

Agave Harvesting Machine	
<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>	Pilot design stage without testing
<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>	Agriculture
<i>Area of knowledge:</i>	Mechanics
<i>Key words:</i>	Harvesting machine; jimadora machine; agave; tractor
DETAILED DESCRIPTION:	
<p><i>Problem to be solved:</i></p> <p>The industrialization of agave consists of the “jima” process, hacking off the leaves to expose the blue heads of the plant, and then the harvesting of the plant when it has reached the appropriate maturity for utilization in tequila production and the production of other agave-derived products. Currently, the harvesting of agave is a very intense manual process that requires the use of a tool called a “coa”, a specialized hoe.</p>	
<p><i>Solution:</i></p> <p>The machine that performs the “jima” and harvesting processes consists basically of three elements that can be attached to a conventional tractor or self-propelled vehicle. These three parts are: A pitchfork mechanism that lifts and cuts the plant at its roots; An inclined transporter with hooks that carries the agave to the third component; And a cylinder with blades for the “jima” process. The apparatus facilitates and streamlines the processes of agave harvesting and “jima”. The invention also makes the harvesting and “jima” processes more efficient, as the machine allows for continuous operation in a quicker manner along rows of agave in the field.</p>	
<p><i>New and Innovative Aspects:</i></p> <p>Key to the harvesting and “jima” processes is the utilization of a specialized agricultural tool known as a “coa”, which requires the strength of skilled human laborers for its effective use in performing these operations in as little time as possible, and this reality is a constraint upon the production capacity of any given industrial plant. The agave harvesting machine was developed primarily to resolve this problem.</p>	
TECHNICAL CHARACTERISTICS:	
<p>The agave harvesting machine is comprised of three principal components: A pitchfork, an inclined transporter with hooks, and a cylinder containing blades. These components can be attached to a conventional tractor or to a self-propelled vehicle.</p>	

Main advantages derived from its utilization:

- It facilitates the faster and easier harvesting and “jima” of agave compared with the manual traditional method of utilizing the “coa”.
- It allows for continual operation along entire rows of agave in the field.

Applications:

- This machine performs the agave harvesting and “jima” processes.

INTELLECTUAL PROPERTY

- National patent, No. 243917, filed in 2001.
- Valid

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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