World Market for Mango

RAP Market Information Bulletin No. 9

INTRODUCTION

Mangoes are the fruit of the Magnifera indica tree, native to India. They are lowland tropical plants that tolerate a wide range of rainfall, although they need dry weather at the time the fruits are formed. Worldwide production, heavily concentrated in Asia, is estimated at 17 million metric tons per year. Although more than 500 varieties exist, only a few move in international trade. The mango is often hailed as the most popular fruit in the world, but until recently it was considered an exotic, specialty item in import markets such as the United States and Europe. Despite rising demand in these markets, competition is formidable because many producing countries are now growing the few varieties in demand and shipping them in large volumes. Consequently, producers cannot rely simply on volume exports to make money; instead, they must compete on the basis of appearance, quality, and price.

PRODUCTION AND EXPORTS

North America

Mexico is the largest exporter of mangoes in the world. Varieties include La Criolla, Manila Super, Haden, Kent, Tommy Atkins, Irwin, Sensation, Van Dick, and Palmer. Production is estimated at 1 million metric tons annually, the growing season lasting from April to September. Fruits are exported to the United States, France, Canada, and Japan. Over the last five years, exports to the United States have been increasing at an average rate of 20 percent a year, reaching 108,385 metric tons (US$89.8 million) in 1994, double the volume of 1990. Exports to other countries in Europe and to Japan are also thriving, reaching 3,406 metric tons and 1,700 metric tons, respectively, in 1994—higher than the exports of any year before.

U.S. production of mangoes centers in Puerto Rico, with some production occurring in Florida as well (2,500 metric tons). U.S. exports of mangoes were 18,500 metric tons (US$ 21.4 million) in 1994—11,248 metric tons to Canada, 4,069 metric tons to the Netherlands, and 1,176 metric tons to Japan.

South and Central America

More than 15 Latin American countries produce mangoes, exporting to the United States and Europe. The season varies from one country to another, but fruits generally are available from September to May. U.S. importers refer to product from these countries as off-shore mangoes because they are counter-season fruits compared with those from Mexico. **Colombia**, **Ecuador**, and **Peru** benefit from duty-free access to the United States and the European Union (EU).

Brazil is the largest exporter with total exports of around 8,000 metric tons in 1994. Major markets are the United States, the Netherlands, France, the United Kingdom, and Portugal. Brazil's season is from October to March. Brazil used to supply a quarter of the EU market, but in 1994 Brazil's market share dropped to 12 percent as exports decreased from 10,000 metric tons the previous year to 5,600 metric tons. Exports to the United States also dropped from 3,150 metric tons in 1993 to 2,200 metric tons.

Venezuela exports between 5,500 and 6,500 metric tons each year, with peak season being in June and July. The United States constitutes the largest market, taking 2,800 metric tons in 1994, followed by the United Kingdom (1,300 metric tons) and Portugal (1,050 metric tons). According to some U.S. importers, Venezuela, Peru, and Guatemala are now supplying better product than

Mexico.

Peru produced 8,000 metric tons of mangoes in 1993. It is the second-largest supplier to the United States after Mexico, with exports amounting to 3,450 metric tons in 1994. Peru's exports to the EU are usually around 1,500 to 2,000 metric tons but in 1994 were only 821 metric tons. Major European markets include the Netherlands and the United Kingdom. The Peruvian mango season runs from November through March.

Guatemala grows primarily the Kent, Haden, and Tommy Atkins varieties, which are in season from March until June. Guatemala's exports to the United States have risen dramatically from 622 metric tons in 1993 to 2,376 metric tons in 1994.

Costa Rica produces Tommy Atkins, Irwin, Keitt, Mora, and Haden - Tommy Atkins and Irwin being the main varieties. The season runs from February to June, peaking in March and April. In 1994, exports totaled 2,500 metric tons, and in 1995 they are expected to exceed 4,000 metric tons. The main shipping destinations in 1994 were the Netherlands and Germany.

Haiti, which supplied the United States with 13,438 metric tons of product in 1991, began exporting again in 1993 after a trade embargo was lifted. Exports to the United States, however, were only 2,742 metric tons in 1994, whereas exports to Europe were 206 metric tons.

Ecuador exported 1,450 metric tons of product in 1994, 61 percent of which went to the United States, and the remainder to France, Spain, and the Netherlands. Many trees begin bearing this year, so exports are expected to increase considerably.

Africa

In 1994, **South Africa** became the second-largest supplier to the EU after Brazil, with exports reaching 5,256 metric tons compared with 3,647 metric tons in 1993. The South African season runs from January to May. South Africa was expected to export 1.5 million boxes (7,500 metric tons) in 1995. Its major markets are the Netherlands (taking 1,900 metric tons in 1994), France (1,270 metric tons) and the United Kingdom (814 metric tons).

In 1994, exports from **C(te d'Ivoire** to the EU doubled, reaching 5,000 metric tons. C(te d'Ivoire is the largest supplier to France, accounting for 35 percent of that country's imports last year. Production is primarily of the red Kent and the green Amelie varieties, which are fiberless and highly appreciated in the French market. The season runs from March to July, peaking between mid-April and late June. This year, some French importers blamed lack of export controls for the fact that many Ivorian loads arrived in bad shape and overripe.

Mali, Burkina Faso, Gambia, Guinea, and **Kenya** are other major African suppliers. In 1994, Mali exported 837 metric tons to the EU (67 percent to France and 32 percent to the Netherlands). Malian varieties are the same as for C(te d'Ivoire. Burkina Faso exported 735 metric tons to the EU, 63 percent to France and 24 percent to the Netherlands. Gambia exported 610 metric tons to the United Kingdom, up from 485 metric tons in 1993. Guinea exported 457 metric tons to the EU, including 334 metric tons to France and 94 metric tons to the Netherlands. Kenya exported 1,580 metric tons of mangoes to Europe and other destinations in 1994.

Middle East

In 1994, **Israel** exported 4,150 metric tons of mangoes. The country forecasts exports of 6,000 metric tons for 1995 and hopes to export 10,000 metric tons by the year 2000. The Israeli production season runs from July to November. In 1994, exports to the EU reached 3,178 metric tons, up from 2,975 metric tons in 1993 and from 2,514 metric tons in 1992. France and the Netherlands are the major markets, taking 900-1,000 metric tons each, followed by the United Kingdom with 461 metric tons in 1994.

Egypt produced 196,775 metric tons of mangoes in 1993 and exported 2,410 metric tons, mostly to regional markets.

Asia

India is the world's biggest mango producer (10 million metric tons in 1992) and exports primarily the Alphonso and Payri varieties. For the second consecutive year, India has suffered from substantial droughts, which have caused large decreases in production. Exports totaled 22,124 metric tons worth US$13.9 million in 1993-1994. Exports to Europe were 1,265 metric tons in 1994. The United Kingdom is India's largest European market, taking 83 percent of all Indian mango exports to the EU. The Indian mango season runs from April to August.

Pakistan produced 787,000 metric tons of mangoes in 1992. It is the largest supplier of mangoes to the United Kingdom, supplying 3,000 metric tons in 1994. Total exports to EU countries amounted to 3,277 metric tons in 1994, compared with 2,500 metric tons in 1993. Pakistan's production season runs from June to August. Mangoes from Pakistan are generally the very sweet varieties, similar to those from India.

The **Philippines** is the largest suppliers to Japan, Singapore, and Hong Kong. The season runs from June to August. After four year of continuous growth, exports to Japan dropped from 8,032 metric tons in 1993 to 5,464 metric tons in 1994. Still, the Philippines retains 72 percent of the Japanese market, having invested heavily in vapor heat-treatment technology to ensure that export varieties—principally the Manila Super—could be certified as fruit fly-free by Japanese quarantine inspectors.

Australia estimates 1994 mango production of more than 35,000 metric tons, against 22,370 metric tons the year before. The country started to export its Kensington Pride variety to Japan this year after winning Japanese health authorities' approval of its vapor heat-treatment program. Australia also supplies other Asian markets such as Singapore and Hong Kong.

Taiwan, Thailand, and **New Zealand** also export mangoes to regional Asian markets, the most popular Thai variety being the sweet "honey mango."

Europe

Spanish growers are switching to popular varieties such as Tommy Atkins and Keitt and hope to boost mango production by 70 percent over the next five years. However, growers estimate that total production will probably not exceed 10,000 metric tons.

MARKETS

North America

U.S. imports of mangoes have more than doubled in the last five years, reaching 123,093 metric tons in 1994 (see Table 1 and Figure 1). The customs value of imported mangoes that year was US$107.4 million, up from US$65.2 million in 1990 (Table 2). Mexican mangoes have accounted for almost all of this increase in imports and represented 88 percent of the volume of U.S. imports in 1994, when no other single country accounted for more than 3 percent. However, Peru, Venezuela, Guatemala, Ecuador, and Brazil have also expanded exports to the United States since 1990.

Mexico supplies the United States primarily from March to September, with peak supplies arriving May through July. Other shipments arrive in the United States as follows: Haitian product between March and July, peaking from April to June; Brazilian product between October and December; Peruvian product between January and February; and Venezuelan product between March and July, peaking in April and May.

U.S. mango consumption is still very low (less than one pound per person) but is increasing at a rate of 10 to 15 percent per year. Mangoes are still primarily an ethnic food, and only one-third of American households have ever purchased the fruit. Mangoes are very popular in cities with high Latino and Asian populations. However, mangoes are appealing to a wider population, and demand likely will continue to grow. The most popular varieties are Tommy Atkins, Haden, Kent, and Keitt.

Fresh mango prices are significantly lower when Mexican supply is highest from March to September according to 1994 New York wholesale market price reports. Early shipments of Haden mangoes from Mexico earned US$9.00-US$12.50 per carton (8s-14s) in February and March, before the price dropped to US$6.00-US$9.00 per carton from April to June. Tommy Atkins

shipments from Mexico sold in New York for US$4.50-US$9.00 per carton from April to August 1994, with prices generally below US$7.00 per carton (8s-14s). Late Mexican shipments of Keitt and Kent earned US$4.50-US$6.50 per carton (8s-14s) from June to September.

Prices reported in New York for Haitian Francine and Francis mangoes ranged from US$7.50 to US$12.50 (mostly US$7.50-US$9.00) per carton (8s-14s) from December to May. Brazilian Tommy Atkins, which began the season in late October and early November at US$18.00 per carton (7s-14s), fell in price to US$7.00-US$8.50 per carton as Brazilian supplies arrived later in the year. Peruvian product entered in January, at the end of the Brazilian supply period, and prices were generally US$12.00-US$13.00 per carton during the next two months for Haden and Kent varieties. Venezuela and Guatemala supplied New York from March to June with Haden and Tommy Atkins. Prices were generally strong in March but declined considerably as Mexican supplies increased in May and June.

Canada imported 16,372 metric tons of mangoes, valued at C$19.0 million, in 1994 (Tables 3 and 4). This quantity is a significant increase from five years ago, when only 9,714 metric tons of product (C$10.6 million) were imported. Like the United States, Canada received most of its increased supply from Mexico: Mexico supplied 69 percent of Canadian imports by volume, and the United States contributed an additional 18 percent. The remainder comes from countries such as Brazil, Venezuela, Peru, and the Philippines.

Europe

Total imports from non-EU sources reached 45,118 metric tons for a value of US$53.0 million in 1994, not including December's imports by the Netherlands and Belgium, for which figures are not yet available (Table 5). Imports have increased every year since 1988, when only 27,354 metric tons of product were imported (see Figure 2). The Netherlands has greatly contributed to this growth: Dutch importers have brought in mangoes from a variety of countries and shipped them throughout Europe. Many countries ship mangoes to the EU, the largest suppliers being Brazil (12 percent of all 1994 non-EU imports, based on volume), South Africa (12 percent), C(te d'Ivoire (11 percent) and the United States (11 percent). Mexico, Pakistan, Israel, and Venezuela all provide about 7 percent of EU imports (see Figure 3).

Brazil ships mainly during the winter season (November to January), whereas South Africa's peak period is January to April. C(te d'Ivoire sends product to France and other destinations from March to June, and the United States supplies product primarily from June to October. Mexico's season extends from March to October, most of its product appearing in Europe during the summer months. Both India and Pakistan send mangoes—mostly to the United Kingdom—from April to August. Venezuela's main season is April to July, and Israel's comes at the end of the summer, from August to October.

The **Netherlands** imported 15,461 metric tons (US$17.7 million) of mangoes from non-EU sources in 1994 (Table 6). The United States and Brazil were the largest suppliers, accounting for 3,577 metric tons and 3,119 metric tons each. Other major suppliers include South Africa, Mexico, Israel, and Costa Rica. Almost half of all imported mangoes are re-exported, mostly to Germany but also to Austria, Switzerland, and Scandinavia. Still, Dutch con-sumption (imports minus exports) stood at 9,456 metric tons in 1994, the second largest in Europe after the United Kingdom. Dutch consumers, like most Northern Europeans, generally prefer red mangoes, although Dutch importers said that green-colored West African mangoes have found a following in the Netherlands.

Mexican exporters send Tommy Atkins, Haden, and Kent mangoes by sea container; Israel supplies mostly green-colored Tommy Atkins, Kent, and Lily varieties by sea container. During the winter months, Dutch importers receive product from Brazil and South Africa, as well as from Guatemala and Peru. Kenyan product generally arrives in December as the Brazilian season is ending and the South African one is about to begin.

Nineteen supplier countries are listed in 1994 price reports published by the International Trade Centre's Market News Service. Average weekly importer selling prices for top suppliers are summarized in the box above.

The **United Kingdom** imported 11,181 metric tons of mangoes (US$11.8 million) from non-EU sources in 1994, down from a high of 13,029 metric tons in 1991. Pakistan supplied 3,005 metric tons, Venezuela 1,293 metric tons, and India 1,049 metric tons. Very sweet Indian and Pakistani

varieties are favored by consumers. Importers describe the U.K. market as very competitive and not short of supply. Product is currently sourced from Brazil, Costa Rica, Peru, Gambia, Israel, Jamaica, Mexico, Pakistan, and St. Lucia. Kenyan mangoes are available in U.K. markets, but not consistently.

In 1994, Market News Service reported importer selling prices for 20 different suppliers to the U.K. market, most of which are only occasional suppliers. Brazilian mangoes shipped by air sold for between £1.23 and £2.50 per kilogram during Brazil's main supply period (October-January). Prices for Mexican mangoes sent by air and for Israeli Kent mangoes were reported between July and October, earning £1.25 to £1.90 per kilogram and £1.00 to £2.00 per kilogram, respectively. Venezuelan mango prices from March to July were between £1.50 and £2.38 per kilogram.

France is the third-largest mango market in Europe. French imports in 1994 from non-EU countries stood at 10,326 metric tons, worth US$13.7 million. These figures represent increases of almost 1,000 metric tons and US$1.5 million from the previous year. Mangoes are available year round, with supplies coming from C(te d'Ivoire, South Africa, Peru, Ecuador, Brazil, Mali, and many others. Importers report that October is the only month during which they have difficulty finding supply.

C(te d'Ivoire was the largest supplier in 1994, with 3,534 metric tons, followed by South Africa, with 1,268 metric tons, and Brazil and Mexico, both supplying 1,000 metric tons. Currently C(te d'Ivoire accounts for 34 percent of French import volume and supplies the market at very competitive prices from April to June. In 1995, however, many Ivorian shipments were of poor quality, arriving in bad shape or too ripe in the market.

The Kent variety is most popular in France as a whole, because of its taste, reddish coloration, and lack of fiber, but in the southern part of the country consumers prefer Tommy Atkins. Importers reported that a price drop would be helpful to stimulate demand. About 30 percent of mangoes are distributed by supermarkets, the remainder being distributed through traditional Halles, open markets, and other retailers.

Market News Service reports importer selling prices for 18 different suppliers to France in 1994, with the top suppliers' representative prices summarized in the upper box on the left.

Germany imported 10,052 metric tons of mangoes in 1994, 70 percent of them from other EU countries, mostly the Netherlands. Major non-EU sources of supply are C(te d'Ivoire, South Africa, and Costa Rica, each supplying 600-700 metric tons. German consumers tend to prefer red mangoes.

In 1994, Market News Service reports importer selling prices for mangoes entering from 15 exporting countries, most only sporadic suppliers (see bottom box on page 7).

Asia

Hong Kong constitutes the largest import market in Asia for mangoes. In 1993, 27,895 metric tons of product were imported, worth US$27.4 million (see Table 7 and Figure 4). The Philippines is the largest supplier to this market, accounting for almost 80 percent of the volume of all imports in 1993. Thailand and Australia each supply about 6 percent, although the declared value of Australian product was twice that of Thai product (see Table 8 and Figure 5). However, customs statistics from 1994, which unfortunately combine mangoes with avocados, guavas, and mangosteens, show that imports of these commodities (of which mangoes is by far the largest) dropped by almost 2,000 metric tons. Australia and Indonesia were the only countries to increase their supply levels, although the market share of the top suppliers remained relatively unchanged.

Japanese imports of mangoes grew from 5,510 metric tons in 1990 to 9,264 metric tons in 1993, but, in 1994, they dropped to 7,606 metric tons (¥2.3 billion) (Table 9). This decrease is attributable to the overall decrease in the Japanese economy (the burst-bubble economy) and to increased consumption of other imported fruits, such as citrus and apples. Trade statistics show that the Philippines was the only producer to suffer from this decline. All other producers except Taiwan increased supply in 1994.

Almost half of Japanese imports arrive between March and May, and another 28 percent during the next three months, June through August. Imports are at their lowest from November to January. The Philippines dominated the 1994 import market with a 72 percent share by volume. Mexico and the

United States accounted for 22 percent and 2 percent, respectively. All other suppliers (including Thailand, Australia, and Taiwan) shared the remaining 3 percent of the volume of 1994 imports. Japan requires that all mangoes entering the country be treated for fruit flies. Sweet, fleshy mangoes are preferred to fibrous mangoes. Manila Super mangoes from the Philippines, and Haden, Keitt, and Tommy Atkins mangoes from Mexico and the United States are popular varieties.

Singapore imported 10,300 metric tons of mangoes, avocados, guavas, and mangosteens in 1993, worth US$9.0 million (import statistics for mangoes alone are not available) (Table 10). Singaporean imports have grown by 41 percent since 1990, when only 7,303 metric tons of product were imported. Malaysian product accounted for roughly half of all imports by volume, with Thai product taking up 27 percent. In value terms, however, Malaysia accounts for only 24 percent of all imports; the Philippines accounts for 22 percent, and Australia and Thailand for 20 and 19 percent, respectively (Table 11).

GRADES AND STANDARDS

Minimum standards for mangoes are defined by the United Nations ECE Standard FFV-45: "in-tact, firm, fresh in appearance, sound (produce affected by rotting or deterioration such as to make it unfit for consumption is excluded), clean, practically free from any visible foreign matter, free from black stains or trails that extend under the skin, free from marked bruising, practically free from pests, practically free from damage caused by pests, free from damage caused by low temperature, free from abnormal external moisture, free of any foreign smell and taste.

UN/ECE mango standards divide mangoes into three classes; Extra Class for mangoes of superior quality, free of defects; Class I for mangoes of good quality, with slight defects of shape or of the skin; and Class II for mangoes that do not qualify for inclusion in the higher classes but satisfy the minimum requirements.

In the United States, the Mexican Mango Exporters' Association (EMEX) decided to suspend quality inspections at the border in the beginning of 1995. Mexican and South American mangoes arriving in the United States no longer require quality inspections at the border, but some importers still require that mangoes be checked before shipment or on arrival, and some exporters voluntarily carry out inspections before shipment.

Mangoes shipped in international commerce generally are packed in one-layer, 4- to 5-kilogram cartons that hold from 8 to 16 fruits per carton.

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