

Technology for Cashew Cutting and Peeling

Technology Description

Incubating with certain type of hydroxyl ion producing mixture was found feasible for cutting the cashew shell (Raw Cashew Nut-RCN). This technology was standardized for cutting open the raw cashew nut without thermal application.



Name Of institute:
CEPC Laboratory and Technical Division,
Cashew Bhavan, Mundackkal, Kollam.
Stage of development:
Ready for commercialization
Patent status: Filed

Scientific Experts:
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Background

The cashew processing technology in cashew processing units involves both manual and mechanically operated machinery with mostly thermal techniques like drum roasting technique to steam roasting employed. The disadvantage of the above mentioned processing systems is the decarboxylation of the higher amount of anacardic acid (90%) present in the cashew nut shell. The cashew processing centre and inhabited areas are contaminated due to heavy fall out of the CNSL; which will cause health problems among processing workers.

The shell liquid if obtained by low temperature treatment contains only anacardic acid and cardol with anacardic acid as the major

Benefits / Utility

The invented technology would overcome the problem of environmental pollution caused by the existing drum roasting processing. The technology is less time consuming and compared to the existing technologies is highly energy conservative. The work force requirement compared to the existing cutting process will be much smaller. The use of suitable automatic Sheller could help to overcome the shortage of work force. The recovery of complete CNSL from the wasted cashew shell by overcoming the decarboxylation of anacardic acid on thermal treatment can be overcome

Thus if the technology if implemented with concurrent use of

Country

India

Scalability

Currently Small Scale but can be Scaled to Large Scale

Business and Commercial Potential

India process about 1.18 million MT/annually of raw cashew seeds through 3650 cashew processing industries scattered in many states of country. If in the technology is implemented with concurrent use of Anacardic acid extraction technology from CNSL and enzyme production technology from the CNSL extracted Cashew Shell; this could indeed turn out to be financially and economically highly beneficial. This technology could replace the existing cashew

Potential investors to this technical innovation

Cashew Industries that process RCN will be the major beneficiaries of this technology. Hence because of the above mentioned benefits it is these companies who are likely to invest in this technology

Financials

VALUE OF THE TECHNOLOGY: Tech commercialization fee to be charged from one licensee= 2 Lakhs on technology transfer, Financial Required: Fix assets (Land and Building) = Land 5 cents and building in it in 1000 square feet with a total expense of approx : 5 lakhs for land and 10 lakhs for the building , Machinery and chemicals = Rs. 13 lakhs, Others= Rs 2 lakhs, Cost: Approx investment of Rs. 30 Lakhs



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Target Market / Customer

Potential Clients: Raw Cashew Nut Processing Units

Limiting factors for large scale commercialization

This technology is slightly expensive compared to the existing Drum Roasting type or Steam cooking type of Cashew processing. But the less pollution and value that this technique will add to the cashew industry can

Social impact of the technology

This technology ensures low emission of pollutants to the atmosphere; because the pollution causing drum roasting system of cashew processing could be overcome. The communities that live around Cashew processing units have slowly but steadily understood that the pollution has come down considerably and thereby has resulted in increase in inhabitants. Ergonomically the requirements will be much lesser compared to the steam cooking method of cashew processing. The use of suitable automatic Sheller could help to overcome the shortage of work force. These features will certainly help in a more responsible and better industrial practice.

Any other relevant information

Techno Economic Aspects 5kg of Raw Cashew Nuts can be processed from 1litre of peroxide mixture (800g at a time in 3 batches =2.5kg) Thus approx 800gm of cashew kernels could be obtained from this and the production cost is approximated to be Rs. 500/- The TFR studies are