



**USAID**  
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**John Ogonowski**  
**Latin America**  
**Farmer-to-Farmer Program**

## Executive Summary

The purpose of this project was to determine the marketability of jicama in brine, jocote in brine, frozen jocote, and jocote jam & jelly. A major obstacle in selling the latter three products is that the jocote fruit itself is known by various names in different countries and languages. Despite this problem, its popularity in Mexico, Central America and the Caribbean has created a market for the product here in the US among such ethnic communities.

Jicama already has a well-established market among Mexican and Central American communities throughout the US. However, jicama in brine has been virtually unheard of.

These were the problems we faced when researching our products for USAID's Farmer-to-Farmer Program. This report highlights the extensive research and interviews we conducted on both jicama and jocote products. The information provided in this report is quite beneficial of utmost importance to potential exporters of jicama and jocote to the United States.

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## Introduction

## Program Rationale

The John Ogonowski Farmer-to-Farmer Program, funded by the United States Agency for International Development, provides voluntary technical assistance to farmers, farm groups, and agribusinesses in developing and transitional countries to promote sustainable improvements in food processing, production, and marketing. The program relies on the expertise of volunteers from U.S. farms, land grant universities, cooperatives, private agribusinesses, and nonprofit farm organizations to respond to the local needs of host-country farmers and organizations.

To date, approximately one million farmer families (representing about five million people) have been direct beneficiaries of the FTF Program. Volunteers have provided direct hands-on training to over 80,000 people.

Winrock International and Florida International University's College of Business Administration have combined their resources and knowledge to implement the John Ogonowski Farmer-to-Farmer Program in Latin America, from 2003-2008.

The MAR 4613 course was created to add value to the Farmer-to-Farmer Program and prevent scarce volunteer resources from being diverted to requests for assistance, which are best, completed in the United States. The resulting freed up resources allow the program to fulfill requests with volunteers where an in country expert is a necessity. Of added value, hosts receive this additional US-based volunteer service at no cost to the FTF program.

## Introduction

### Research Objectives

The objective of this research is to analyze the US market potential of a variety of commodities. Our goal is to provide information on a variety of commodities, which can then be applied by our in-country partners to their business strategies. The primary beneficiaries of these reports are small and medium-sized farming cooperative groups which do not have the capability nor the resources to conduct these studies on their own.

It is of critical importance that while drawing conclusions to satisfy the research objective, a thorough analysis is carried out. In order to do so, some of the questions which must be analyzed are:

1. What is the demand of the product in question?
2. Who are the buyers and consumers of the product?
3. What are the quality standards and packaging requirements?
4. What is the distribution system for the product?
5. Who are the competitors?
6. What government regulations apply to the import of this product?

If it is a new product for the market, additional questions must be asked:

1. Who are the potential buyers of this product?
2. What are the potential distribution channels?
3. What are the additional important issues which must be investigated before attempting to export the product?
4. Are there any regulations which might inhibit this product from being sold in the US market?

### Research Method

Given that the research objectives include getting background information of the potential market of the commodities included in the report, the research was conducted using an explorative design. Two main methods were employed: secondary data research and personal interviews. In some instances focus groups with consumers were conducted.

The secondary research was conducted by searching and interpreting existing information relevant from governmental and private electronic sources. When specific information about a commodity was not found secondary research was guided by similar commodities relevant to the information needed.

In order to complement the secondary research, personal interviews with experts were conducted. The interviewees were either academic or commercial experts in the production and commercialization of the commodities in question. In some cases, the researchers felt the need to complement this information direct input from the consumers; in those cases focus groups session were conducted.

The sources of the information are cited through out the content of the report. Contact information of the experts is provided. At the end of the report conclusions and recommendations for future action are suggested.

# **Jicama Produce & Brine**

## Product Description

The product yam bean brine is preserved jicama (yam bean) in a salt solution.

The jicama is a species of *Pachyrhizus*, a legume native to tropical and subtropical Central America. It is cultivated for its edible taproot. Other common names for the jícama include sengkwang, yacon, yam bean, Mexican potato and Mexican turnip. In the Philippines, it is referred to as singkamas.<sup>1</sup> Brine is simply water saturated or nearly saturated with salt. Though used far less today than in previous centuries, brine is used to preserve vegetables, fish, and meat. At 60°F saturated brine is 26.4% salt by weight (100 degree SAL). At 32°F brine can only hold 23.3% salt.<sup>2</sup>

## Statistical Data

### US Production Data

The Jicama is not produced in the U.S. according to the U.S. government:

“In many cases, importation of certain commodities is necessary given that the commodities are not grown extensively in the United States (e.g., bananas, breadfruits, cassavas, chicory, dasheens, genip, kiwis, papayas, pineapples, **jicama**, and tomatillos).”<sup>3</sup>

For this reason, jicamas must be imported to supply current consumption. US production data is not available for the jicama. Information available shows that its seeds can be planted in Texas during early spring, and small tubers harvested before the first killing frost of the winter.

### Apparent Consumption

The following data shows U.S. imports for consumption listed by countries in dollars and quantity, respectively, between the years 1996 and 2002. The data is irrelevant for purposes of accuracy, because it mixes other products (pumpkin and breadfruit) with the jicama. It can be used as an approximation of the best case scenario for jicamas.

Tables 1 and 2 indicate imports by quantity and dollars reveal that consumption in the U.S. for these products has grown over 50% between 1996 and 2002. From what the table is

## Jicama Produce & Brine

indicating, it would be safe to assume that consumption levels will grow another 50% by 2008. This shows the steady consumption and growth of exotic fruits within the U.S. It will be interesting to compare this table with Mexican and Central American immigration growth into the US to see if a correlation exists.

### Origin of Importations

According to one USDA document, jicama is imported from the following countries<sup>6</sup>:

- Mexico
- Nicaragua
- Honduras
- Guatemala
- El Salvador

But according to another USDA source, the jicama is exported as a specialty commodity and is not generally considered to be a mainstream product. Also, there is no data indicating that the U.S. exports this good.

## Jicama Produce & Brine

**TABLE 1**  
**U.S. Imports of Jicama, Pumpkin, and Breadfruit (Fresh or Chilled) <sup>5</sup>**  
**Imports Measured by US Dollars (In 1,000 Dollars)**

Country	Year							Total
	1996	1997	1998	1999	2000	2001	2002	
Mexico	4,534	3,184	6,860	9,794	14,765	14,204	9,924	<b>\$63,265</b>
Canada	70	149	194	837	992	1,010	1,815	<b>\$5,067</b>
Panama	1,711	1,690	1,742	1,845	1,863	1,946	1,727	<b>\$12,524</b>
Trinidad & Tobago	739	660	1,060	1,150	2,197	1,517	1,727	<b>\$9,050</b>
Costa Rica	926	726	746	724	748	355	596	<b>\$4,821</b>
Dominican Republic	355	298	475	622	513	354	359	<b>\$2,976</b>
Jamaica	371	268	515	554	373	286	308	<b>\$2,675</b>
Honduras	71	0	71	252	42	120	228	<b>\$784</b>
Peru	0	0	0	0	0	14	93	<b>\$107</b>
Brazil	0	0	0	0	0	0	9	<b>\$9</b>
Haiti	0	5	12	0	8	8	6	<b>\$39</b>
Ecuador	46	0	3	0	0	0	4	<b>\$53</b>
Belize	0	0	0	6	60	8	3	<b>\$77</b>
Bahamas	0	0	0	62	0	0	0	<b>\$62</b>
Fiji	0	0	0	0	9	0	0	<b>\$9</b>
All Others	23	20	21	5	24	2	0	<b>\$95</b>
<b>Total</b>	<b>\$8,844</b>	<b>\$7,000</b>	<b>\$11,698</b>	<b>\$15,851</b>	<b>\$21,596</b>	<b>\$19,824</b>	<b>\$16,799</b>	<b>\$101,613</b>

## Jicama Produce & Brine

**TABLE 2**  
**US Imports of Jicama, Pumpkin, and Breadfruit (Fresh or Chilled) <sup>5</sup>(In 1,000 Kilograms)**

Country	Year							Total
	1996	1997	1998	1999	2000	2001	2002	
Mexico	14,947	13,917	15,172	18,118	19,911	20,322	20,243	<b>122,630</b>
Canada	365	728	867	3,099	3,287	2,873	5,698	<b>16,917</b>
Panama	7,060	6,793	6,139	6,186	5,573	6,160	5,847	<b>43,758</b>
Trinidad & Tobago	1,341	1,321	2,037	2,466	4,735	3,730	4,035	<b>19,665</b>
Costa Rica	2,568	2,023	2,173	2,258	2,545	1,644	2,420	<b>15,631</b>
Dominican Republic	1,277	980	1,384	1,500	1,287	663	1,153	<b>8,244</b>
Jamaica	552	372	526	510	422	292	420	<b>3,094</b>
Honduras	350	0	354	1,258	277	775	1,280	<b>4,294</b>
Peru	0	0	0	0	0	43	273	<b>316</b>
Brazil	0	0	0	0	0	0	24	<b>24</b>
Haiti	0	26	22	0	34	38	19	<b>139</b>
Ecuador	124	0	1	0	0	0	3	<b>128</b>
Belize	0	0	0	33	185	13	10	<b>241</b>
Bahamas	0	0	0	156	0	0	0	<b>156</b>
Fiji	0	0	0	0	4	0	0	<b>4</b>
All Others	47	65	81	17	81	6	0	<b>297</b>

## Market Characteristics

## Consumer Preferences

The jicama is eaten in various ways, such as the raw vegetable itself, with lime and salt, with powdered chile, or “cooked in soups and stir-fried dishes. Notable raw jicama dishes include popiah and salads such as yusheng and rojak.”

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### *Consumer's Preferences and guidelines of consumption*

- Selection - Jicamas are suitable for consumption at any stage of growth (size). Look for well formed tubers that appear fresh and are free of cracks and bruises.
- Storage - Jicamas, like most other root crops, will store for relatively long periods of time in the refrigerator. However, conversion of starch to sugar will result if stored for excessive periods and should be avoided.
- Nutrition Information - A 3-1/2 ounce serving of jicama provides 39 calories and about 25% of the RDA for vitamin C.
- Preparation - Remove the peel including the fibrous flesh directly under the skin. Cut or slice and serve raw or use as a substitute for water chestnuts. Saute or stir fry -- it stays crisp when
- cooked. A one pound jicama yields about three cups chopped or three cups shredded flesh.

## Jicama Produce & Brine

- Microwave Instructions - Peel and cut one pound into "cubes or julienne strips. Place in 2-quart covered casserole with 1/4 cup water; microwave on high for 8-9 minutes. Stir once. Serve with honey, butter, salt and pepper, sweet and sour sauce, sour cream or yogurt dressing."
- Traditional Latin American Method - Peel the jicama, cut in pieces, and dress with lime, salt and chile. <sup>8</sup>

Jicamas are popular as fresh products. They cannot withstand being frozen, otherwise jicama will spoil.

There is no data about jicama in brine. There is a lack of general awareness of the jicama in this particular form.

## Quality Standards

"The recommended conditions for commercial storage of jicama are to keep its roots cool and dry. Jicama roots are very sensitive to chilling and roots should be stored at 12.5°C to 15°C (55°F to 59°F) with moderate relative humidity (70-80%). A storage life of 2-4 months can be expected under these conditions, although stem sprouts will develop after about 2 months. Sprout development results in weight loss and especially a loss of juiciness of the pulp. Minimizing mechanical damage to the periderm during harvest will reduce any incidence of decay during storage."

"Good quality jicama roots should be smooth and firm, with uniform shape and size, be free from mechanical damage to the skin, and have a crisp, succulent, white sweet-starchy flesh."

### Rates of Respiration for the Jicama (In ml CO<sub>2</sub>/kg-hr) <sup>9</sup>

Portion of Jicama	Temperature				
	0°C (32°F)	5°C (41°F)	10°C (50°F)	12.5°C (55°F)	20°C (68°F)
Mature Roots	2-4	5-6	5-10	2-4	3-4
Freshly cut pieces	2-4	4-6	6-10		

## Market Segments

The market for jicama is segmented into ethnic groups. Mexican communities are the primary consumers of jicama and are the groups which currently drive its market consumption. Central American groups from Honduras, Guatemala, Nicaragua, El Salvador, and Costa Rica are naturally consumers of jicama as well. Although jicamas are native to tropical regions of the Americas, they are also currently cultivated and consumed in China, Korea and much of South Asia. <sup>1</sup>

## Jicama Produce & Brine

A potential market segment lies among diabetics and dieters. The properties of the jicama make the root an ideal sweet snack for diabetics and dieters because its sweet flavor comes from the oligofructose inulin (also called fructo-oligosaccharide), which the human body does not metabolize. The jicama is also composed of 86-90% water and it contains only trace amounts of proteins and lipids. <sup>1</sup>

### Acceptable Conditions

The edible portion of jicama is taken from the root of the plant, which is the portion that grows underneath the ground. Once it has been classified and packaged, it is imported to the U.S. via ground transportation from Mexico to Texas, and from thereon to its final destination. The jicama, like most other fruits and vegetables, is sensitive to time, temperature, and season; if it is not treated in particular conditions, it can rot. However, jicama is not as sensitive as other imported products; if maintained in fresh conditions, jicamas can last for about two months before going to waste.

Aphis.usda.gov requires of Sec. 319.56-6 Regulations prevent the introduction and spread of plant pests to the United States. They recommend a complete risk analysis be conducted with regard to the possible introduction of these nematodes from commodities imported from Mexico. Pest risk analysis is more effective and efficient by expediting the release of high volume, low risk Mexican agricultural items. Only commercial shipments from Mexico are eligible. Usually one shipment per commodity is tested weekly.

### Competition

Mexico is the leading supplier of jicama. Jicama itself must compete with many exotic fruits and vegetables.

### Demand Trends

Due to expanding ethnic segments within the U.S., increased health awareness, and greater consumer interest and awareness of exotic fruits and vegetables, consumer demand for a wide variety of fruits and vegetables is increasing. <sup>10</sup>

Jicamas are available in specific areas of the U.S. There is data indicating “jicamas are offered in Texas supermarkets but are more popular in South Texas. Most of those on the market are imported from Mexico and South America.” Some supermarkets in South Florida, including Publix, occasionally sell them as well.

# Market Access

# Tariff Measurements

Tariff Measurements for Jicama and Its Processed Form <sup>11</sup>

Item	Schedule B	Description	Unit	Rates of Duty 1: General	Rates of Duty 1: Special	Rates of Duty 2
Fresh Jicama	0709.90.05 00	Jicamas, pumpkins, and breadfruit  (Other vegetables, fresh or chilled)	kg	11.3%	Free (A, CA, CL, E, IL, J, JO, MA, MX, P)  7% (SG) 9% (AU)	50%
Jicama in Brine	0711.90.65 00	Other vegetables  (Vegetables provisionally preserved (for example, by sulfur dioxide gas, in brine, in sulfur water, or in other preservative solutions), but unsuitable in that state for immediate consumption)	kg	7.7%	Free (A, CA, CL, E, IL, J, JO, MA, MX, P)  1.9% (SG) 3.8% (AU)	35%

## Jicama Produce & Brine

### Restrictions

According to the US government, the jicama is treated as a specialty commodity and can currently be imported into the United States under a permit:

“As discussed in the proposed rule and in this final rule, many of the commodities listed in this document may currently enter the United States under permit...”<sup>12</sup>

Salvador, French Polynesia, Guatemala, Haiti, Honduras, Hong Kong, Jamaica, Japan, Mexico, Nicaragua, Philippines, Taiwan, and Tonga. Importers from these countries need not apply for a permit in order to bring jicama to the US.<sup>14</sup>

### Regulations

“There are no U.S. Grades for jicama. In Hawaii, however, two grades are recognized based on size and freedom from defects (dirt, discoloration, growth cracks, roughness, insect damage, mechanical injury).”<sup>13</sup>

### Technical Procedures

A standard technical procedure when importing agricultural products into the U.S. is to apply for a written permit by the USDA, if one has not already been issued to the country of origin. Once a permit is issued to the country of origin for the particular commodity, from thereon it is permitted to enter the U.S. only from the respective country of origin. In the case of raw jicama, permits have already been issued to the Bahamas, China, Costa Rica, Dominican Republic, El

## Jicama Produce & Brine

# Prices

Retail prices for jicama in the Miami area are generally around \$0.99 per pound.

The following data was retrieved by the USDA's Federal-State Market News Service, showing market prices for jicama in various US cities. This data is valuable to analyze competition, supply, and demand among the primary markets of this commodity. Note that MX stands for Mexico, and the origin of this particular jicama. <sup>15</sup>

### Market Prices of Jicama in Various US Cities (Recorded on June 22, 2006)

Dallas	JICAMA: OFFERINGS LIGHT. 20 lb cartons Local Repack 8.00-10.00 mostly 9.00 cartons/crates Local Repack 15.00
Los Angeles	JICAMA: 20 lb cartons MX 5.50-6.50 50 lb containers MX 11.00-12.50
Atlanta	JICAMA: 38-40 lb containers MX 17.50-19.00 50 lb containers MX 20.50-21.75
Baltimore	JICAMA: MARKET STEADY. 10 lb cartons Local Repack 12.00 38-40 lb containers MX 27.00
Boston	JICAMA: 20 lb cartons MX 18.00
Chicago	JICAMA: 38-40 lb containers MX 18.00-20.00
NY	JICAMA: OFFERINGS LIGHT. 20 lb cartons MX 12.00-13.00 occas lower 38-40 lb containers MX 20.00-24.00 mostly 22.00
Philadelphia	JICAMA: 38-40 lb containers MX 19.00-20.00
Pittsburg	JICAMA: 20 lb cartons Repacked Local and Enroute 19.50
Seattle	JICAMA: 20 lb cartons MX 9.00-11.00 mostly 9.00-10.00 50 lb containers MX 15.00-16.00 few higher
St Louis	JICAMA: OFFERINGS LIGHT. 20 lb cartons MX 13.00-17.75 38-40 lb containers MX 21.00

## Distribution Channels

Jicama is distributed through the cities' terminals of produce. The terminals are the places where the produce market is concentrated and vendors and buyers meet. From the terminals, the produce is distributed to the produce stores and supermarkets. Terminals also have the advantage of consolidating jicama with other produce orders.

## Commercial Practices

## Procedures to Make Orders

Jicama has a strong influence throughout Mexico and its neighboring countries, especially during the spring and summer seasons due to the tropical climate and its relatively inexpensive cost. Its refreshing taste allows consumers to buy the product as a savory fruit, yet dry and hard coated like an apple. Mexicans export the product to its target markets in the United States including Texas, California and South Florida who have the largest percentage of Mexican populations. Its commercial distribution market does well in these areas.

Predominantly Mexican-populated areas do not need to commercialize the product because they have an existing market that continuously purchases jicama. No further commercial information was possible to obtain.

## Systems and Terms of Payment

Many methods of payments exist and all vary depending on the seller and buyer. One common procedure is to receive the truckload in the ports or terminals and pay cash. Some companies arrange payment terms of 15, 30 or 70 days for payment. Enterprises which are better organized give money in advance ("habilitan") to growers to buy seeds and take positions on the markets.

**Jicama Produce & Brine****Transportation**

The jicama is transported through Mexico to the US by trucks. The main bridge connecting the two countries on this route is located in McAllen, Texas.

**Packing, Types Used: Crates and Labels**

Jicamas are packed in cartons which can weigh from 25 to 40 pounds.

## Sales Promotion

Jicama is mainly consumed by people who have long been familiar with the product. Mexicans know about jicama because they can buy it anywhere in Mexico, including through private street vendors. Mexicans also use jicama as medicine, particularly diabetics because it lowers their sugar level. South Florida, Houston, California, and New York sell jicama in ethnic supermarkets targeting Mexican consumers. The fruit sells all year round, but it's consumed in abundance during the spring and summer. South Florida markets jicama in Homestead, Florida, where it is frequently sold in various Mexican local markets, Sedanos Supermarket, and Super Wal-Mart.

Tests have been conducted to grow jicama in South Florida, but its local soil does not permit the fruit to acquire the same taste. The soil does not have the necessary minerals and nutrients to produce a good quality jicama.

**Jocote Produce,  
Brine, Frozen,  
and Jam & Jelly  
Products**

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

# Product Description

The product jocote in brine is preserved jocote in either a salt solution or other preservative solution like “almibar.”

The product frozen jocote is jocote as a whole in a package.

Jocote jam & jelly is jocote processed with sugar and boiling procedures either filter or with pieces of fruit in a container.

Jocote (*Spondias Purpurea*) is a flowering plant of the Anacardiaceae family mainly grown in tropical regions. The species is from Central America and Mexico and it has been spread to the Caribbean and other tropical areas of the Americas. Asian countries also currently cultivate the species.

The fruit is known in Mexico as “ciruela” and in El Salvador and Guatemala as “jocote.” Other common names are Red Mombin, Purple Mombin, Hog Plum, Ciruelo criollo, Spanish Plum, and Ciruela de hueso. In English the name is also Chile Plum, Jamaica Plum; in French the fruit is called Mombin Rouge and the tree is called Prunier des Antilles; in German it is called Mombinpflaume; in Portuguese it is called Ambuzeiro, Amixa da Expanha; in Mexico it is called Ciruela Morada; in Colombia it is called Hobo Balnco; in Costa Rica it is called Jobillo and Jobito; and in Guatemala and El Salvador it is called Jocote de Corona.<sup>1</sup>

The large number of synonyms for this fruit make it tough to identify for research and very difficult to market. There is need a common term for sellers, consumers and buyers. This is crucial because in order to target a segment within the US,

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

one needs to match the product to the known name used by each particular ethnicity. For example, one of the images included of packaged jocote is labeled as “ciruela” because the particular product targets the Mexican market segment.

Jocote is extracted from a small to medium-sized tree. The flowers are small, reddish-purple, and the fruit is an edible oval containing a large seed. It is cultivated in tropical regions throughout the world for its edible fruit. The fruit is in oval form of 3 to 5 centimeters long, and colored purple, red wine or yellow. It has a leathery skin and a thin layer of pulp. The pulp is either eaten fresh, or made into juice, concentrate, jellies, and sherbets.

Jam & Jelly products are defined as “a type of fruit spread made by boiling fruit with sugar to make an unfiltered jelly. Jam is often spread on bread and also used as a culinary sweetener, for example in yogurt.”<sup>2</sup> Yogurt companies interested in the Latin market may be interested in buying jocote jam.

There are different types of jocote. According to an article referring to El Salvadorian jocotes, the country has the following varieties of jocote:

- Jocote Azucarón: a red color and harvested from February to April
- Jocote Verano (ácido or Barón Rojo): same as above
- Jocote Tronador (Pitarrio): same as above
- Jocote Turco: a yellow color, harvested from February to March.

- Jocote Corona: a red and yellow color, harvested from July to October
- Jocote de Invierno: a yellow color, harvested from July to September
- Jocote Manzano: same as above
- Jocote Iguana: extremely acidic color, harvested from February to April
- Jocote Chapín: a greenish-yellow color, harvested from August to September.

Jocote can be processed in many different ways including jams, preserves, sugar preserve (almíbar), frozen, paste, candies, Costa Rican native miel de abeja, drinks concentrates, and even wines.<sup>3</sup>

## Statistical Data

### U.S. Production Data

Jocote has been infrequently planted in southern Florida, mainly as a curiosity. Aside from these isolated cases, no data exists signaling any significant U.S. production of jocote.

### Apparent Consumption

In a marketing research project called “Oportunidades de Mercado de Frutas de El Salvador en los Estados Unidos de America” developed by the program “Frutal Es” in March 2003, the study recalls that 80% of the stores visited had jocote in stock, and it was a more popular exotic fruit than others like “maranon,” or “mamey.” The two more popular types found in stores were the jocote rojo (baron rojo) and the jocote corona. The latter, corona, is the favorite and has a better price. Jocote was found in stores in both jam and frozen processed forms.

### Statistics of Foreign Trade

According to the Department of Agriculture and Cattle from the Government of El Salvador, the balance trade for jocote was positive. They exported more jocote than they had imported and the destiny of exports was mainly the US. The main forms of the jocote were frozen, in “salmuera,” and in “almibar.”

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

It seems that the import trade and demand for processed foods of jocote in the US is significant.

### Origin of Importations

The following countries are the main producers of the jocote consumed in US:

- El Salvador
- Guatemala
- Mexico
- Colombia
- Costa Rica

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

### Market Characteristics

### Consumer Preferences

The ripe fruits are commonly eaten out-of-hand. While not of high quality, they are popular with people who have enjoyed them from childhood as snacks. In the home, they are stewed whole, with sugar, and consumed as dessert. They can be preserved for future use merely by boiling and drying, which keeps them in good condition for several months. The strained juice of cooked fruits yields an excellent jelly and is also used for making wine and vinegar. In Mexico, unripe fruits are made into a tart, green sauce, or are pickled in vinegar and eaten with salt and chili peppers. The new shoots and leaves are acidic and eaten raw or cooked as greens in northern Central America. Also, rural Costa Ricans often make a jam from jocote called *miel de jocote*.<sup>4</sup>

El Salvadorians consume mainly fresh jocote and its jam, according to a document from El Salvador: "...siendo de mayor consumo popular en fresco y en jaleas..."<sup>6</sup>

Consumer behavior information according to a research document from El Salvador is very valuable information in that it helps to understand how to segment the market and what products to offer. It specifically refers to the El Salvadorian niche:

- Consumers living in the US for less than 3 years prefer fresh products and home-made products of jocote
- Consumers living in the US for more than 3 years prefer preserved and frozen jocote.

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

- Dried products are purchased once a month
- Frozen products are purchased twice a month
- Fresh products are bought weekly.<sup>5</sup>

### Quality Standards

The quality standards of jocote, according to the marketing research project “Oportunidades de Mercado de Frutas de El Salvador en los Estados Unidos de America,” include the following:

- Uniform color. Consumers had a tendency for red colored fruit.
- Free of injuries and plagues
- Size is the variable that determines price<sup>5</sup>

### Market Segments

Market segments for the jocote have relied upon immigrant communities within the U.S., particularly those from Central America, Mexico, and the Caribbean.

El Salvadorians residing in the United States are an obvious market. They consume this fruit nostalgically according to the following quotation which presents valuable information on why to target this niche market:

“En el país, se comercializa en mercados municipales, plazas públicas y en algunos supermercados. Posee potencial de exportación como fruta congelada, por ser una fruta nostálgica de gran demanda entre los salvadoreños en el exterior, especialmente los Estados Unidos.”

Nostalgic markets have frequently occurred throughout US history. Jocote is a winner among Central Americans. An approximation of cash flow of the nostalgic market in 1993 alone was US\$460 million.

According to valuable information retrieved from another marketing research project that investigated the demand for exotic fruits in United States, there are three key target markets that identify high densities of El Salvadorian populations and potential jocote consumers. These three markets are currently selling and buying processed jocote in brine and frozen form<sup>5</sup>:

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

### Large Target Markets for Jocote

Location	Population	Advantage	Market
Los Angeles, California	Higher concentration of Mexican and El Salvadorian populations. (800,000 El Salvadorians)	Big nostalgic market. Products do not need to be highly modified.	Complex and highly competitive
Houston, TX	(92,000 El Salvadorians)	Decentralized and ordered market	Longer distance between markets and products need store requirements
Washington, D.C.	In Maryland, North of Virginia, and DC (150,000 El Salvadorians)	Higher purchase power	It is a floating market.

A potential market segment for the jocote may be among health-conscious consumers as the fruit is nutrient-rich in Vitamin C, Phosphorus, and Calcium. Jocote leaves are edible either fresh, seasoned with salt, or in drinks because its high levels of iron allow it to be used for medicinal purposes for those who are anemic. <sup>1</sup>

There are many different ways to process the jocote besides jam and its frozen form that might not yet be promoted. Some examples are wine, pasta, and candy.

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

### Acceptable Conditions

In order to import jocote into the U.S. it must have a license, broker and a representative. For import purposes the fruit is cut from the tree when it is green, and then it must pass the inspections of its country of origin. Once it has been classified and packaged it is imported to the U.S. by air cargo. Most imported plants and fruits are brought in by air because it is the safest and most effective way to transport the products. The jocote, like most other fruits, is sensitive to time, temperature, and season; if not treated in particular conditions, jocote will rot.

The jocote is inspected by the US Department of Agriculture for pesticides, insects (also known as plaga), and parasites. Bacteria found may affect other products in the U.S. If any uncommon bacteria is found on the fruit, it is taken to the control center for testing. Immediately it is taken to a laboratory for testing, under supervision for 24 hours. Inspectors monitor the type of bacteria found and how harmful it can be to other products. If it is found to be harmful, the entire shipment will be automatically disposed of, causing a loss to the importer and the distributor.<sup>7</sup>

### Competition

Countries compete with each other in exporting jocote products. Also, there are many brands and businesses globally competing for the US market. Many foreign

companies export to the US from Mexico, Guatemala, and El Salvador, just to name a few. There are US companies that manufacture fruit products from those countries as well.

There are also informal competitors called “travelers,” which are individuals conducting commerce for a period of time.<sup>5</sup>

### Demand Tendencies

As previously mentioned with regard to jicama, demand tendencies from expanding ethnic segments within the U.S., increased health awareness, and greater consumer interest and awareness of “exotic” fruits and vegetables drives demand for the jocote too.

The main driving force for jocote’s demand is that it is perceived as a “nostalgic” product for Central Americans. Nostalgic products are consumed for the emotional feeling of their country of origin and, most of the time, are price inelastic because consumers pay premium for the emotional feeling and the “hard to find” characteristics.

As noted in the section “Consumer Preferences,” processed forms of the jocote are attractive and have a higher demand because of its stable shelving characteristics. Frozen jocote and jocote jam are the main products found in 80% of stores visited by the study.<sup>5</sup>

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

# Market Access

Tariff Measurements of Jocote and its Various Forms <sup>8</sup>

Item	Schedule B	Description (Classification)	Unit	Rates of Duty 1: General	Rates of Duty 1: Special	Rates of Duty 2
Fresh Jocote	0810.90.45 00	Other fresh fruits	kg	2.2%	Free (A, AU, CA, CL, E, IL, J, JO, MA, MX, P, SG)	35%
Jocote in Brine	0812.90.90 00	Other fruits (Fruit and nuts, provisionally preserved (for example, by sulfur dioxide gas, in brine, in sulfur water or in other preservative solutions), but unsuitable in that state for immediate consumption)	kg	0.1¢/kg	Free (A+, AU, CA, CL, D, E, IL, J, JO, MA, MX, P, SG)	1.1¢/kg
Jocote Jam	2007.99.45 00	Other jams (Jams, fruit jellies, marmalades, fruit or nut pureé and fruit or nut pastes, obtained by cooking, whether or not containing added sugar or other sweetening matter)	kg	5.6%	Free (A, CA, CL, E, IL, J, JO, MA, MX, P) 1.4% (SG) 2.8% (AU)	35%
Jocote Jelly	2007.99.75 00	Other fruit jellies (Jams, fruit jellies, marmalades, fruit or nut pureé and fruit or nut pastes, obtained by cooking, whether or not containing added sugar or other sweetening matter)	kg	3.2%	Free (A, AU, CA, CL, E, IL, J, JO, MA, MX, P, SG)	35%
Frozen Jocote	0811.90.80 80	Other vegetables (Fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen, whether or not containing added sugar or other sweetening matter)	kg	14.5%	Free (A+, CA, E, IL, J, JO, MX, P) 9% (SG) 11.6% (MA) 12.8% (AU)	35%

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

### Restrictions

This product does not have any restrictions to entering the US if it follows the regulations of the Department of Agriculture.<sup>9</sup>

### Regulations

Jocote is inspected by the Department of Agriculture for pesticides, bug insects (also known as plaga), and parasites. Bacteria found may affect other products in the U.S. If any uncommon bacteria is found on the fruit, it is taken to the control center for testing. Immediately it is taken to a laboratory for testing, under supervision for 24 hours. Inspectors monitor the type of bacteria found and how harmful it can be to other products. If it is found to be harmful, the entire shipment will be automatically disposed of, causing a loss to the importer and the distributor.<sup>9</sup>

### Technical Procedures

A standard technical procedure when importing agricultural products into the U.S. is to apply for a written permit by the USDA if one has not already been issued to the country of origin. Once a permit is issued to the country of origin, the particular commodity from the respective country of origin is permitted to enter the U.S. In the case of raw jocote, only Saint Vincent and the Grenadines has been successfully issued a permit. Potential distributors from any other country wishing to export jocote must apply for a USDA permit.<sup>10</sup>

**Jocote Produce, Brine, Frozen, and Jam & Jelly Products**

**Prices**

The following are retail prices for jocote in Miami:

- Frozen jocote sells for \$2.00 a package
- Jocote in a jar sells for \$3.49 Jar oz

Valuable information was retrieved from an El Salvadorian marketing research project that surveyed stores in different markets of the US. This is the price and consumption information from a small convenience store with a flow of 600 customers per week.

**Jocote Sales in One Location <sup>5</sup>**

<b>Presentation</b>	<b>Price Range</b>	<b>Unit</b>	<b>Estimate Vol</b>	<b>Consumption</b>
Frozen Jocote	\$2.09 - \$2.39	Plastic bag 16 oz	1 cs with 40 units	Weekly
Preserve in Almibar	\$4.09 - \$4.39	Crystal Jar 32 oz	1 cs with 12 units	Monthly

We can see similarities in the West coast (from the research) and the East coast in that they have relatively similar prices.

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

### Distribution Channels

Jocote is distributed through cities' terminals of produce. The terminals are places where the produce market is concentrated and vendors and buyers meet. From the terminals, the produce is distributed to the produce stores and supermarkets. Terminals also have the advantage of consolidating jocote with other produce orders.

### Commercial Practices

#### Procedures to Make Orders

Jocote has a major influence in regional and national areas, especially during the summer due to the tropical climate and its relatively inexpensive cost.

Advertising in La Prensa, a national Spanish-language newspaper, is often used to market the product nationally.

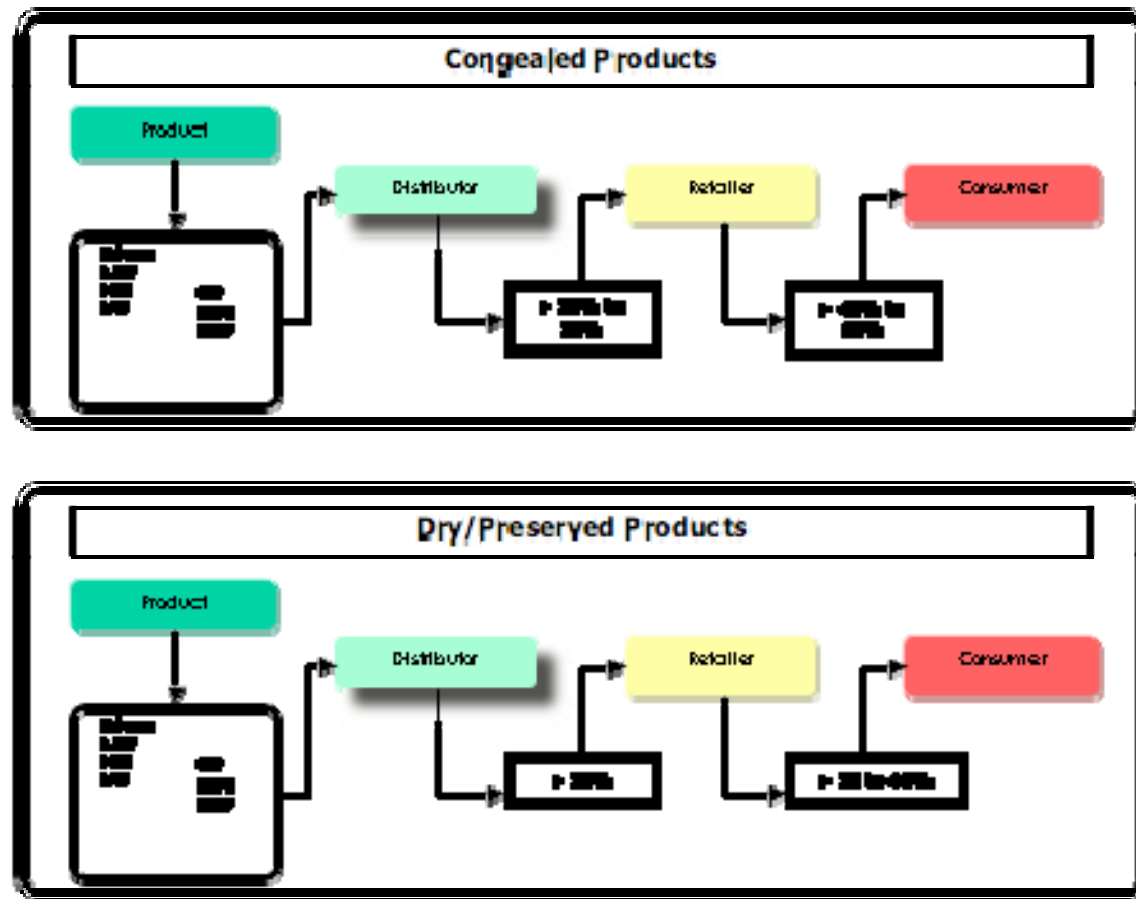
Nicaragua is not a major exporter, but Guatemala continuously exports jocote to the United States, Canada and other countries who have large communities of Central American immigrants.<sup>5</sup>

#### Systems and Terms of Payment

The following chart shows the system followed for payments and the estimated margins used in the channels.

The terms of prices are EXW, FOB, FAS, CIF, DDU and DDP.<sup>5</sup>

Jocote Produce, Brine, Frozen, and Jam & Jelly Products



**Jocote Produce, Brine, Frozen, and Jam & Jelly Products**

**Transportation**

Most imported agricultural products are brought in by air because it is the safest and most effective way to transport the products. The jocote, like most other fruits, is sensitive to time, temperature, and season; if not treated in particular conditions, jocote will rot.

The packaging of the products must contain bar codes, nutritional data, an expiration date, a lot code, and a statement of who is the manufacturer and where is the product made

**Packing, Types Used: Crates and Labels**

Valuable information was retrieved from an El Salvadorian marketing research project that surveyed stores in different markets of the US. This is the product information that was gathered for jocote in a convenience store with a weekly flow of 600 customers:

**Various Forms of Packing for Jocote <sup>5</sup>**

<b>Presentation</b>	<b>Packing Info</b>	<b>Case info</b>
Frozen Jocote	Plastic bag of 16 oz	Case of 40 to 60 bags
Preserve in Almibar	Crystal Jar of 32 oz	Case of 12 Jars

## Jocote Produce, Brine, Frozen, and Jam & Jelly Products

# Sales Promotion

Jocote can be promoted through a market survey. Sample tasting of the product can be conducted to determine if there will be sufficient demand for the product.

Jocote is mainly consumed by those who have long been familiar with the product. Central Americans know the fruit as “jocote” while Mexicans and Cubans call the fruit “ciruela,” yet it is the same fruit. South Florida markets jocote in Nicaraguan supermarkets targeting their consumer market. Most of Nicaraguan markets sell jocote either frozen or in a jar. The actual fruit only sells during its season, which is from March to May when the fruit is ripe and ready to eat. The fresh fruit can also be found in downtown Miami during the market season. It is sold at counter stands by private sellers.

Tests have been conducted to grow jocote in South Florida, but the native soil does not permit the fruit to acquire the same taste. The soil does not have the necessary minerals and nutrients to produce a quality product. Some residents of Homestead have tried growing the plant in their backyards, although large percentages have failed.<sup>11</sup>

## Market Perspectives

### Current and Future Market Tendencies

The documents from El Salvador mentioned a future tendency to move to the US's neighboring countries if a free trade agreement is reached between the Americas (FTAA). Canada has a nostalgic market smaller to that of the US, and is another market to which attention must be given. Mexico is an obvious consumer of jocote, yet it is also a producer. Valued brands, price and marketing factors all play a role in the Mexican market for external fruits. Currently there is a tariff of 20% to export to Mexico from El Salvador, but there is a high probability that a free trade agreement will eventually be reached.<sup>5</sup>

### Market Competitors and Perspectives for New Customers

Countries compete with each other to export jocote products. There are also a variety of brands and businesses: either local US companies that manufacture abroad or foreign owned companies that export to the US.<sup>5</sup>

### Customer's Preferences and guidelines of consumption

From various interviews, most consumers would rather eat the fruit fresh from the tree. Since this is not feasible within the US, processed products of jocote are popular among sellers and consumers. Its stable shelf life makes it easier and more convenient to buy and store, also increasing its popularity.<sup>14, 15</sup>

## Importers List and Distribution Networks

One of the most common distributors of jocote in a jar with 0.1% as a preservative is Loty International Wholesalers, located in Miami, Florida. This distributor mainly imports from Guatemala. L & J General International distributor of frozen Jocote Rojo (Spanish plum, Ciruela) is located in Miami, Florida and imports from Ecuador. El Sembrador Productos de Calidad/Quality Products Company packages the frozen product to local markets. Produce Market located in Miami, Florida distributes to fruit groceries, small markets and fruit stands. Costco Wholesale sells frozen Jocote Rojo to its members/customers and distributes to local markets

The following chart shows an important distribution network of suppliers in major cities with large Hispanic populations: Los Angeles, DC and Houston.

## Importers Lists and Distribution Networks

### Major Latin American Distributors and Network Locations

Distributor	Location		
	Los Angeles, CA	Washington, D.C.	Houston, TX
Río Grande		✓	✓
Delicia	✓		
Racor	✓		✓
Goya	✓	✓	✓
Maya	✓	✓	✓
La Fe		✓	
Doña Lola	✓	✓	
Cuscatlán		✓	
Mama Lycha			✓
Miguel's	✓		✓
María's		✓	
Dafruta		✓	✓
Brasilian		✓	✓

## Upcoming Commercial Events

## Upcoming Commercial Events

**Alimentaria Mexico**

**Date:** June 6-8, 2006

**Location:** Centro Banamex Exhibition Centre, Avenida del Conscripto Número 311, México DF, Cp 11200, Mexico

**Contact Information:**

Lic. Benjamín Marrufo

E-mail: [euro-marrufo@bancomext.gob.mx](mailto:euro-marrufo@bancomext.gob.mx)

Tel. (81) 8369 2100 Ext. 4015

Fax. (81) 8369 2174

<http://www.alimentaria-mexico.com/en/global/portada.htm>

**Description:** As the only Mexican exhibition covering all food and drink sub-sectors, Alimentaria Mexico hosts exhibitors primarily from Latin America.

**NNFA Natural Products Convention & Trade Show**

**Date:** July 15-16, 2006

**Location:** Sands Expo and Convention Center, Las Vegas, Nevada

**Contact Information:**

National Nutritional Foods Association

2112 E. Fourth Street, Suite 200

Santa Ana, CA 92705

Phone: (800) 966-6632 or (714) 460-7732

Fax: (714) 460-7444

Email: [conventions@nnfa.org](mailto:conventions@nnfa.org)

[http://www.nnfa.org/site/PageServer?pagename=th\\_home](http://www.nnfa.org/site/PageServer?pagename=th_home)

**Description:** National Nutritional Foods Association (NNFA) is a national trade show for the natural products industry. Member manufacturers of natural foods, dietary supplements, herbs, vitamins, health and beauty aids and other natural and/or organic products present their products to natural product retailers. NNFA is a highly educational conference

## Upcoming Commercial Events

featuring speakers who are well-respected leaders in the industry.

### **Natural Products Expo East & Organic Products Expo-BioFach America 2006**

**Date:** October 4-7, 2006

**Location:** Baltimore Convention Center, Baltimore, Maryland

**Contact Information:**

Dagny Tucker, Personal Account Executive

Phone: 303.998.9157

Email: [dtucker@newhope.com](mailto:dtucker@newhope.com)

Or contact Customer Service at 1.866.458.4935

[www.expoeast.com](http://www.expoeast.com)

**Description:** Natural Products Expo East and SupplyExpo produce one of the largest trade shows on the East Coast for the natural and organic products industry.

### **SupplySide West International Trade Show and Conference**

**Date:** October 18-20, 2006

**Location:** Venetian Resort Hotel Casino & Sands Expo and Convention Center, Las Vegas, Nevada

**Contact Information:**

Todd Willis, International Trade Show Sales Manager

(480)990-1101, ext. 1171

[twillis@vpico.com](mailto:twillis@vpico.com)

<http://www.supplysideshow.com/west/>

**Description:** SupplySide is a major event for the health ingredients industry. The general profile of exhibitors are manufacturers of cheese, dairy, egg, fats & oils, flavor, fruit &

vegetable, ginseng, organic, protein, and soy products.

### **IFE Americas - 9<sup>th</sup> Americas Food & Beverage Show**

**Date:** November 8-10, 2006

**Location:** Miami Beach Convention Center; Miami, Florida, USA

**Contact Information:**

<http://www.americasfoodandbeverage.com/>

World Trade Center Miami

1007 N. America Way

Suite 500

Miami, FL 33132

Tel :+1 (305) 871-7910

Fax:+1 (305) 871-7904

Email: [afb@worldtrade.org](mailto:afb@worldtrade.org)

Web: [www.worldtrade.org](http://www.worldtrade.org)

<http://www.americasfoodandbeverage.com/>

**Description:** IFE America is one of the largest trade shows in the world for the food, drink and hospitality industries. IFE Americas hosts a wide array of features and conferences. Exhibitors will be from North America, Central America, South America, Spain, and the Caribbean.

### **Amarillo Farm & Ranch Show**

**Date:** November 28-30, 2006

**Location:** Amarillo Civic Center, Amarillo, Texas

**Contact Information:**

Amarillo Farm & Ranch Show

801 East Cliff Road

Burnsville, MN 55337

## Upcoming Commercial Events

800.827.8007

952.894.8252

Or contact Group Show Director Todd Benz, at 800.827.8007 ext. 3318

Email: [tbenz@farmshows.com](mailto:tbenz@farmshows.com)

<http://www.farmshows.com/farm/afrs/index.po>

**Description:** The Amarillo Farm & Ranch Show is one of five Cygnus Farm Shows produced by Cygnus Expositions. The Amarillo Farm & Ranch Show is an indoor farm show that was created to provide a forum for Farmers and Ranchers to gather and share information on a successful farm operation. Exhibitors are from the food processing, arboriculture, dairy, floriculture, sericulture, & other related industries.

### **Texoma Farm & Ranch Show**

**Date:** February 14-15, 2007

**Location:** Multi-Purpose Events Center, 1000 5th Street, Wichita Falls, Texas

**Contact Information:**

Texoma Farm & Ranch Show

801 East Cliff Road

Burnsville, MN 55337

800.827.8007

952.894.8252

Or contact Group Show Director Todd Benz, at 800.827.8007 ext. 3318

E-mail: [tbenz@farmshows.com](mailto:tbenz@farmshows.com)

<http://www.farmshows.com/farm/toma/index.po>

**Description:** The Texoma Farm & Ranch Show is one of five Cygnus Farm Shows produced by Cygnus Expositions. The Texoma Farm & Ranch Show is an indoor farm show that was created to provide a forum for Farmers and Ranchers to

gather and share information on a successful farm operation. Exhibitors are from the food processing, arboriculture, dairy, floriculture, sericulture, & other related industries.

### **U.S. World Ethnic Market**

**Date:** March 8-9, 2007

**Location:** Anaheim Convention Center, Anaheim, California

**Contact Information:**

Kristen Seldon, Personal Account Executive

Phone: 303.998.9066

Email: [kseldon@newhope.com](mailto:kseldon@newhope.com)

Or contact Customer Service at 1.866.458.4935

[www.worldethnicmarket.com](http://www.worldethnicmarket.com)

**Description:** World Ethnic Market is the country's largest exhibition of international ethnic food products, including halal and kosher foods. The show is co-located with Natural Products Expo West (see below listing).

### **Natural Products Expo West / SupplyExpo**

**Date:** March 9-11, 2007

**Location:** Anaheim Convention Center, Anaheim, California

**Contact Information:**

Andrea Duffey, Personal Account Executive

Phone: 303.998.9276

Email: [aduffey@newhope.com](mailto:aduffey@newhope.com)

Or contact Customer Service at 1.866.458.4935

[www.expowest.com](http://www.expowest.com)

[www.supplyexpo.com](http://www.supplyexpo.com)

**Description:** Natural Products Expo West and SupplyExpo produce one of the largest trade shows on the West Coast for the natural and organic products industry. The show is co-located with the U.S. World Ethnic Market (see above listing).

## Upcoming Commercial Events

**United Produce Show at FMI**

**Date:** May 4-8, 2007

**Location:** McCormick Place, 2301 S. Lake Shore Drive,  
Chicago, Illinois 60616

**Contact Information:**

United Fresh Fruit & Vegetable Association

1901 Pennsylvania Ave. NW, Suite 1100

Washington, DC 20006

Phone: (202) 303-3400

Fax: (202) 303-3433

[united@uffva.org](mailto:united@uffva.org)

[www.uffva.org/produceshow/](http://www.uffva.org/produceshow/)

**Description:** The United Produce Show is a trade show and convention for the fresh fruits and vegetables industry. There are a total of five exhibit floors open and co-located with each other from the Food Marketing Institute, Fancy Foods Show, United Fresh Fruits & Vegetables Association, All Things Organic, and the U.S. Food Export Showcase.

## Conclusions and Recommendations

From our extensive research, we have concluded that these products are generally marketable in the United States. Primary target markets are Mexican and Central American ethnic communities in various urban cities. The health foods market may be another option as both of these products, jicama and jocote, have enormous nutritional benefits and special medicinal uses.

Jicama in brine, however, is a bit difficult to market in the US, as jicama processed in this particular form does not exist in the US. Jicama as a regular commodity already has an established market, but consumers familiar with jicama may not likely be interested in purchasing this product in brine.

As for jocote, the market looks much more optimistic because frozen forms of the fruit are already sold in the United States. Jocote in brine, if sweet, can also do well, as it is already popular in Central American countries. Jam and jelly of jocote may fare even better given its popularity in Central America, particularly in Costa Rica.

## References

### Jicama Produce and Brine

- <sup>1</sup> Retrieve: <http://en.wikipedia.org/wiki/J%C3%ADcama>"  
Date: May 15 2006
- <sup>2</sup> Retrieve: <http://en.wikipedia.org/wiki/Brine> Date: May 15 2006
- <sup>3</sup> Retrieve:  
<http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-23790.htm> May 20 2006
- <sup>4</sup> Retrieve: <http://aggie-horticulture.tamu.edu/plantanswers/vegetables/jicama.html> Date: May 20 2006
- <sup>5</sup> Retrieve:  
[http://www.agribusinessonline.com/stats/07099005\\_jicama.asp](http://www.agribusinessonline.com/stats/07099005_jicama.asp) Date: May 20 2006
- <sup>6</sup> Retrieve:  
<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/06-3897.htm> Date: May 20 2006
- <sup>7</sup> Retrieve:  
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- <sup>8</sup> Retrieve: <http://aggie-horticulture.tamu.edu/plantanswers/vegetables/jicama.html>

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<sup>9</sup> Retrieve:

<http://postharvest.ucdavis.edu/Produce/ProduceFacts/Veg/jicama.shtml> Date: May 20 2006

<sup>10</sup> Retrieve:

<http://www.agecon.ucdavis.edu/aredepart/facultydocs/Conk/usmbt/usmexevo.htm>

Date: May 20 2006

<sup>11</sup> Retrieve:

<http://www.usitc.gov/tata/hts/bychapter/index.htm> Date:

May 20 2006

<sup>12</sup>

Retrieve: <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-23790.htm>

May 20 2006

<sup>13</sup> Retrieve:

<http://postharvest.ucdavis.edu/Produce/ProduceFacts/Veg/jicama.shtml> Date: May 20 2006

<sup>14</sup> Retrieve:

[http://www.agribusinessonline.com/regulations/phyto/fruit\\_sveg.pdf](http://www.agribusinessonline.com/regulations/phyto/fruit_sveg.pdf) Date: May 20, 2006

<sup>15</sup> Retrieve: <http://www.agribusinessonline.com/prices/>

Date: June 22, 2006

<sup>16</sup> Information retrieved business name: Borges Supermarket, 223 Washington Avenue, Homestead, Florida 33030

(305)245-4655

<sup>17</sup> Information retrieved from personal interview with Mr. Cristobal Peña from Honduras. Business name: Borges

Supermarket, 223 Washington Avenue, Homestead, Florida 33030  
(305)245-4655

<sup>18</sup> Information retrieved from telephone interview with Mr. Eric Nichols, Trade Support Office at [aphis.usda.gov](http://aphis.usda.gov). (202)720-7677, information retrieved from: [http://www.aphis.usda.gov/ppq/manuals/port/pdf\\_files/20Fruits\\_and\\_Vegetables.pdf](http://www.aphis.usda.gov/ppq/manuals/port/pdf_files/20Fruits_and_Vegetables.pdf)

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<sup>2</sup> Retrieve: <http://en.wikipedia.org/wiki/Jam> Date: May 15, 2006

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<http://www.agronegocios.gob.sv/comoproducir/guias/jocote.pdf> Date: May 15, 2006

<sup>4</sup> Retrieve: <http://www.amcostarica.com//071803.htm> May 19, 2006

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[www.agronegocios.gob.sv/Media/Articulos/IIICA%20Presentacion.pps](http://www.agronegocios.gob.sv/Media/Articulos/IIICA%20Presentacion.pps) Date: June 09, 2006

<sup>6</sup> <http://www.centa.gob.sv/html/ciencia/frutales/jocote.html> Date: June 09, 2006

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<sup>9</sup> Retrieve: (<http://www.frutal-es.com/docs/jocote.pdf>)

Date: June 10

<sup>10</sup> Retrieve:

[http://www.agribusinessonline.com/regulations/phyto/fruit\\_sveg.pdf](http://www.agribusinessonline.com/regulations/phyto/fruit_sveg.pdf) Date: May 20, 2006

<sup>11</sup> Retrieve:

<http://www.agronegocios.gob.sv/comoproducir/guias/jocote.pdf> Date: May 15, 2006

<sup>12</sup> Retrieve: <http://www.frutal-es.com/docs/jocote.pdf>

Date: June 09, 2006

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[http://www.camagro.com/Frutas/pubs/Oportunidades\\_de\\_Inversion/Jocote\\_de\\_Verano.asp](http://www.camagro.com/Frutas/pubs/Oportunidades_de_Inversion/Jocote_de_Verano.asp) Date: June 09, 2006

<sup>14</sup> Information retrieved from personal interview with Mr.

Jorge Barberena from Nicaragua. Business name: Fritanga Nica #1 Distribuidora de Todos productos Nica, 350 SW 109<sup>th</sup> Avenue, Miami, Florida 33174

<sup>15</sup> Information retrieved from personal interview with Mr.

Jorge Barberena from Nicaragua. Business name: Fritanga Nica #1 Distribuidora de Todos productos Nica, 350 SW 109<sup>th</sup> Avenue, Miami, Florida 33174