

<b>PROCESS FOR FERMENTING AGAVE JUICE USING <i>KLOECKERA SPP</i></b>	
<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"> <li>– Technological research and development financing (technological partner)</li> <li>– Specialized application tests</li> <li>– Creation of a new company (Joint Venture) for the commercialization of the products outlined herein</li> <li>– Licensing of patents</li> </ul>
<i>Sector:</i>	Industrial
<i>Area of knowledge:</i>	Tequila Industry
<i>Key words:</i>	Tequila, continuous system, batch processing system, fermentation, agave, <i>Kloeckera spp</i>
<b>DETAILED DESCRIPTION:</b>	
<p><i>Problem to be solved:</i></p> <p>As of over five years ago, the yeasts of the genus <i>Kloeckera</i> started to regain interest for their ability to generate aromas and pleasant scents. However, their use in the production of alcoholic beverages is limited given their low capacity for fermentation due to a presumed intolerance of high concentrations of ethanol.</p>	
<p><i>Solution:</i></p> <p>This invention relates to the fermentation stage in the production process of tequila, specifically pertaining to a process for propagating <i>Kloeckera spp</i> as well as using it in the agave juice fermentation process in both a batch processing system and a continuous system.</p>	
<p><i>New and Innovative Aspects:</i></p> <p>In this invention, a propagation process is presented in order to activate the <i>Kloeckera</i> and make it more efficient in the fermentation of agave juice to high sugar concentrations under similar conditions achieved in the tequila industry using a batch processing system. The final goal is to reach concentrations of ethanol similar to those universally obtained with <i>Saccharomyces</i> yeast in this field.</p>	
<b>TECHNICAL CHARACTERISTICS:</b>	
<p>The "<b>process of propagating <i>Kloeckera africana</i></b>" consists of the following four stages:</p> <ol style="list-style-type: none"> <li>1. Obtainment of the agave juice</li> <li>2. Propagation medium</li> <li>3. Prepare the pre-inoculum of <i>Kloeckera Africana</i></li> <li>4. Inoculation of <i>Kloeckera Africana</i></li> </ol> <p>The "<b>process of fermenting agave juice utilizing <i>Kloeckera africana</i> in a batch processing system</b>" consists of the following five stages :</p> <ol style="list-style-type: none"> <li>1. Propagation of <i>Kloeckera Africana</i></li> <li>2. Preparation of the fermentation medium</li> </ol>	

3. Inoculation
4. Fermentation
5. Distillation

The "**process of fermenting agave juice utilizing a pure cultivation of *Kloeckera africana* in a continuous system**" consists of the following stages :

1. Propagation of *Kloeckera Africana*
2. Preparation of the fermentation medium
3. Inoculation
4. Fermentation of the fermentation medium
5. Feeding of the fermentation medium
6. Distillation

*Main advantages derived from its utilization:*

- The reduction in processing costs in the production of Tequila
- Provide different natural flavors and aromas to the final beverage
- Produce products within the Mexican Standard NOM-006-SCFI-2005

*Applications:*

- The Tequila Industry

#### **INTELLECTUAL PROPERTY**

- Patent granted in 2014, valid until 2026
- JL/a/2006/000053

#### **ABOUT THE OFFERING ORGANIZATION**

<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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