



## Evaluation of Clonal Divergence in Dalbergia Sissoo Roxb. for Developing Production Populations

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### Abstract

Forty eight clones of Dalbergia sissoo Roxb. were subjected to genetic divergence studies using Mahalanobis D<sup>2</sup> statistics. The clones were field planted in two geographical locations at Hissar, Haryana (N 29 30'17.7" E 75°33' 14") and Hoshiarpur, Punjab (N31° 33' 31.7" E 75° 49' 0.5") to analyze different genetic parameters and divergence. At the age of eighteen months, height ranged from 41.17 cm (Clone 94) to 112.52 cm (Clone 5003) and collar diameter ranged from 0.59 cm (Clone 31) to 2.02 cm (Clone 5006). Mean value based on both primary quantitative traits expressed superiority of thirteen clones over the locations. Using Tocher's method 48 genotypes were grouped into nine clusters, whereas Cluster III and VI consists maximum eight clones each. Cluster VIII was reported to be a solo cluster. The maximum D<sup>2</sup> value (1.62) was observed between Clone 1003 (Uttarakhand) and Clone 5007 (Uttarakhand). It was therefore obvious that these divergent clones could be planted in seed orchards so that high degree of heterosis could be exhibited. Additionally such clones could possibly play an important role in production of new recombinants with maximum acquisition of traits of economic importance.

### Keywords

Genetic Parameters, Divergence, Clustering, Quantitative Traits, Heterosis.

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