

PROCESSES OF OBTAINING AND USING FRACTIONATED AGAVE FRUCTANS

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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> | Commercial Concept Tests |
| <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> | Fractionated fructans, extraction, agave, food, food product, food supplement, functional ingredient, nutraceutical properties |

DETAILED DESCRIPTION:

Problem to be solved:

The present invention relates to the field of agave fructans, their application and process of obtainment, as it refers to a complete process for the extraction of fructans present in agave plants and their use as food supplements with nutraceutical properties or as a functional ingredient for the manufacture of foodstuffs and food products.

Solution:

Process of obtaining and extracting fructans to be used as a food supplement or functional ingredient in the manufacture of food products.

New and Innovative Aspects:

- Novel process for obtaining fructans.
- This invention also presents the methodological design to determine the percentages of short- and long-chain fructans contained in the total fructans extracted from agaves of different ages.
- It proposes a process capable of processing the agave to obtain, in a separate form, fructans of different degrees of differentiated polymerization based on specific characteristics and properties.
- Proposes a different extraction process.

TECHNICAL CHARACTERISTICS:

This invention refers to products obtained by fractionation of an aqueous extract of agave consisting of branched agave fructans separated by molecular chain size or degree of polymerization into two types: a) short-chain fructans (fructooligosaccharides) with a degree of polymerization between 3 and 10 monomer units, and b) long-chain fructans with a degree of polymerization greater than 10. The obtainment process uses agave heads, which contain fructans of different degrees of polymerization, as the raw material. It involves washing and crushing the agave

heads, tearing up the fiber they contain, and leaching that fiber with hot water to obtain an aqueous extract that contains soluble solids. The extract is clarified by coagulation, sedimentation and filtration to remove insoluble solids present and is then purified by ion exchange and activated carbon. The purified extract is fractionated by tangential ultrafiltration. The final products obtained have nutraceutical properties and can be used as food supplements or functional ingredients in food processing.

Main advantages derived from its utilization:

- The products obtained have nutraceutical properties and can be used as food supplements or functional ingredients in food processing.
- The products obtained reduce glucose, triglycerides, weight and/or body fat in people with conditions such as metabolic disorders, being overweight, or obesity.

Applications:

- Nutraceuticals, food products, food

INTELLECTUAL PROPERTY

- Patent submitted in 2013
- MX/a/2013/004903

ABOUT THE OFFERING ORGANIZATION

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| <i>Presentation:</i> | 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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