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## Effect of blanching treatments and dehydration methods on rehydration quality of khejri (*Prosopis cineraria*) pods

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### ABSTRACT

The khejri (*Prosopis cineraria* L. Druce), is a multipurpose leguminous tree of hot arid desert. Its tender pods are utilized for culinary purpose both in fresh and dehydrated conditions without ascertaining its quality aspect. Therefore, the present investigation was carried out to find out the effect of blanching treatments and dehydration methods on rehydration quality of khejri pods. The experiment consists of three methods of drying and six blanching treatments replicated thrice under completely randomised design (CRD). Both tender pods (harvested within 20 days of fruit set at green stage) and mature pods (harvested after 25 days of fruit set at colour turning stage) were taken for the study. Among various methods of drying; sun drying took minimum time (11 hours) while other methods took comparatively longer period for drying. Moreover, recovery per cent of pods did not vary significantly within the drying methods and blanching treatments. In general, tender pods recovery was less compared to matured pods. The rehydration ratio was maximum in pods blanched in hot water (5 min.) followed by control. Among different methods, the rehydration ratio was maximum in shade drying followed by sun drying and the least in tray drier. The storage life of dehydrated pods was more than 52 weeks in blanching treatment than only about 8 weeks in control (un-blanched pods). The appearance of sun dried pods was not good as brownish and grayish colour pods were observed. Whereas in case of pods dried in shade and tray drier were green in colour. The protein content was also higher in pods dehydrated either in shade or in tray drier but the differences among the blanching treatments were non-significant. Thus, it can be concluded that the tender pods dried after blanching in 2 per cent salt solution (5 min.) or blanched in 2 per cent salt solution (5 min.) + 0.1 per cent KMS (potassium metabisulphite) either in shade or in tray drier have overall good acceptability because of retention of green colour, higher protein content, good storage life, better appearance after rehydration, good culinary taste, overall higher hedonic rating and more hygienic conditions than open sun drying.

**Key words:** Blanching, Dehydration, Hedonic rating, Rehydration, *Prosopis cineraria*

The khejri (*Prosopis cineraria* L. Druce), is a medium to big size tree, evergreen or nearby so, with lighter foliage and thorny branches. Thar Desert is considered as home of khejri. It is distributed from Afghanistan, Arabia, Iran and Pakistan to India. In India, it is found in Rajasthan, Haryana, Punjab, Gujarat, Delhi, Madhya Pradesh, Maharashtra and north Karnataka as a constituent of desert thorn forest. In general, *Prosopis cineraria* is growing extensively under natural conditions in arid and semiarid regions of the country. *Prosopis cineraria* is a multipurpose tree and of great economic importance for the farmers of arid region, as every part of the tree is utilized in one or the other form (Srivastava and Hetherington (1991) and Saroj *et al.* (2002), Saroj and Nagaraja 2006). The tender pods are eaten green or dried after boiling locally called *sangri* and also used in

the preparation of curries and pickles (Khasgival *et al.* 1969, Nagaraja *et al.* 2003). The pods contain protein (12-16%), calcium (1.5-1.7%), potassium (1.40-1.65%) and sodium (0.70-0.82%) (Nagaraja 2002). Ripe pods are sweet, which contain 9-14% crude protein, 6-16% sugar (Bhiyama *et al.* 1964, Bhandari *et al.* 1979, Nagaraja 2003), 1.0-3.4% reducing sugars (Gupta *et al.* 1984) and 45-55 % carbohydrate (Jastra and Paroda 1981). The pods are also used as feed for animals and leaves (used both green and dry) are considered as excellent quality fodder in the desert. Pruned branches are used as fuel wood and fencing material. Hard and durable wood is used for making furniture, tool handles, boat frame etc. The bark provides tanning material. The bark, inflorescence and gum have various medicinal properties.

In spite of multiple uses and extremely hardy to various biotic and abiotic stresses; least attention has been given to utilize the potential of this valuable plant. Even today, there is hardly any block plantation of khejri with vegetatively propagated planting materials. The natural regeneration under rainfed condition is common in arid region but such

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