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FROM THE AMERICAN PEOPLE



John Ogonowski
Latin America
Farmer-to-Farmer Program

Executive Summary

This research project, prepared by marketing students of Florida International University aims to determine the market segment of fresh and organic bananas in the United States, to evaluate its current performance and level of market penetration and report the findings of the research.

Tropical fruits have been of major importance in the United States. Tropical fruits have been evolving in the market since demand for these fruits increase in grows and consumption. The past decade has seen an increasing interest in the so called “emerging” tropical fruits.

In conclusion, we see opportunities within the United States for the commodities mentioned within this report, although greater efforts need to be done to communicate the health benefits of both tropical fruits.

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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.



Banana

Product Description

Banana:

Bananas make up the genus *Musa* of the family Musaceae. The plantain, or cooking banana, is classified as *Musa paradisiaca*. The Manila hemp is classified as *Musa textilis*. **Banana** is the common name for any genus *Musa* of tropical, treelike herbs and also for their fruit. Species of the genus are native to Southeast Asia but are now grown extensively in all tropical countries for their fruit, fiber, or foliage. The banana is a large, herbaceous plant with a perennial root, or rhizome, from which the plant is perpetuated by sprouts or suckers.

Organic Banana:

Bananas are considered "organic" if their compliance with organic standards has been certified by an independent certification organization. A certified organic banana is a fruit produced through a specific process whose compliance with legally-based national standards.

Statistical Data

U.S. Production Data

Banana is a very delicate commodity on economic, social, environmental and political grounds. According to the Food and Agriculture Organization of the United Nations (FAO) Statistics estimations, world total exports of banana accounted for 15,9 million tons in 2004. Only about a fifth of total banana production is internationally traded. According to FAO world banana exports are valued a total of over US\$4,7 billion per year, making them clearly a vital source of earnings to many countries. ¹

Banana production shows a clear dual nature, with smallholders producing alongside big plantations. The production systems are different depending on the producing areas. Plantations are predominant in Latin America and they require huge investments in infrastructure and technology for transport, irrigation, drainage and packing facilities, allowing later for economies of scale in banana production. On the other hand, smallholder production is much less capital intensive and more labor intensive.

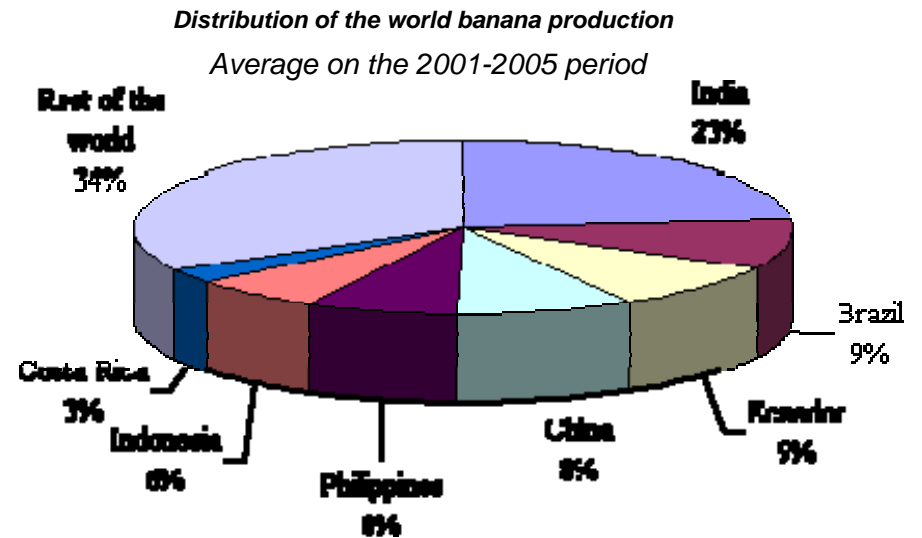
Based on the interview with Mr. Robert Moehling, consumption of bananas in the USA is less than one percent. Much of the production is done outside of the USA due to high production costs. ²

Banana

Organic Banana:

For the past seven years demand for organic products has been to some extent driven by food scares. This stance has reinforced the perceived health, environmental and taste benefits from organically grown food. However, so far there has been no scientific proof that eating organically-grown products is healthier than non-organically grown products. As an organic grower, Mr. Lessard does not have any information on US production for organic bananas.³

Health concerns and the willingness of a segment of the population in a few major cities to move to organic produce in general, plus the increasing presence of chains of organic supermarkets have helped drive US organic banana demand.



Source: FAO

Banana

Statistics of Foreign Trade: Exportations and Importations

1. Exports:

Half of the world's banana crops are grown in Asia, and much of the produce is used locally. The leading banana-export regions are Central America and northern South America. As stated by Unctad, world exports of bananas also show a high level of concentration, with developing countries accounting for the bulk of exports. Only Latin America and the Caribbean supplied about 70% of total exports in 2004.⁴

Organic:

In terms of exports, the main exporters into the United States are Peru, Honduras and Colombia, exporting significant quantities of organic bananas.

2. Imports:

According to Unctad, bananas are mainly imported by the European Union, the United States of America and Japan, which together accounted for about 67% of world total imports in 2004.⁴

Organic:

The main suppliers are the Dominican Republic and Mexico, with market shares of 50 percent and 40 percent respectively.

Imports of fresh organic bananas into the United States and Canada were estimated at 16 000 tons in 1999 and at more than 23 000 tons in 2000.

In 2000, Dominican Republic exports totaled some 44, 000 tons, an 80 percent increase over 1999 exports, exceeding exports of conventional bananas and accounting for more than half of the global supply of organic bananas. Mexico remains the second largest producer with 9,000 tons in 2000.

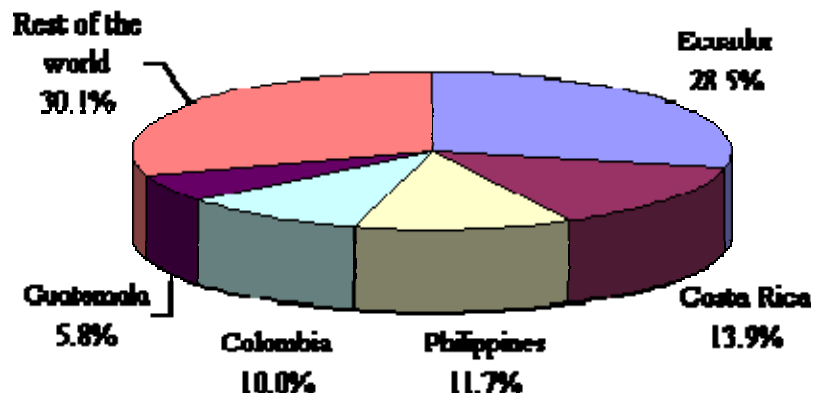
Annual Growth rate has increased from a 23 percent to a 33 percent in year 2000. Thus there has been an increase in organic bananas production, they account only for 0.5 percent of total banana consumption.

Main Origin of Importations

The U.S. imports 38% of its bananas from Ecuador, or about 6 tons. Ecuador is currently the world's largest exporter of bananas and the world's third largest producer. Ecuador's ideal climate conditions are credited for its influx of banana.

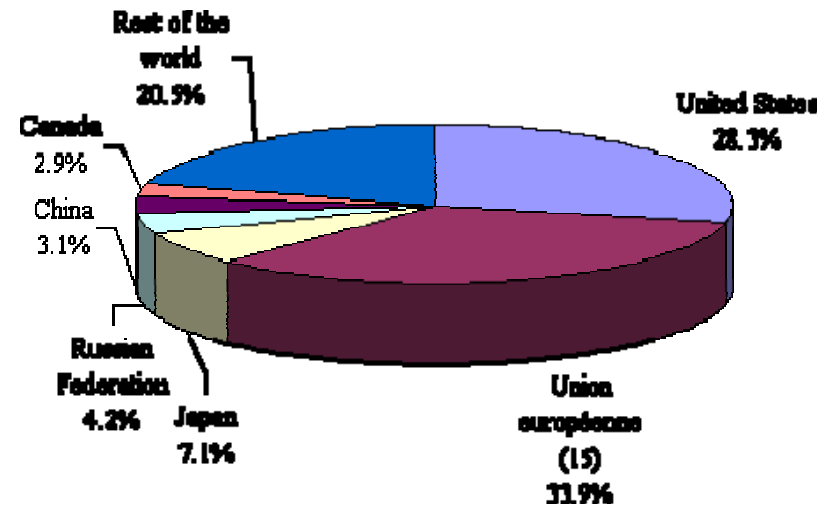
Banana

*Distribution of the world Banana exports
Average on the 2000-2004 periods*



Source :FAO

*Distribution of the world Banana imports
Average on the 2000-2004 periods*



Source: FAO

Banana

Demand Tendencies

As Mr. Lessard explained, there is limited demand for organic bananas. Mr. Lessard cites that the main demand for organic bananas in his farm is driven by the Anglo consumer. Mr. Lessard believes that the lack of demand for organic bananas in minorities might be related to a lack of education about organic and its specifications. The lack of knowledge about organic produce adds to the consumer's unwillingness to pay for the organic bananas.³

Market Characteristics

Market Segments

Three markets (i.e. the United States, the EC and Japan) account for more than two thirds of world banana imports, and therefore it is not surprising that their market performance and policy framework have a particularly large impact on the fortunes of the world banana economy and the many hundreds of thousands of people whose livelihood depend on it.

The US is the largest banana import market. Banana imports¹ in the US in 1995-2005 averaged 3.46 million tons. The US market is mainly supplied with bananas originating in Central and South America.

Mr. Moehling mentioned that banana's target market is the Latin population since other cultures are afraid to try new fruits such as banana's manzanos.²

Organic:

The segment for organic bananas varies but there are certain qualities that all organic consumers look for. As Mr. Lessard said, "My customers look for products that are good and safe to eat having in mind flavor. My biggest segment is the Anglo population because they are the ones that are into organic foods, but I still have some African and Latin population coming over to get some organic products."³

Banana

Consumer Preferences

Most consumers prefer to eat the banana when the rind is still yellow with minimal amounts of brown and when the flesh is still firm.

Apparent Consumption

Bananas are mainly consumed as a fresh fruit. However, many consumers use bananas as an essential component for many cooking dishes. There is also the possibility to obtain dried bananas called “banana chips.” Apart from being a very nutritional product, bananas and its by-product are being used in different styles. Examples of banana’s by-product can be found below:

- Banana fiber
- Banana leaves
- Intercropping,
- Medical use
- Exhibition for tourism.

Bananas are also sold in pulp form, chips, dried and in confectionery, and sometimes they are used to produce alcohol.

The change in consumer eating habits has given place to new preferences as consumers in developed countries have become more sophisticated and more exigent with the bananas they demand, as it has happened with produce and food consumption in general.

Organic

Competition between producers is said to be mainly on quality, with overcapacity giving traders the opportunity for being increasingly demanding.

As mention above, bananas are mainly consumed as fresh fruit but they can be used to compliment cooking dishes.

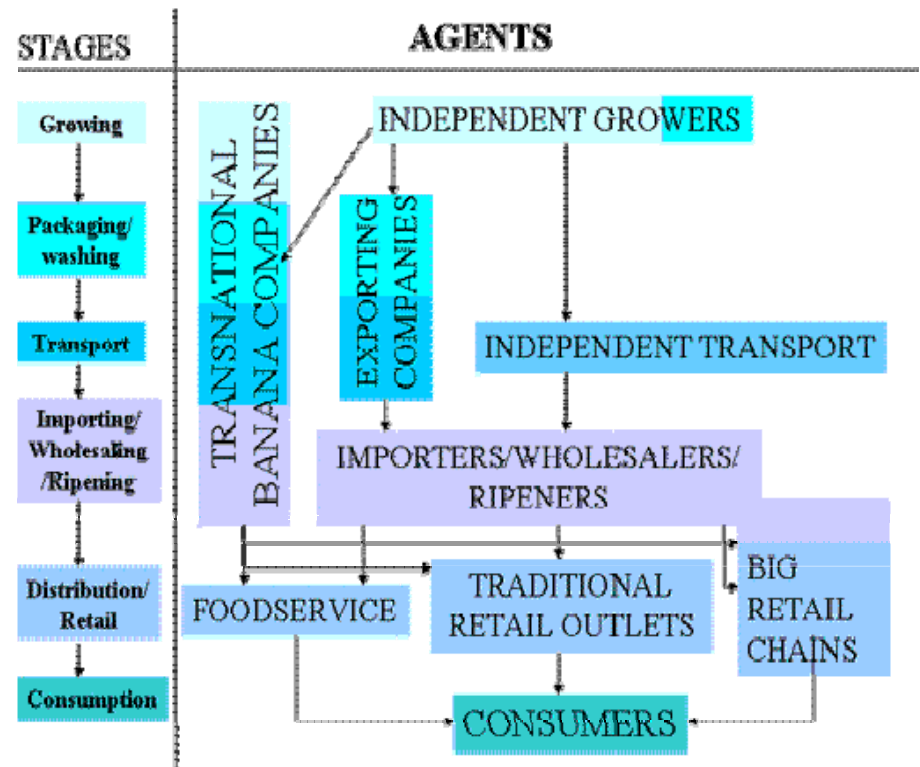
Competition

- Bananas face competition in two main categories: price and tropical fruit.
- Bananas have typically been and still are the least expensive fruit on grocery store shelves, averaging about 0.69 cents a pound. Therefore, one of the bananas main competitors are other low cost fruits.
- Other tropical fruits can also pose competition for the banana. Fruits such as lychee, kiwi, persimmon, pomegranate and mango are possible contenders.

Distribution Channels

Information in this area is limited and hard to find. Not even the expert was able to give me exact information on banana's distribution channels. Mr. Moehling was able to conclude that distribution is made over fresh markets and supermarkets itself.

Banana marketing chain



Banana

Procedures to Make Orders

Robert Moehling describes his procedures to make orders as very simplistic. The sale is initiated by either the customer calling or a representative of his firm contacting an existing customer to alert them of produce. Placing an order requires a phone representative filling out the purchase order and arranging the shipping. Due to shipping rules regarding organic produce, Mr. Moehling doesn't produce organic mango.²

Systems and Terms of Payment

Our expert, Robert Moehling, accepts checks, credit cards, and cash (when on-site) in U.S. currency (dollars).²

Transportation

The transportation is done with specialized refrigerated ships. As mentioned by vandamme, Bananas are loaded into refrigerated cargo vessels and shipped green at a controlled temperature of 14,5°C (58°F). Each ship contains 250.000 boxes of bananas collected the day before.⁵

The crossing to Europe lasts about 11 days. The temperature is frequently controlled to avoid any premature ripening.

Packing, Types Used: Crates and Labels

A long time ago bananas were imported in stems by train. Each wagon could carry from 600 to 700 stems. Afterwards, they had to be stocked in temperate rooms until they came to maturation.

Today, bananas are imported in a box, which enables a more easy manipulation and a more convenient process of transportation.

Just like in the past, they are still stocked in hermetical ripening rooms for 6 to 8 days at a temperature that can not exceed 14,5°C. This temperature allows a homogeneous ripening of the bananas of a different size.

In my interview Mr. Moehling, he mentioned that today "bananas are transported in boxes, specially deigned. These boxes are commonly known as 40 pound boxes. Bananas are placed in the box with plastic sheets to ensure quality when transporting."²

Organic:

No information is available in this area. Mr. Lessard sells his bananas in the say way he growths them. "I sell them natural, no plastic bag, no nothing, just the way they grow."³

Market Access

Acceptance Conditions

Based on Mr. Moehling there is a 1 to 10 scale for bananas. “I like order them as a 4, that way I get them in a green color that by the time they get into my consumers they are ready to eat.”

Organic:

“Consumers look for a product that is safe to eat, has flavor, and add to their health benefits,” said Mr. Lessard. From Mr. Lessard’s interview I can concluded that consumers look for bananas that are fresh and grown in a healthy and natural environment.

Quality Standards

As Unclad describes, high quality is demanded by consumers. Consumers are interested in the taste, appearance, and shape of bananas. They want to be informed about the food they are consuming through appropriate labeling and tracking and traceability schemes. The quality of the bananas would be determined by size (length of fingers and thickness), evenness of ripening, absence of blemishes and defects and the arrangement of the clusters. There are various types of quality bananas:

Banana

Extra class bananas: Most superior class. As a characteristic, fingers must be free of defects, so that the general appearance is not affected.

Class I bananas: Bananas in this class are allowed to have slight defects in shape and color.

The defects must not affect the flesh of the fruit.

Class II: This banana only satisfies the minimum requirement of characteristics. The can have defect in color and shape, but at the same time the flesh of the fruit should not be affected. ⁴

Organic:

“The consumer that is willing to pay for organic produce is expecting a higher quality fruit,” said Mr. Lessard. Because Mr. Lessard sells his organic bananas on the farm they’re grown on, his consumer is not expecting to see a yellow-green banana. Rather, his organic consumer is expecting to see a banana that is picked when ripe (yellow) and allowed to mature to its full peak of flavor. ³

Tariff Measurements

The US banana market is free of tariffs or quantitative imports restrictions. There are different import regimes in different countries. According to FAO, there is a direct relationship between high import barriers of a tariff, TRQ (Tariff Rate Quotas) or regulatory nature and low per caput consumption of bananas. Several countries have no import tariffs on bananas but apply internal taxes or charges or other restrictive measures. ¹

Restrictions and Regulations

Unctad says that Imports of non-traditional ACP bananas and bananas from third countries were subject to a tariff quota (referred to as the "basic tariff quota") of, originally, 2 million tons (net weight), then increased to 2.1 million tons in 1994 and to 2.2 million tons as of 1 January 1995 (quantities bound in the EC Uruguay Round Schedule). The tariff quota could be adjusted on the basis of a "supply balance" to be derived from production and consumption forecasts prepared in advance of each year. In 1995, a volume of 353,000 tons was added to the tariff quota as a result of "consumption and supply needs" resulting from the accession of three new EC member States, Austria, Finland and Sweden (not bound in the EC Schedule). In practice, the EC's tariff quota for non-traditional ACP and third-country banana imports was increased to 2.553 million tons. ⁴

Banana

Banana Import Tariff

Category of banana imports	Source/Definition
Traditional ACP bananas	Bananas within country-specific quantitative limits (totaling 857,700 tons) established for each of 12 ACP countries (Belize, Cape Verde, Côte d'Ivoire, Cameroon, Dominica, Grenada, Jamaica, Madagascar, Suriname, Somalia, St. Lucia, and St. Vincent and the Grenadines)
Non-traditional ACP bananas	Either ACP imports above the traditional allocations for traditional ACP countries or any quantities supplied by ACP countries which were non-traditional suppliers
Third-country bananas	Imports from any non-ACP source

Prices

Prices Depend on the Importer

In general, banana market prices at the international level are determined by demand and supply availability, but bananas are consistently the least expensive fruit on grocery store shelves.

Banana price information is most determinant at the retail stage, particularly due to the increasing dominant position of distributors (supermarket chains). Prices usually depend on the importer. Mr. Moehling is used to buying a 40 pound box of (non-organic) bananas for 21 dollars.²

Retail prices in the United States are considerably lower than in the other countries, mainly due to the lack of tariffs or quantitative import restrictions for bananas in USA and the lower transportation costs from the supply areas. The price range for banana's in Broward County supermarkets is \$0.69 a pound.

As Unctad describes, on the producer side, transnational marketing companies have a higher power to set the prices they pay to producers for their bananas. Prices at this stage depend considerably on the bargaining power of producers in order to negotiate their contracts with the companies that distribute or market their bananas.⁴

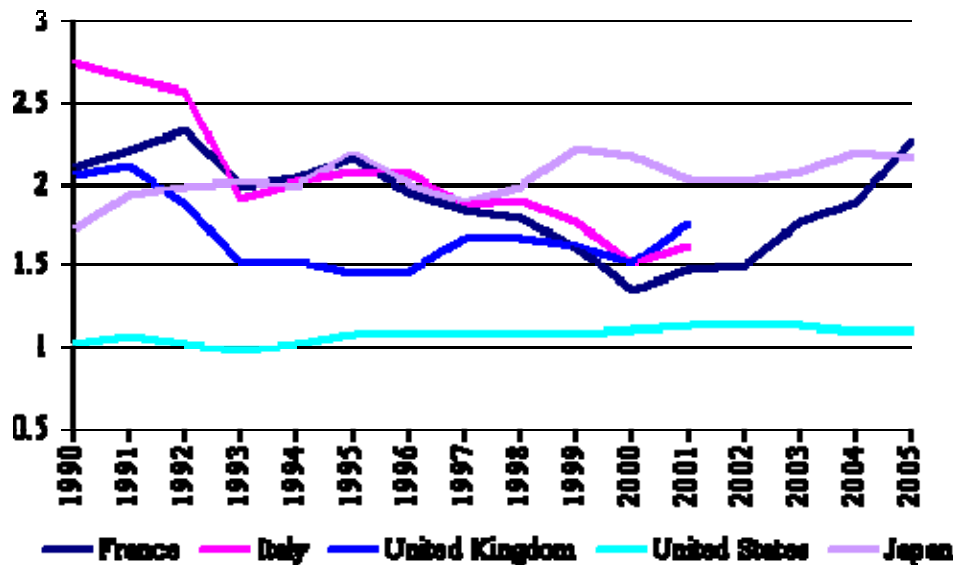
Organic

Mr. Lessard prices his bananas depending on the average amount and ease of growing. He prices his on-site

Banana

Organic bananas between \$.50-\$.1.00. "I believe the best bananas in my farm are those I can sell for 50 cents a pound, because those bananas come from a particularly fruitful harvest and tend to have the sweetest flavor," says Mr. Lessard.³

Banana retail prices in selected consuming markets (US\$/kg)



Source: Unctad

Sales Promotion

Chiquita relies on the banana's nutritional benefits to promote its product

Chiquita, being the largest importer of bananas, now uses the benefit of bananas to sell their products. They rely on the benefits of vitamins and minerals to attract consumers' attention and increase sells.

Organic:

"The best way to promote the organic banana is to keep up with growing demand for an all-natural product," says Mr. Lessard.³

Mango



Mango

Mango

Product Description

Mango

The scientific name for mango is Anacardiaceae but is commonly known as mango, mangot, manga, and mangou. The mango is native to Southern Asia but made its way to the U.S. in the 1880s. Today the mango is cultivated for its ovoid and edible fruit. The mango has a smooth rind, sweet and juicy flesh, and a flat one-seeded stone at its center. The mango fruit is a drupe, much like nectarines and apricots, but grows to be an average length of five inches (12.7 cm) and weighs an average of one pound (.5 km) It is eaten ripe or pickled when green. When ripe, the rind will be primarily yellow, or may be multi-hued with orange and red tones. The interior of most is a deep orange, with the exception of some Asian varieties, which might have an interior color of white.

When ripe, mangos are juicy and fibrous and eaten easiest when cut in strips or cubes. Mangoes purchased in U.S. stores were not cultivated in the area and therefore picked when green and let to ripen in transit. These mangos have a distinct taste difference than those picked when ripe, when the mango's natural sweetness was allowed to mature.

Organic

The USDA National Organic Program (NOP) defines organic as follows:

Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic food is produced without using the most

Mango

conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation. Before a product can be labeled “organic” a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too. ¹

Statistical Data

U.S. Production Data

According to the USDA, U.S. production of mangos is concentrated in California, Florida, and Hawaii. According to the FAO, mango production in Florida and Hawaii is based upon climate conditions, population demand, and land use. It is becoming increasingly less profitable to produce mango in both states. California has an ideal climate for mango production, but produces very little, and the data isn't published due to confidentiality issues related to the small number of existing producers. In 1997, the last year documented, Florida production was 6.1 million pounds, and Hawaiian production was 0.1 million pounds in 1997. For Florida and Hawaii combined, production fell from 16.6 million pounds (8,300 tons) in 1992 to 6.2 million pounds (3,100 tons) in 1997. ²

Organic:

There is limited data on the production of organic mango. California produced an estimated 133,000 cartons in 2006, and Florida was a contender on the organic market prior to Hurricane Andrew in 1992, when the vast majority of their production acreage was wiped out and has yet to be restored. ²

Mango

Country	% of Imports
Mexico	61.57
Peru	10.88
Ecuador	10.66
Brazil	8.68
Haiti	3.34
Guatemala	3.68

Source: National Mango Board, 2007

Statistics of Foreign Trade: Exportations and Importations

Imports

According to the USDA, the U.S. imports 95% of its consumed mangos. Although approximately 85 countries produce mangoes worldwide, the top mango-producing countries are listed in Chart 1 and account for 98% of mangoes imported to the U.S.

In 2000, the last year of published production data from FAO, the US imported 25 million tons of mangos, a 7% increase from 1997 (23.9 million tons). The USDA forecasts that by the year 2010, the U.S. will import nearly 62 million tons of mangos.

Organic

Much less is known about organic mango importations. It is known that Brazil, South Africa, and Australia produce organic mango, but there is no specific production data available.

Exports

With the U.S. consuming less 5% of their domestic mango, all of which coming from Hawaii, Florida, or California, it is not cost-effective for the U.S. to export their limited supply

Mango

of mango, and there is no world demand driving the U.S. export of mango.

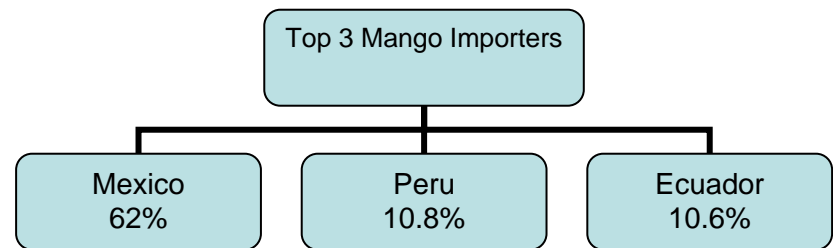
Organic

Information on organic mangoes is extremely limited. However, the FAO published a report on the Dominican Republic's export of organic mango, citing the country has 525 acres devoted to growing organic mangos, 18 farmers, and somewhere between 25 to 30 producers of organic mango. 80% of the organic mango produced is cultivated for organic mango puree, while 20% is cultivated for fresh organic mango. The last year data was released, 2000, the Dominican Republic exported 195 metric tones of organic mango puree for an estimated \$153,000 FOB (U.S. dollars). Most of the Dominican Republic's organic mango is sold to the UK and Belgium. ²

Lesser information is obtainable about the organic export of mangos in South Africa, India, and Thailand, although the FAO cites that these countries do export organic mango in fresh/frozen form. ²

Main Origin of Importations

The Mexico varieties of mangos are the kinds most frequently found on supermarket shelves, and the mango that most U.S. consumers are familiar with. Mexico's extended growing season and close proximity to the U.S. make it ideal for high production rates export. Following Mexico in imports is Peru with 10.8% and Ecuador with 10.6%.



Mango

Demand Tendencies

When it comes to analyzing the demand for tropical products in the North American markets, these have proven to be generally low-volume high-value niche markets. In large measure, due to the United States' population diversity, recent population income growth and increased interest in new and exotic foods demand had begun to broaden and in a large measure to be directed towards the ethnic markets.

Organic

Demand tendencies are even harder to amass for organic mango. In the U.S., organically produced tropical fruits are mainly traded as fresh produce. Our expert, Mr. Lessard, cited that in his experience on his farmland, there is limited demand for organic produce. Mr. Lessard cites that the main demand for organic bananas is driven by the Anglo consumer. Mr. Lessard believes that the lack of demand for organic mango in minorities might be related to a lack of education about organic and its specifications. The lack of knowledge about organic produce adds to the consumer's unwillingness to pay for the organic mango.

Mango

Market Characteristics

Market Segments

The FAO cites that mangoes enjoy an ethnic market among Hispanic Americans. ² There are many reasons why mangos play an integral part in the lives of many Hispanics. Firstly, mangos grow well in most, if not all, Spanish-speaking countries. And secondly, many Hispanic countries have limited food supply and rely on the nutrient-rich mango as a food source. The U.S. Census Bureau cites Hispanics as the largest minority group in the U.S., accounting for approximately 45 million people of our 305,000,000 population (or about 15%). The U.S.'s large Hispanic population makes the mango fruit a desirable product in the U.S. marketplace. ³

Consumer Preferences

It seems to be apparent that most American consumers prefer the mango when fresh and ripe, and less-developed countries eat mango in all forms, including green.

Organic

The consumer willing to pay for organic fruit typically expect a higher quality product. Therefore, the organic consumer is not expecting an under-ripe fruit, or a fruit picked before its maturity to allow for ripening in transport. The organic consumer is expecting a mango that is picked from the tree when near-ripe, when its full flavors have been allowed to mature.

Mango

Apparent Consumption

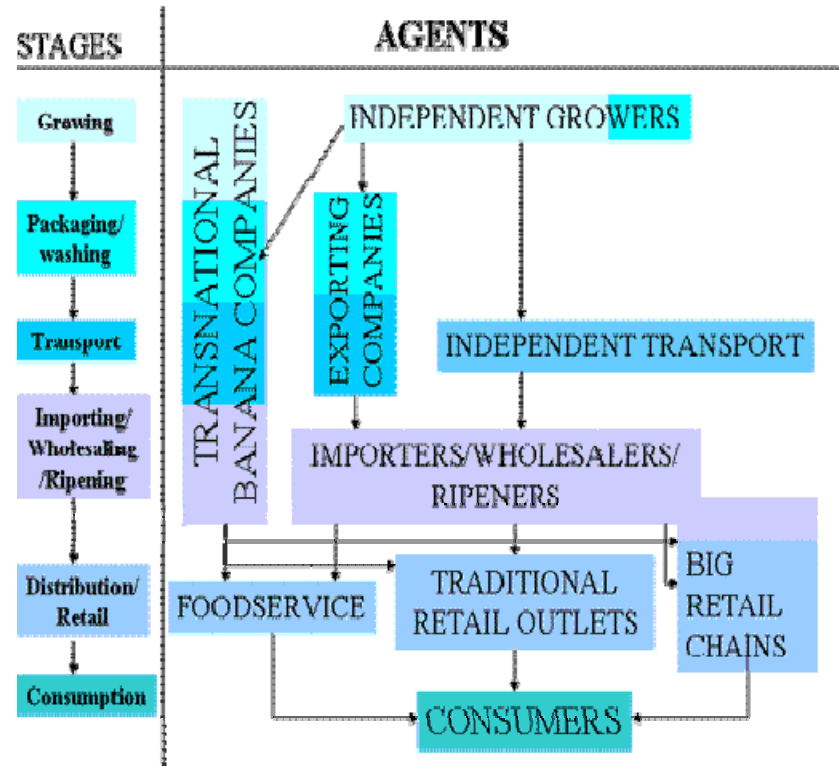
Worldwide, the mango is consumed in a variety of different ways. In the U.S., the most popular way to eat mango is peeled when ripe, then sliced or cubed. However, in other countries, where the mango can play an integral part of peoples' lives culturally as well as nutritionally, the mango is consumed in a wider variety of ways. It can be made into juice or nectar, chutney, as a dessert with cream, pureed for baby food, dried as a snack, and even pickled. The FAO cites that mango even play a religious role in many cultures. ²

Competition

According to the USDA National Agricultural Statistics Service, mango's biggest U.S. competition is other tropical specialty fruit. The USDA cites an increase in the consumption of lychee, persimmon, longan, passion fruit, rambutan, and atemoya (all produced in Hawaii) as mango's biggest competition. The FAO cites that American fruit eaters now regularly choose mangoes over apricots, cherries, and plums, so the mango's competition is subjective. ²

Distribution Channels

Mango Marketing Chain



Mango

Procedures to Make Orders

Our mango expert, Robert Moehling, describes his procedures to make orders as very simplistic. The sale is initiated by either the customer calling or a representative of his firm contacting an existing customer to alert them of produce. Placing an order requires a phone representative filling out the purchase order and arranging the shipping. Due to shipping rules regarding organic produce, Mr. Moehling doesn't produce organic mango.

Systems and Terms of Payment

Our expert, Robert Moehling Jr., accepts checks, credit cards, and cash (when on-site) in U.S. currency (dollars). Mr. Moehling says he only deals with customers in good payment standing, meaning they pay when his invoice dictates.

Transportation

Since mangos are generally picked when green and allowed to ripen in transit, they are usually considered too expensive to send via airfreight. They are usually sent by Seafreight when coming from overseas and via Priority or Express mail when leaving Florida, and Hawaii. The FAO estimates an average arrival time of 17 days from Brazil, 14 days from Peru, and 9 days from Ecuador.

Packing, Types Used: Crates and Labels

Mr. Moehling explains that packaging mangos for transport can be tricky. "The most important aspect of packing mangos for transport is placing them in the box using a frame that keeps them bumping into each other in transport. If a frame isn't used, you will most likely get a bunch of bruised mangos." Mr. Moehling goes on to explain that the typical box of mangos contains anywhere from 36 – 42 mangos, depending on their size and weight, and separated into 12-count rows.

Mango

ITEM	BRIX	PACKAGING
Single Strength Juice	12°	Drums, cartons, bulk. frozen or aseptic
Single Strength Puree	12°	Drums, cartons, bulk. frozen or aseptic
Juice Concentrate	50°	Drums, cartons, bulk. frozen or aseptic
Puree Concentrate	28°	Drums, cartons, bulk. frozen or aseptic
Individually Quick Frozen	12°	Drums, cartons, bulk. frozen or aseptic
Straight Pack	12°	Drums, cartons, bulk. frozen or aseptic

Market Access

Acceptance Conditions

U.S. consumers prefer to buy mangos when they are firm to the touch and have a multi-hued rind of red, green, and/or orange. U.S. consumers do not want to purchase mangos that are small relative to the other mangos in the bunch (as they're typically priced per unit) or when they are overly ripe and soft. U.S. consumers often use the smell test, meaning they smell the fruit, when determining if the mango is ripe enough for purchase.

Our expert, Robert Moehling, cites that the optimal time to ship out mangos is when they are still on the green side, so the fruit can ripen a bit in transit and doesn't arrive overly ripe.

The same acceptance conditions apply to organic mango.

Quality Standards

There are no U.S. quality standards for mangoes as there are for other fruits. Mexico has undertaken a self-imposed initiative to raise the quality of their produce in order to increase their exports worldwide. In doing so, Mexico has come up with a set of export quality standards in order to ensure their exports stay at a high level. Part of their initiative includes maturity standards applying to mangoes being exported to the U.S. that were first enforced in 2001. ⁴

Mango

India, the world's largest producer of mangos, is also trying to increase the quality of their export produce by producing more organic mangoes. The largest obstacle they face is not being able to use seed treatment (to remain organic). They have accomplished their initiative by using biodynamic liquid manure to control pests. However, due to U.S. restrictions, India does not export their mangoes to the U.S. ⁴

Tariff Measurements

The tariff schedule of the United States gives detailed information about all fees that are charged to each product that is imported in the U.S. The goods are categorized according to the commodity classification

For practical reasons, agricultural products sometimes fall under the "tropical products" category and although there is no agreed definition of tropical products per se, beverages like tea, coffee and cocoa; and fruits like bananas, mangoes and guavas; and other products are treated as tropical products. In the years following the establishment of GATT, these products were subject to both high tariffs and internal taxes in most developed countries. As these products are of export interest predominantly to developing countries such as in this case the United States, priority has been given since 1999 in the rounds of GATT negotiations to removing the barriers to trade in such products. As a result, a large number of these products, in both raw and processed forms, have been entering developed markets on a duty-free basis, at low rates on MFN terms or under preferential arrangements. ⁵

Restrictions and Regulations

Standards are a major source of concern among many developing countries. It is not very difficult to see why some could consider these standards as a barrier to the success of their exports of high-value agro-food products (such as mangoes), either because these countries lack the technical and administrative capacities needed for compliance or because these standards can be applied in a discriminatory or protectionist manner. As a matter of fact, nowadays some countries and even some industries are using high quality and safety standards to gain a competitive advantage in the global market. ⁵

Restrictions are detrimental to the success of many developing countries when it comes to breaking into the American market. Many Caribbean countries such as Jamaica are restricted in the fresh fruit they can export to the United States, in the case of mangoes; the restrictions come about due to the presence of West Indian and Caribbean fruit fly. Because of this, the US Animal and Plant Health Inspection Service (APHIS) require that mangoes undergo hot water treatment to kill any flies that might be present on the fruit, but no facility currently exists in Jamaica. The same is applied to India, the world's leading producer of mango. The U.S. prohibits the import of mangos from India due to government regulations. ⁵

Based on all these restrictions, a 'Model Plan of Excellence' (MPE), requiring the "application of certain food safety practices by growers, involving mandatory inspection by

Mango

back to the individual grower was put in place in 1999". Guatemala's fresh produce industry has been able to build upon the institutional capacity-building which took place under the MPE. For example, the inspection agency, the Integrated Program for Agricultural and Environmental Protection (PIPAA), has been collaborating with APHIS and the FDA in the United States to facilitate a program for Guatemalan exports of mangoes and papayas. ⁵

In terms of regulations, Acceptance of Codex Standards has enabled many countries to gain acceptance of their products in international markets. Under WTO the "Codex Standards are the basic standards with reference to which settlements of disputes on quality are made. The Codex Standard for Mango Pulp is Codex STAN 149-1985. ²

"It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2 (1985) Codex Alimentarius Volume 1), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product." ²

Technical Procedures

On November 3, 2004, the Department announced that the Mango Promotion, Research, and Information Order, the third program implemented under the Commodity Promotion, Research, and Information Act of 1996, became effective.

Under the order, "first handlers and importers of 500,000 or more pounds of mangos will pay an assessment to the board of one-half cent per pound on domestic and imported mangos". The U.S. Customs Service collects assessments from importers and the board has been using the funds to conduct a generic program to main, develop and expand the market for mangos in the United States. First handlers and importers of less than 500,000 pounds of mangos per calendar year are exempt from assessment, as well as U.S. produced mangos that are exported. ²

Mango

Prices

Mango prices are driven by supply and peaks in demand.

According to FAO, all tropical fruit prices have recently been on a downward trend due to an increasingly available product and varying prices due to season and variety of fruit. Mango prices in particular are cited to be driven by non-regular supply and peaks in demand during seasonal periods.

Prices gathered from grocery stores and local markets in the Miami/Ft. Lauderdale area of South Florida reveal mango prices during early summertime to consistently be \$1.50 - \$2.00 each, and sold in units as opposed to pounds. Organic mangos sell for more and average \$3.00 - \$4.00 each, but tend to be a bit bigger.

Mango

	ORIGIN	FORM	BRIX	PACK	PRICE: \$/TON
Ger	Colombia	P C	16 28	Asep.had/c rio Do	1100 cfr neth duty free 1350 cfr neth duty free
	Mexico	C	28	Asep. oro	1390 fot neth
	Brazil	C	28	Froz. Had	950 cfr neth
	Guatemala	P	20-22	Asep. Crio	1200 cfr neth duty free
	India	P	16-18 28	Asep. Alph Asep. Tota	1350-1375 fca neth 1050 fca
Swt z.	India	P C	16-18 28	Asep. Alph Asep. Tota	1350 for sh May/June 1050 fot neth.
U. K.	India	P C	16-18 28	Asep. Alph Asep. Tota	1300-1350 fot mep 1000-1050 fot mep
	Kenya	C	28	Asep. N'gowe	1050 fot mep

Mango Prices

Sales Promotion

Marketing mangos through a detailed customer database

Marketing strategies from trade operators are being focused on improved regularity in supply flows. Suppliers generally run their own individual promotions on their websites. Our expert, Robert Moehling Jr., explained how his company manages its distribution and sales of mango. Mr. Moehling maintains a contact database of his customers, complete with email addresses and the produce type the customer usually purchases. When the produce type or a sister-type comes into season, Mr. Moehling runs an e-mail flyer to his customers. Mr. Moehling ships across the country and to Canada to households and grocery stores alike, but the majority of his customers are individuals or households that recognize the variety of his mangos. Mr. Moehling explained that most of the mangos he sells are the Kent or Haydon variety, which isn't the variety seen in stores due to their appearance. While the store varieties are typically more attractive, the Kent and Haydon mangos are less stringy and much sweeter, making for a better tasting mango. His customer is almost always a customer that appreciates the improved quality and taste of a mango the general market isn't used to seeing.

Importers List and Distribution Networks

Banana

Based on the interview with Mr. Moehling, Chiquita is the most important company in the world of Bananas.

- Americas Food and Beverage (Sept 24-26, 2008. Miami, FL)
- Global Food and Style Expo (April 5-7, 2009. USA)

Mango

- Valeria at AIMCO. Phone Number (305) 258-1611
- Miriam at J. R. Enterprises. Phone Number (305) 255-5100. According to our expert, Mr. Robert Moehling, J. R. Enterprises is the largest importer of Mangoes in the Unites States.
- **BROOKS TROPICALS, INC.**
P.O. Box 900160 or 18400 SW 256 St. Homestead, Florida 33090. Toll Free: 800-327-4833. Phone: 305-247-3544 • Fax: 305-246-5827. Email: maryo@brookstropicals.com or <http://www.brookstropicals.com/>
- **MEMBERS OF THE NATIONAL MANGO BOARD:**
On May 17 2005 Agriculture Secretary Mike Johanns appointed 18 members to serve on the National Mango Board. The members are the first to serve on the board under the Mango Promotion, Research, and Information Order which became effective on Nov. 3, 2004.

Upcoming Commercial Events**Upcoming Commercial Events**

International Mango Festival at Fairchild Gardens
Monday, July 14, 2008
10901 Old Cutler Road
Coral Gables, FL 33156

Mango Festival Parade of Deerfield Beach, FL
Saturday, June 14, 2008
Beginning at Pioneer Park and ending at Westside Park

Mango Mania Tropical Fruit Fair
July 12-13, 2008
2101 Pine Island Road
Cape Coral, FL 33910

Conclusions and Recommendations

After researching bananas and mangos, one could conclude that there is a promising market segment that needs to be educated in order for production to grow. Most people aren't aware of the nutritional benefits of these two delicious fruits, limiting global and national demand. Therefore, the current market segment is limited to a minimal population that is aware of and appreciates these fruits. Although there is a widespread acceptance of bananas, there is a large opportunity for mango to penetration the market.

The benefits of organic produce needs to be highlighted, perhaps by trade advertising, in order to educate consumers on the benefits and specifications of organic produce. This education gap must be addressed if the organic fruit industry expects to experience an increase in demand, and a higher price for organic produce.

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