



Original Research Article

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Decomposition of Different Litter Fractions in Agroforestry System of Central India

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ABSTRACT

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Albizia procera is the native and most common agri silvicultural /agrosilvopastural tree species of Semi-arid regions of Central India. This study focused on litter decomposition and subsequent nutrient release (N, P, K) from litter fall under six-year old *A. procera* in agroforestry system. The average weight loss from different fractions of litter of *A. procera*, pod litter shows maximum decay followed by leaves and petiole. Pod litter got the maximum decay rate coefficient indicate faster rate of its decomposition. For 95 percent decay leaf, petiole and pod litter decomposed faster under *A. procera* + crop. Decomposition of *A. procera* litter is positively correlated with N, P and hemicellulose concentration of litter and negatively correlated with lignin, C/N ratio, and lignin/N ratio. Nutrient release from litter of *A. procera* followed the trend: K > N > P and was found higher from pod followed by leaves and petiole. The added nutrients may contribute to the sustainability of soil fertility, which is becoming an important phenomenon for agroforestry practices.