

Variation in Morphological and Seed Related Traits of *Prosopis cineraria* (L.) Druce in Natural Stands

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Prosopis cineraria, a multiple purpose tree species, is widely distributed in the arid and semi-arid zone of India. There are few published reports on the genetic studies of this tree in Indian arid zone (Leakey & Last 1980, Jatasra & Paroda 1981). In the last decade few explorations have been undertaken to evaluate genetic variability in *P. cineraria* and studies were concentrated within Rajasthan (Jatasra 1982, Jatasra & Paroda 1983, Kacker *et al.* 1986 a, b). The present study was extended to Bhuj and Banas-Kantha region of Gujarat and the extent of variation in morphological and seed related traits is reported here.

Survey was undertaken during the end of May-first week of June 1989. Trees with desirable morphological attributes like better height, straight bole, etc. were selected and data on morphological traits of such 68 unlopped trees in natural stand was recorded (36 trees in Barmer district of Rajasthan and 32 in Banas Kantha & Bhuj districts of Gujarat). Tree height and forking height were measured using measuring poles, diameter at breast height and collar diameter using vernier callipers and canopy diameter using measuring tape. Data on length of pod and number of normal (fertile), shriveled or apparently sterile seeds were also recorded. Mean and standard error for each character were worked out.

Variability as indicated by coefficient of variation was maximum (50.61%) for canopy diameter and minimum (17.93%) for 100-seed weight (Table 1). Trees with spreading dome shaped crown as well as trees with erect and compact crown were observed. The difference in morphology was mainly due to angle of branches. Variability in morphological traits was in general more (37.12-50.61%) than that in seed related traits (17.93-34.28)

Table 1 Morphological traits of *P. cineraria* population ($n=68$) in parts of Rajasthan and Gujarat

Character	Mean	Range	SE	CV(%)
Height (m)	9.59	2.4-15.2	0.43	37.12
Forking height (m)	2.99	0.9-7.6	0.16	45.09
D.b.h. (cm)	29.1	7.0-58.5	1.59	44.86
Collar diameter (cm)	32.5	11.5-64.0	1.62	41.14
Canopy diameter (m)	4.58	0.9-8.4	0.28	50.61
100-seed wt. (g)	3.63	2.2-5.0	0.08	17.93
Pod length (cm)	10.6	4.1-18.1	0.33	25.68
Normal seeds pod ⁻¹	8.79	1.8-15.6	0.42	34.28
Total seeds pod ⁻¹	10.56	3.1-18.7	0.44	34.28

References

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