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Conservation of superior phenotypes of teak (*Tectona grandis*) in central India

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Statement of the Problem: Among Indian tree species, teak is the most valuable timber tree species with lots of variations existing in nature and there is lot of scope for improvement in this species. Individual tree variation is an important source for practical breeding program and to determine breeding objectives of any species information about inheritance patterns need to be combined with the economic values of each trait. Traits selection is the first and the most important step, while starting any improvement programme.

Methodology & Theoretical Orientation: During present study, existing candidate plus teak trees of Madhya Pradesh, India were evaluated for traits i.e. height, diameter, self-pruning ability, apical dominance, crown diameter, branch thickness, fruit bearing capacity, wood specific gravity of standing tree, heart wood percentage, growth rate and volume. A comparative analysis for different characteristics was done amongst the selected plus tree candidate and trait wise grading was done on the basis observation recorded. Cumulative scoring of candidate plus tree was done based on superior phenotypic characteristics.

Findings: Specific trait-wise trees were identified during present study. Trees of excellent height, girth, clear bole height, ideal circular bole with less tapering, self-pruning ability exist in natural population of Madhya Pradesh, which may be used as reproductive source material for plantation purposes. Wood characteristic like higher specific gravity, higher heartwood percentage which show high inheritance pattern, should be strongly considered along with all the phenotypic characteristics i.e. height, girth, bole form, crown habit, branching pattern etc. They may be used in future tree breeding programmes. A special protection should be provided to conserve those superior genetic resources. It is also requisite to multiply them through original seeds or through micro-propagation technique to sustain the unique creations of the nature.

Biography

Anjana Rajput is presently engaged as Head of Wildlife Branch in State Forest Research Institute, Jabalpur, Madhya Pradesh, India. She has done her MSc and PhD from Sagar University, India, with specialization in Forest Ecology, having more than 20 years research experience in habitat ecology, wildlife conservation and environmental impact assessment. She is recognized as Functional Area Expert for Ecology & Biodiversity from NABET Quality Council of India, New Delhi. She has published various research papers, technical reports and technical bulletin in national and international peer reviewed journals.

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