

Analysis of Genetic Diversity among Selected Grasspea (*Lathyrus sativus* L.) Genotypes Using RAPD Markers

Durga P. Barik^a, Laxmikanta Acharya^b, Arup K. Mukherjee^b,
and Pradeep K. Chand^{a,*}

^a Plant Cell, Tissue & Organ Culture Facility, Post-Graduate Department of Botany,
Utkal University, Vani Vihar, Bhubaneswar-751004, Orissa, India.
E-mail: pkchanduubot@rediffmail.com

^b DNA Fingerprinting Laboratory, Division of Plant Biotechnology, Regional Plant Resource
Center (RPRC), Nayapalli, Bhubaneswar-751015, Orissa, India

* Author for correspondence and reprint requests

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Randomly amplified polymorphic DNA (RAPD) technique was applied to assess the genetic variability among five selected genotypes of grasspea. Out of 30 random decamer primers tested for the present investigation 20 showed reproducible DNA amplification. A total of 257 loci were amplified of which 159 were polymorphic including 57 genotype-specific unique bands. Amplicons had molecular weights ranging from 3.0 kb to 0.1 kb. Majority amplicons were shared by most of the genotypes which indicated a very narrow genetic gap between them. The dendrogram constructed on the basis of RAPD data showed two clusters. The local genotype collected from Nayagarh was grouped along with IC-120451 and IC-120453, sharing a common node at an 82% similarity level. The other genotypes, IC-120478 and IC-120487, were located in the second clade having a common node at 84% similarity level. The investigation showed that though all the genotypes of grasspea were of apparently similar morphology there exists polymorphism at the molecular level, which can be exploited in breeding programmes aimed at crop improvement.

Key words: Genetic Diversity, Grasspea, RAPD