

PROCESS OF OBTAINING AND USING AGAVE FRUCTANS AS A FUNCTIONAL INGREDIENT	
<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>	Fructans, agave, nutraceuticals, functional ingredients, formation of foods, food supplements
DETAILED DESCRIPTION:	
<p><i>Problem to be solved:</i></p> <p>Fructans are fructose polymer chains of different sizes and degrees of polymerization and are naturally produced by various microorganisms and plants. They are found in about 15% of the flowering plant species belonging to the monocot and dicot families, especially in temperate and arid climates. Substances such as fructans have been associated with a number of health-supporting functions and characteristics, including their positive collective effect as a prebiotic, a high availability of minerals, the strengthening of defense mechanisms, the improvement of the metabolism of lipids, even as aids in disease prevention.</p>	
<p><i>Solution:</i></p> <p>This invention is to be used to obtain a product containing a mixture of agave fructans with different degrees of polymerization, which can be used as a nutraceutical ingredient in the formation of functional foods, or for use as a food supplement with the ability to reduce triglycerides in people with conditions such as metabolic disorders, being overweight, or obesity.</p>	
<p><i>New and Innovative Aspects:</i></p> <ul style="list-style-type: none"> – The specific use of agave fructans obtained from the agave stem or head of plants in a state of incomplete maturity (young agave), since the composition of the carbohydrates of the agave changes throughout plant growth. – Novel extraction process that consists of the extraction of carbohydrates by leaching them in a diffuser using water as a solvent and then spray drying them. – Methodology to quantify the percentages of short- and long-chain fructans comprising the total fructans extracted from agave of different ages. – Procedure to obtain differentiated products from both young and mature agave with specific characteristics and properties in a new way. 	
TECHNICAL CHARACTERISTICS:	

The process of obtaining all fructans the young agave contains consists of the following steps:

1. Wash the agave heads
2. Tear out and grind down the fibers from the agave heads
3. Remove the soluble compounds through leaching with hot water in a diffuser
4. Clarify the leached extract
5. Concentrate the extract obtained by vacuum evaporation
6. Spray dry the concentrated extract to obtain the product

Main advantages derived from its utilization:

- Its use as a nutraceutical ingredient in the formation of functional foods or food supplements.
- Its application as a functional ingredient with nutraceutical properties that reduce triglycerides in patients with conditions such as being overweight, obesity, or normal-weight people with dyslipidemia.

Applications:

- Nutraceuticals, functional ingredients, formation of foods, and in food supplements.

INTELLECTUAL PROPERTY

- Patent applied for in 2013.
- MX/a/2013/004901

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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