block which is pressed gently to create a pressure manually so that the fruits get uniform rubbing. Water is constantly flown in. Within fifteen minutes, the pericarp is removed from the fruits. The fruits can be observed by removing the wooden block from the hopper and when they appear to be uniformly treated, the machine is stopped, the outer drum is opened from the side and treated fruits are removed.

A charge of about ten killogram seed can be treated within a maximum time of half an hour, depending upon the thickness of pericarp.

ADVANTAGES OF MECHANICAL TREATMENT

In comparison to old orthodox ways of treatment, this method is less time consuming, easy to handle and it treats the fruits uniformly, without any risk of fruits getting any fungal or insect attack. It is very economical compared to old methods. The seed wastage is also minimum.

COST OF MACHINE

This machine was manufactured and installed in the research nursury of State Forest Research Institute, Jabalpur Centre, in the year 1993 and since then, it is working very satisfactorily. The cost was as following :

1.	Cost of machine	Rs. 6,200/-
2.	Cost of motor	Rs. 3,200/-
3.	Construction of platform and tank	Rs. 1,200/-
4.	Miscellaneous	Rs. 500/-
	Total	Rs. 10,100

The machine was designed by Shri P.S. Mardikar, Dy. Director (Res.) State Forest Research Institute, Jabalpur, and in its assembly and fabrication he was assisted by Research Forest Rangers Shri H.K. Soni and Shri M.B.S. Chouhan.

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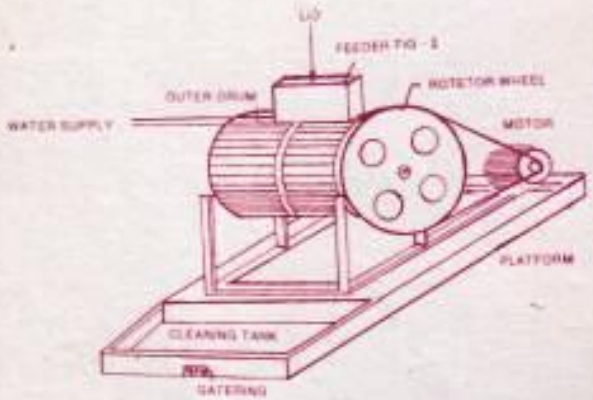
A MECHANICAL DEVICE FOR PRE-SOWING TREATMENT OF TEAK SEEDS



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STATE FOREST RESEARCH INSTITUTE

JABALPUR (M.P.)

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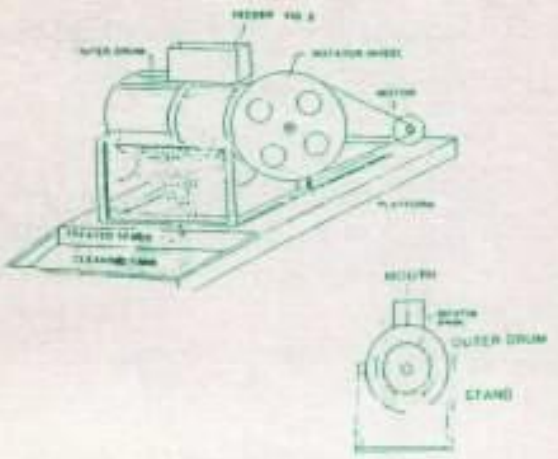
A MECHANICAL DEVICE FOR PRE-SOWING TREATMENT OF TEAK SEEDS

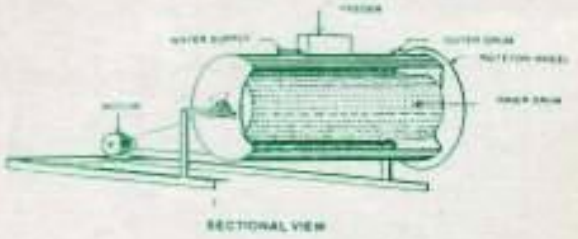
Teak (*Tectona grandis*, Linn. family verbenaceae) is the most important species in tropical forestry. Because of its commercial importance and quality of timber, it is one of the most extensively planted tree. The quality of timber and its commercial importance has made it so popular that it has become one of the most extensively planted tree not only in the forest, but also in agroforestry.



The presowing treatment, normally known as 'weathering' has always been a problem. The teak fruit which is a nut, has a thick pericarp which does not permit the moisture to enter inside and thus creates hinderance to embryo cells to open. To overcome this difficulty, teak fruits are weathered by various methods of treatment before sowing in the nursury beds to get germination. Various conventional methods, developed in the past, have been used traditionally and are still in practice. These traditional methods were based on trial and error and their success depends on experience and skill of the forest officer. The methods are very crude, adhoc, time consuming as well as costly, being labour intensive. The treatment can not be done uniformly and the fruit is subjected to fungal and insect damage.

To overcome this drawback, a mechanical device, which is electrically operated, was designed in State Forest Research Institute, Jabalpur.

This mechanical device is a simple machine and very easy to operate. It consists of a outer drum in which a heavy cylinder is mounted on a axle. The axle is fitted on bearings. One end of the axle is fitted with a heavy wheel, which in turn is joined to the electric motor (1.5 HP) with V. belt. The outer drum can be opened on one side. A long hopper is fitted on the top side which serves as the inlet for the fruits. The charged fruits inside the outer drum can be pressed with a wooden block which fits in the hopper. A constant supply of water is made in between the outer drum and the cylinder. The rotating inner drum is fitted with pieces of hard steel at regular intervel which are welded on the cylinder. These pieces rub the fruits when the cylinder is in circular motion and remove the thick pericarp of the fruits, the worn out slushy pericarp is drained out from the perforated bottom of the outer cylinder. The outer drum is fitted on angle-iron frame.



The teak fruits to be treated are soaked in water for 5-6 days. The cylinder is rotated with the help of a motor and slowly, the soaked fruits are charged inside from the hopper. When the charge is full, the hopper is closed with the wooden