

# **Characterization of *Prosopis cineraria* (L.) Druce germplasm with suitable horticultural traits from the hot arid region of Rajasthan, India**

DOI: 10.1007/s10722-011-9723-4

## **Cited in:**

Genetic Resources and Crop Evolution 58(7):1095-1103, 2011

## **Characterization of *Prosopis cineraria* (L.) Druce germplasm with suitable horticultural traits from the hot arid region of Rajasthan, India**

P. N. Sivalingam, D. K. Samadia, Dharendra Singh, H. K. Changal, Hanif Khan\* and S. K. Sharma

ICAR-Indian Institute of Wheat & Barley Research, Karnal, India

## **Abstract**

Sixteen germplasm accessions of *Prosopis cineraria* with suitable horticultural traits were identified from north-western Rajasthan, India, propagated clonally by budding on seedling rootstock and maintained in the field gene bank. Morphological characterization of seven-year-old trees of these accessions by 21 traits indicated a lot of variation among the accessions tested. Higher number of flowers per raceme was found in accession CIAH/K2, higher width of ripened pod in CIAH/K5, higher number of seeds per pod in CIAH/K12 and a higher weight of seed per pod in CIAH/K6. Overall, CIAH/K16 was found to be a superior genotype for most of the useful traits. High significant positive correlation was obtained with traits useful for horticultural values. Out of 62 random decamer primers for random amplification (RAPD) reaction, and four minisatellite core sequence for direct amplification of minisatellite DNA (DAMD) screened with these accessions, 12 RAPD and 2 DAMD primers were found polymorphic. Average polymorphism resolved by these markers among the accessions was 93.2%. Genetic diversity revealed by Jaccard's co-efficient was between 0.11 and 0.77, and four major clusters were identified among these accessions by phylogenetic analysis using NTSYSpc-2.02e software. This study shows the existence of high genetic diversity within these accessions.

## **Reference**

Gupta, M.C., Gandhi, B.M. and Tandon, B.N: An unconventional legume, *Prosopis cineraria*. *American Journal of Clinical Nutrition* 27: 1035-36, 1974