leaf area per plant of andrographis over the rest of the treatments. But these parameters were the least in control followed by application of urea alone (inorganic) treatment. Herbage yield (5395.8 and 5192.6 kg ha⁻¹ in first and second year) of andrographis was significantly more with INM practice - M_5 which gave the maximum net monetary returns. Intercropping of andrographis in terminalia with the application of 20 kg N ha⁻¹ through urea + vermicompost @ 2 t ha⁻¹ gave maximum total gross monetary returns from the system (tree + crop). Profit per rupee investment also showed the same trend with the adoption of integrated nutrient management practices in agroforestry.

Keywords: Andrographis, intercropping, vermicompost and integrated nutrient management.

Biography

A Madhavi Lata completed her PhD (Agronomy) in 2011 from Acharya N G Ranga Agricultural University and is working as Associate Professor in Department of Farm Forestry at College of Agriculture, Prof. Jayashanker Telangana State Agricultural University, Rajendranagar, Hyderabad. She is guiding both under graduate and post graduate students through teaching and research. She has attended a number of International and National conferences and presented papers on medicinal plants.

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