

## Short Communication

# A Survey of Rajasthan Flora for Seeds Having Commercially Exploitable Oil

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Edible oils play a significant role in India's economy. From the last few decades there has been considerable effort to raise the production of oil-crops. However, due to the increase in population, all efforts to bridge the demand supply gap have proved futile as the oil seed production is too less to meet the fast growing per capita demand of edible oil. There is, therefore, need to improve the indigenous supply, as import of this essential commodity will not be economically feasible for our country. One of the several ways to overcome this situation is, the collection of oilseeds of forest origin. These oils are usually not directly fit for edible purpose but by upgrading them by processes such as refining, hydrogenation, blending, liquid-liquid extraction, etc., they can be made to be so. Apart from this, these oils can also be used for preparation of many value added products such as soaps, paints, varnishes, hair oils, greases, etc. (Suri and Mathur, 1984).

Thus, they substitute for the use of edible oils as well as for these preparations. This is very important in a country like India where the majority of its people suffer from fat deficiency disorders. During the

last few years, oilseeds of forest origin have attracted the attention of oil technologists and researchers who after detailed investigations have identified the plants species whose seeds contain oil in commercially exploitable quantities.

## Oilseed Resources of Rajasthan Forest

The status of Rajasthan can be divided into arid and semi-arid regions. The forest cover of the state is very thin and vegetation is mainly of scrub type. Two forest types, viz., tropical thorn forests and tropical dry deciduous forests have been recognized in the state (Champion and Seth, 1968). Vegetation of the state provides a number of oil bearing species of forest origin which play an important role in the economy of local people. Among oilseeds of forest origin in Rajasthan, the important ones are *Salvadora persica*, *S. oleoides*, *Azadirachta indica*, *Citrullus colocynthis*, *Moringa oleifera*, *Jatropha curcas*, *Balanites aegyptiaca* and *Pongamia pinnata* (Anon, 1950-88). However, in spite of their wide availability, lack of their traditional management and method for systematic collection, processing and storage, less potential of these oilseeds is being exploited. Also for most of these

Table 1. Important oil bearing seed plants of Rajasthan

Botanical Name (Local name)	Habit	Distribution	Oil content (%) seed/kernel*	Flowering & fruiting period
<i>Azadirachta indica</i> (Neem)	T	Banswara, Churu, Jhalawar, Jodhpur, Sirohi, Tonk	40-48.9*	Dec-May
<i>Balanites aegyptiaca</i> (Hingotia)	S/ST	Alwar, Dungarpur, Jodhpur, Kota, Sirohi, Tonk	36-43	Fl : Dec-Mar Fr : Mar-Jul
<i>Buchnanian lanzan</i> (Chiraunji)	T	Jhalawar, Kota, Sirohi, Udaipur	35.4-47.2*	Dec-Apr.
<i>Celastrus paniculata</i> (Malkangni)	Cl.S	Banswara, Jhalawar, Sikar, Sirohi, Udaipur	52.2	Fl : Apr-Jun Fr : May-Nov
<i>Cleome viscosa</i> (Bagra)	H	Alwar, Banswara, Jaisalmer, Kota, Sirohi, Tonk	36.6	Fl : Jul-Sep Fr : Sep-Nov
<i>Cucurbita maxima</i> (Sitaphal)	H	Kota, usually cultivated, runs wild near habitation, foot of hills	36.6*	Mar-Aug
<i>Holoptelia integrifolia</i> (Kanjeri)	T	Ajmer, Alwar, Banswara, Pali, Sirohi	53.2*	Dec-May
<i>Jatropha curcus</i> (Jamalghota)	S/ST	Banswara, Bhilwara, Chittorgarh, Jaipur, Kota	30-40/ 46-58*	Throughout the year
<i>Madhuca indica</i> (Mahua)	T	Banswara, Sirohi, Jhalawar, Kota, Udaipur	35.0	Fl : Mar-Apr Fr : May-Apr
<i>Mamilkara hexandra</i> (Khimmi)	T	Barmer, Jaipur, Jhalawar, Kota	24.6/47.2*	Oct-Apr
<i>Moringa oleifera</i> (Sanjna)	T	Barmer, Jaipur, Jaisalmer, Kota, Pali	34.7	Fl : Feb-Mar Fr : Apr-Jun
<i>Melia azedarach</i> (Bakain)		Banswara, Ganganagar, Kota, Sawai Madhopur, Udaipur	40.0	Almost round the year
<i>Momordica balsamina</i> (Bara Karela)	Cl.H	Alwar, Barmer, Ganganagar, Kota, Pali	40.0	Jul-Oct
<i>Moringa concanensis</i> (Sainjana)	T	Churu, Jhalawar, Jaisalmer, Pali, Tonk	38.0	Most part of the year
<i>Nicotiana glauca</i> (Tambakhu)	H	Bharatpur, Bundi	33-41	Dec-Mar
<i>Pongamia pinnata</i> (Karanj)	T	Banswara, Jaisalmer, Kota, Sirohi, Bhilwara	27-39	Mar-Jun
<i>Ricinus communis</i> (Erandi)	T	Ajmer, Alwar, Banswara, Ganganagar, Jaisalmer, Sirohi	30-42	Almost throughout the year

(Contd.....)

Table 1 (Contd.)

Botanical Name (Local name)	Habit	Distribution	Oil content (%) seed/kernel*	Flowering & fruiting period
<i>Salvadora oleoides</i> (Mitha Jal)	T	Barmer, Bundi, Jodhpur, Jaipur, Sirohi	40-50	Feb-Jun
<i>Salvadora persica</i> (Khara Jal)	T	Banswara, Kota, Bikaner, Jaipur, Sirohi	39.3	Dec-Jun
<i>Santalum album</i> (Safed Chandan)	T	Ajmer, Chittorgarh, Jaipur, Jhalawar, Udaipur	60.0	Mar-Oct
<i>Sapindus laurifolius</i> (Ritha)	T	Banswara, Pali, Bundi, Sirohi, Udaipur	45.4	Fl : Sep-Dec Fr : Nov-Mar
<i>Schleichera oleosa</i> (Kusum)	T	Kota, Sitabari	35-45	Fl : Sep-Dec Fr : Mar-May
<i>Sterculia foetida</i> (Jangli Badam)	T	Ajmer, Pali	30-36/ 26-29*	Fl : Mar-Jun Fr : Jul-Sep
<i>Terminalia chebula</i> (Pearas Pipal)	T	Jhunjhunu	36.4*	Fl : Mar-Mar Fr : Sep-Nov
<i>Trichosanthes anguina</i> (Chachinda)	Cl.H	Kota	32.1	Jul-Oct.
<i>Vallis solanacea</i> (Dudhi Bel)	S	Jaipur, Kota, Sirohi, Alwar, Udaipur	33.0	Dec-Apr
<i>Xanthium strumarium</i> (Chotagokhru)	H	Bikaner, Jaipur, Jaisalmer, Kota, Sirohi	41.3	Oct-May

H= Herb, S= Shrub, T= Tree, Cl.H= Climbing Herb, Cl.S= Climbing Shrub, S/ST= Small Tree.

and others the data lies uncollected and scattered. Besides the above mentioned plant species there are many others which have the potential for commercial utilization but are not being exploited. Moreover, there are also many plant species which are yet to be investigated for their suitability for this purpose. Research is required for exploration of newer sources of commercially exploitable oilseeds. Since the production of oilseeds of forest origin requires only collection of oilseeds from trees without any additional land or input required for cultivation, these sources form the cheaper raw material.

An attempt has, therefore, been made to make a survey of oilseed resources of Rajasthan which may be used on commercial basis. The data is presented in Table 1 (Anon, 1950-88; Shetty and Singh, 1987 and 1991; Bhandari, 1990; Suri and Mathur, 1984). It is hoped that this compilation shall be of benefit to the research persons interested in collection of oilseeds.

During the last few years, there has been a continuous increase in the production of oilseeds. However, current level of production is still much less than required. Maximum exploitation of these oilseeds and

their byproducts will certainly help in achieving the desired goal.

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