

EASY COLLECTION AND PROCESSING OF PONGAMIA THROUGH MOTORISED DE-HUSKING & OIL EXTRACTION MACHINES BRINGS CONFIDENCE TO BOOST BIO-FUEL PRODUCTION

Relevant for: Indian Economy | Topic: Infrastructure: Energy incl. Renewable & Non-renewable

The participation of the farming community in feed stock production plays an important role in developing strategies for biofuel production thus will help fulfill the target of 175 GW of non-fossil fuel of Prime Minister Shri Narendra Modi.

As the manual dehusking of Pongamia (Karanj or Honge), a potential biofuel crop, is a laborious process, farmers do not show much interest for its collection. Hence motorized dehusking machine was much desired to bring back their enthusiasm for collection and processing.

The Pongamia decorticator, which runs on 1.0 HP single-phase electric motor, has been designed and developed using mild steel with a capacity of 80-100kg/hr with Grant-in-aid from SYST program, SEED Division of the Department of Science and Technology (DST) at University of Agricultural Sciences, Bangalore under the project entitled "Development and evaluation of pongamia pod decorticator and mini vegetable seed oil extraction machine". The machine has efficiency of about 85-90% and damage of the seeds to the tune of 10%. Usually, the damaged seeds are broken into cotyledons which may not have any effect on oil extraction process.

Newly developed oil extraction machines and pongamia pod decorticators will help improve biofuel production and by-product utilisation at the village level to augment the income of farmers in Hassan district, Karnataka.

A total of 10 mini vegetable oil extraction machines and 8 pongamia pod decorticators have been distributed recently to farmers' self-help groups at Hassan district, Karnataka, which are linked to farmers' producer organizations.

These small-scale oil extraction machines would be ideal for rural areas for oil extraction in villages and use of by-products like the cake for manure, biogas, and also edible oil cake as animal feed. These machines were developed and tested for edible and non-edible oilseeds. It runs on single phase 230 V power with variable speed. Heating mechanism with temperature control has been developed for heating of the expeller at the cake flow to enhance the extraction efficiency. Power consumption for oil extraction is 500 w/h. The oil extractor is removable and can be easily cleaned before using for different oil seeds. Different sets of extractors may be used for edible and non-edible oils. The machine has been tested for edible oil seeds such as Sunflower, Coconut, Groundnut, mustered, sesame, etc., and non-edible oil seeds such as pongamia, neem, and mahua.





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