

# Control of rat population through Bhelwa oil in Panch -Pargana area of Jharkhand

Srivastava AK<sup>1\*</sup> and Sudhanshu Kumar<sup>2†</sup>

<sup>1</sup>Head, Dept of botany, St. Xavier's College, Ranchi (Jharkhand) INDIA.

<sup>2</sup>Department of Botany, P.P.K.College ,Bundu, Ranchi (Jharkhand) INDIA.

Corresponding Addresses:

[ajaysrivas11@gmail.com](mailto:ajaysrivas11@gmail.com)\*, [Sudhanshu\\_kumar05@hotmail.com](mailto:Sudhanshu_kumar05@hotmail.com)†

## Research Article

**Abstract:** Rat has always been a problem for agricultural fields. Farmers of Jharkhand are always troubled by these rodents who damage grains in fields or in store. The cost of various chemicals to kill or repel rat is beyond the affordable limit of the poor tribal farmers in Jharkhand. Farmers of Panch-Pargana area of Jharkhand have developed an indigenous way to get rid of rats from their fields and prevent damage caused by them below economic injury level. Bhelwa (*Semecarpus anacardium*) seed oil is used for this purpose. Though the practice is quite old and time tested it is still not known to modern scientific world. The aim of this communication is to study the detailed method of rat population management through the Bhelwa seed oil.

**Key words:** *Semecarpus anacardium*, Rat population management, Jharkhand, Tribals.

### Introduction :

*Semecarpus anacardium* L.f (Anacardiaceae) is a tree abundantly available in Jharkhand and popularly called as 'Bhelwa' or 'Soso daru' . This is popularly known as poor mans 'Cashew nut' and the fruit is sold in village markets. Washer man uses the seed as marking nut. The Bhelwa tree is deciduous during March to May. Flower comes up in June to September and the tree fruits till December.The orange cup of the fruit are edible. The nut contains black acrid juice injurious to skin. Besides, the plant has several medicinal properties as recorded by Jain (1991), Hembrom(1995), Sudhanshu and Bandana(2005) . The village areas of the Siili, Bundu and Sonahatu blocks were surveyed and it was found that the villagers use the seed oil of Bhelwa for the purpose of rat population management.



*Semecarpus anacardium*, in fruiting stage.

### Mode of extraction of oil from Bhelwa nuts:

The mode is very traditional one and only some practitioners in this field can do the process. Mature fruit is collected or purchased from village markets. Nuts are separated cautiously as the juice is injurious to skin. Oil extractor use two earthen pots (Chukka) and keep one pot over the other . A hole is made at the bottom of upper pot .Then a small pit is dug out in the ground to keep this duo pots inside it. About 1 kg. broken Bhelwa seed is put into the upper pot and pot is covered with a plate .Fire is lit around the apparatus. After heating it about one to two hours, the oil begins to pour down through the hole into the lower pot.

### Mode of Application:

The oil is spread over the green leaves of Sakhua(*Shorea robusta*) tree and then latter are kept at the outlets of rat holes made in crop fields . When rats come in contact with the oil, an itching devlops which gradually culminates in to dermal wound causing death of the affected rat. Some times these wounded and weak rats fall prey to predator birds and snakes. This practice is not recommended preferably in rural houses so as to prevent children to come in contact with the oil.

## Discussion:

Rats are important to maintain the ecological balance of an ecosystem as they serve as food of many animals like snake, cat owls etc. Moreover, rat holes enhance the rainwater percolation leading to a sharp rise in the groundwater level. Thus this method is not used for complete eradication of rats but it only limits their population in order to prevent the damage caused by them below economic injury level. Different types of chemicals in the form of fumigants, attractants, repellents, chemosterilants and rodenticides are available in market to combat rats. These chemicals adversely affect the predators of rats and are accidentally incorporated in to the food chain affecting more and more organisms. This unique method of rat control is safe , effective and ecofriendly. This type of ecofriendly method is also reported from Gonda, and Balrampur regions of U.P., where pods of *Mucuna* spp.( *cowage*, or *kanwaach*) are used in management of rat (Pandey ,2003 ).

## Conclusion:

The tree of 'Bhelwa' is abundant in these areas. A black caustic juice exudes out from bark when ever an injury is inflicted. This cause blisters on human skin if it comes in contact with this juice(Haines ,1921-25). So people do not want to cut this tree. Besides the seed oil of *Semicarpus anacardium* contains anacardic acid (Chopra ,1956) which is also injurious to skin. Easy availability of Bhelwa oil makes the indigenous way of rat control cheaper.

## References:

- [1] Chopra R.N.,Nayar S.L.,Chopra I.C., *Glossary of Indian Medicinal Plants*; CSIR, New Delhi, 1956.
- [2] Haines, H.H., *The Botany of Bihar and Orissa*,Vol I-IV. BSI ,Calcutta, 1921-25.
- [3] Hembrom, P.P., *Adivasi-Ausadh* (Horopathy),Vol I-VII. Paharia Seva Samiti,Pakur,Bihar, 1995.
- [4] Jain, S.K., *Dictionary of Indian Folk Medicine and Ethnobotany*. Deep Publications, New Delhi, 1991.
- [5] Sudhanshu and Bandana., The Poor man's plant ,*The Telegraph*, Ranchi p 2, 22 Feb 2005.
- [6] Pandey H.P., Rat population management through *Mucuna*.*Ethnobotany* 15(1-2):100- 102, 2003.