



Development of castor depodder and decorticator

Castor derives from the Greek: *Κάστωρ (Kastōr)*, meaning "beaver". It is originally referred to as Castor, one of the Dioscuri/Gemini twins of Graeco-Roman mythology.

Castor (*Ricinus communis*) is considered as one of the ancient (150 BC to 100 AD) non-edible but having high medicinal value crop containing 25–58 percent oil in different varieties. India ranks first in area and production in the World producing 8.70 mt from about 1 lakh acres.

Other than grown wild, castor is cultivated mainly in Gujarat, Andhra Pradesh, Maharashtra and Karnataka.



Castor plant

Uses of castor

- **Healing Power and Curative Properties**

Castor is used very effectively in the treatment of rheumatic and skin disorders. It is a harmless purgative.

Rheumatism: A poultice of castor seeds can be applied with beneficial results to gouty and rheumatic swellings. A decoction of the roots of castor plant with carbonate of potash is useful in the treatment of lumbago, rheumatism and sciatica. A paste of the kernel without the embryo, boiled in milk, is also given as a medicine in these conditions.

Skin Disorders: A poultice of castor leaves is useful as an external application to boils and swellings. Coated with some bland oil such as coconut oil and heated, the hot leaves can be applied over guinea-worm sores to extract the worms. A poultice of castor seeds is also applied to scrofulous sores and boils due to tuberculosis of lymph nodes.



Castor seeds

Hair problems: If used regularly as hair oil, it helps the growth of the hair and eradicates dandruff problem.

Constipation: Castor oil is a simple, harmless purgative and can be used without any rigid consideration and limitation of weather and the physiological nature of the patient. Generally, spring is the best season to administer purgatives, but castor oil, can safely be used round the year. It simply passes out after completing its purgative action.

Those who find its use nauseating and unpalatable: can take it with ginger water or *aqua anisi* in place of milk. This greatly reduces its unpleasantness, while destroying mucous and promoting healthy appetite.

- **Medicinal Uses of Castor bean seed**

Cathartic, purgative, laxative, vermifuge, galactagogue. Castor oil is regarded as one of the best laxative and purgative preparations available. It is of particular benefit for children and pregnant women due to its mild action in easing constipation, colic and diarrhoea due to slow digestion. The oil expels worms from the body, after other suitable remedies have been given. When applied externally, castor oil eases cutaneous complaints such as ringworms, itch and leprosy, while it is used as a carrier oil for solutions of pure alkaloids, e.g. atropine or cocaine, from Belladonna, that these drugs can be used in eye surgery.

- **Industrial use**

Castor is used for a range of industrial purposes from soap making to varnishes.

Although castor has industrial and medicinal uses, still it is a neglected crop due to the laborious processing operations involved.

Manual depodding process

Currently castor seeds are manually depodded. After harvesting, the castor pods are sun dried for 3–12 days, depending on the initial moisture content and weather conditions. The husk is then removed from the seeds by beating with a mallet so as to release the seeds. The manual depodding process presently followed is tedious, highly time and labour intensive.



Castor decorticator

Decorticating machine

Looking into socio economical conditions of farmers, a castor depodding and decorticating machine was developed at CIPHET which separates seeds from pods and dehulled from seeds by using principle of impact.

The unit also contains a cleaning grading assembly which grades the seed in two sizes.

Moisture content

- The depodding and decorticating efficiency was found to be 98.5 % at 6.22 % (w.b.) moisture content of the pods.
- At the same moisture content the capacity was also as high as 179 kg/h.

Dimension of the machine

Overall dimension of the machine was 1255 x 625 x 1595 mm. A single person can conveniently operate the machine.

Fabrication cost

The fabrication cost of the machine was Rs.25,000/- excluding cost of 2 hp electric motor.



Dr. R. T. Patil,

Director,

Central Institute of Post Harvest Engineering and Technology,

PO: PAU Campus, Ludhiana-141 004 (Punjab),

E-mail: ramabhau@yahoo.com

Website: www.ciphet.in

Note: The author may have used various references in the preparation of this article. For further details please contact him/her.

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