

PROCESS FOR THE REMOVAL OF GLOCHIDS IN THE GENERA *OPUNTIA SPP* AND *STENOCEREUS SPP*

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| <i>Offering Organization:</i> | Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C. |
| <i>Type of Organization:</i> | Public Research Center |
| <i>Development Stage:</i> | Laboratory |
| <i>Desired Relationship:</i> | <ul style="list-style-type: none"> – Technological research and development financing (technological partner) – Specialized application tests – Creation of a new company (Joint Venture) for the commercialization of the products outlined herein – Licensing of patents |
| <i>Sector:</i> | Food |
| <i>Area of knowledge:</i> | Food Technology |
| <i>Key words:</i> | Removing glochids, Removing spines, Nopal, Nopal Cactus, <i>Opuntia spp</i> , <i>Stenocereus spp</i> , Obtaining fibers |

DETAILED DESCRIPTION:

Problem to be solved :

In the food industry, cladodes of the genus *Opuntia spp* are currently removed via mechanical procedures in the process of obtaining fibers from the cladodes. This causes an increase in plant material waste and leads to a lower fiber production output, ultimately requiring more labor and time to meet output goals. Additionally, the stems and fruits of genera *Opuntia* and *Stenocereus* are not taken advantage of even though they are a source of dietary fiber because of the difficulty in removing them.

Solution:

This invention proposes solving the aforementioned issues by utilizing an enzyme process that successfully eliminates glochid removal and decreases plant material loss from these genera. By successfully displacing the mechanical removal of the glochids it also requires less labor and allows for the use of other raw material such as stems, cladodes, and/or the shells of the genera *Opuntia* and *Stenocereus* with glochids.

New and Innovative Aspects:

Processes to remove glochids in the genera *Opuntia Spp* and *Stenocereus SPP* which increase output and result in a product that can be utilized directly as a dietary fiber or as an ingredient in the formulation of food products, pharmaceuticals, and cosmetics.

TECHNICAL CHARACTERISTICS:

The present invention refers to an enzymatic process for removing glochids in the genera *Opuntia SPP* and *Stenocereus SPP*. The plant material consists of stems, cladodes, and/or fruit. This invention displaces the traditional manual and mechanical methods of removing glochids, such as the use of metal and wooden knives and despining machines, the latter which have currently been used only in industrial nopal cladode processing. The principal disadvantage with these traditional methods is the waste of plant material during glochid removal. This invention

addresses this and increases yields of the product which can be then directly utilized as a dietary fiber or as an ingredient in the formulation of foodstuffs, pharmaceuticals and cosmetics.

Main advantages derived from its utilization:

- The product obtained with this invention can be utilized directly as a dietary fiber or as an ingredient in the formulation of foodstuffs, pharmaceuticals and cosmetics.

Applications:

- The food, cosmetic, and pharmaceutical industries.

INTELLECTUAL PROPERTY

- Patent granted in 2012, valid until 2016.

ABOUT THE OFFERING ORGANIZATION

Presentation:

El Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C. (CIATEJ) is a public research center that belongs to the national technology development and innovation network, the National Council for Science and Technology (CONACyT). CIATEJ is focused on the agricultural, food, health, and environmental sectors with an emphasis on the application of innovative biotechnology.

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