

# Recent Trends in World and U.S. Mango Production, Trade, and Consumption<sup>1</sup>

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## Introduction

Mangoes are produced in over 90 countries worldwide. Asia accounts for approximately 77% of global mango production, and the Americas and Africa account for approximately 13% and 9%, respectively (FAOSTAT 2007). Although not a major mango producer, the United States has developed most of the popular cultivars traded on the international market. It is also the largest single-country mango importer. This article summarizes some of the recent trends in world and U.S. mango production, trade, and consumption.

## Global Mango Production, Imports, and Consumption

In 2005, world production of mango was estimated at 28.51 million metric tons. Between 1996 and 2005, production grew at an average annual rate of 2.6%. Table 1 shows the world's top ten mango producing countries, which account for about 85% of the world's mango production.

India is the largest producer of mangoes, accounting for 38.6% of world production from 2003

to 2005. During that period, India's mango crop averaged 10.79 million metric tons, followed by China and Thailand at 3.61 million metric tons (12.9%) and 1.73 million metric tons (6.2%), respectively. Other leading mango producers during the 2003 to 2005 period include Mexico (5.5%), Indonesia (5.3%), Pakistan (4.5%), Brazil (4.3%), the Philippines (3.5%), Nigeria (2.6%), and Egypt (1.3%).

Although currently only 3% of the world production of mango is traded globally, this represents a noticeable increase over the quantities traded 20 years ago. In terms of distribution, Mexico, Brazil, Peru, Ecuador, and Haiti supply the majority of mango imports to the North American market. India and Pakistan are the predominant suppliers to the West Asian market. The Philippines and Thailand supply most of the Southeast Asian market. The European Union mainly buys mangoes from South America and Asia.

In 2005, world exports of mangoes reached 912,853 metric tons, totaling US \$543.10 million (FAOSTAT 2007). Table 2 shows the top ten mango exporting countries. India replaced Mexico as the

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1. This is EDIS document FE718, a publication of the Food and Resource Economics Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. Published August 2008. Please visit the EDIS website at <http://edis.ifas.ufl.edu>.
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largest producer of mangoes in 2005. For the 2003 to 2005 period, Mexico and India dominated the export trade with shares of 22.6% and 20.3%, respectively, followed by Brazil (13.2%) and Pakistan (6.9%). Other major exporters include the Netherlands (major re-exporter), Peru, Ecuador, the Philippines, Thailand, and China.

World imports of mangoes increased from 397,623 metric tons in 1996 to 826,584 metric tons in 2005. As the number one importer of mangoes during the 2003 to 2005 period, the United States imported 271,848 metric tons, or approximately one-third of total mango imports (Table 3).

The Netherlands imported 88,300 metric tons of mangoes (10.6%), but most of this is redistributed throughout the European Union. Other major importing redistributors of mangoes are the United Arab Emirates (6.8%) and Saudi Arabia (5.3%), with most of these imports being redistributed within the Middle East. Mango imports to China have been declining due to increased domestic production. For example, China imported 57 metric tons in 2004 and only 19 metric tons in 2005. Other noticeable importers include Bangladesh and the United Kingdom (4.6% each), Germany (4.1%), France (4.1%), and Malaysia (3.6%).

The most popular export mango cultivars continue to be Kent, Tommy Atkins, Haden, and Keitt, which have fruit with a red blush, and are less fibrous, firmer, and more suited for long-distance transportation than other types of cultivars (Saucó 2004). The green cultivars, such as Ataulfo and Amelie, are only now being widely accepted in the international market. Other cultivars gaining popularity in the international market include Alphona, Dudhpeda, Kesar, Sindhu, Pairi, Desi, Chaunsa, Langra, and Katchamita. Most of the newer cultivars are coming from India and Pakistan.

Over the last decade, prices for most mango varieties have decreased about 5% as the fruit becomes more available worldwide, but prices could increase with proper promotional efforts.

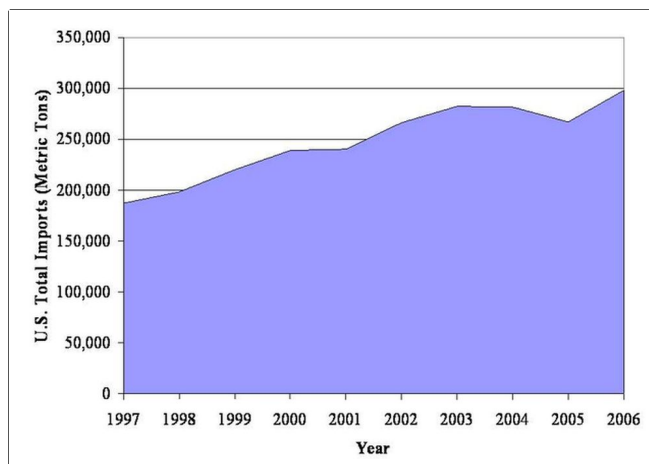
There is evidence that the processed mango fruit market is increasing (Saucó 2004). Processed fruit products include mango juice, pickled mangoes,

mango chutney, mango pulp, mango paste, mango puree, dried mango fruit, mango slices in brine, and mango flour. India is the main exporter of processed mangoes, followed by Pakistan, Brazil, and Zimbabwe. Major importers include the United Arab Emirates, Saudi Arab, Kuwait, the United States, the United Kingdom, and Canada.

## U.S. Mango Production, Imports, and Consumption

Although most of the commercially traded mango varieties have been developed in Florida, the United States is not a major mango producer. U.S. mango production remains fairly stable at just under 3,000 metric tons per annum.

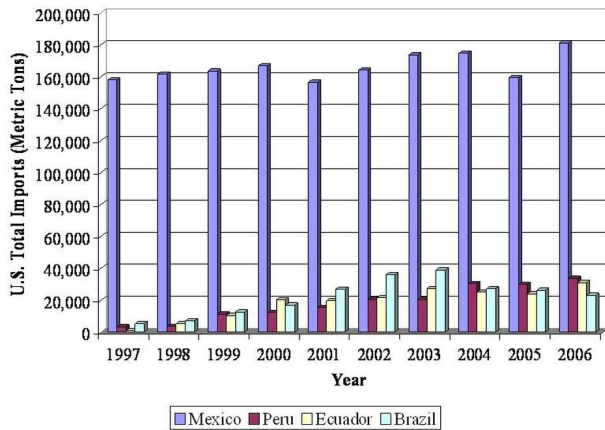
However, the United States is the world's leading importer of fresh mangoes, accounting for 32.7% of the total imports during the 2003 to 2005 period (FAOSTAT 2007). Figure 1 illustrates total mango imports into the United States during this period, with imports increasing from 187,193 metric tons to 298,088 metric tons, or an average annual growth rate of 5.5%. Mango imports were valued at about US \$233.1 million in 2006 (USDA, Foreign Agricultural Service 2006).



**Figure 1.** U.S. total imports of mangoes, 1997-2006 (metric tons). Source: USDA/FAS.

Mexico, Peru, Ecuador, and Brazil supply most of the U.S. imports of mangoes, with Mexico having a 60.8% share in 2006 (Figure 2). Over the past five years, Brazil, Peru, and Ecuador have become significant exporters to the United States, competing with Mexico at the start and the end of the season.

The United States redistributes very few of its mango imports to other countries, mainly to Canada and the United Kingdom.



**Figure 2.** U.S. total imports of mangoes, by country, 1997-2006 (metric tons). Source: USDA/FAS.

U.S. consumption of mangoes has increased steadily from a per capita level of 0.5 kilograms in 1996 to 1.0 kilogram in 2005 (USDA, Economic Research Service 2006). The growth in U.S. consumption of mangoes is driven by many factors, such as year-round availability, lower prices, consumer preferences, and more disposable income. However, mango consumption in the United States is relatively low when compared to fruits such as bananas (11 kg) and oranges (5 kg).

U.S. prices for mangoes vary widely by cultivar and season, mainly due to the fact that the commodity demand is price inelastic (sensitive to variations in quantities available; a 1% increase in quantity tends to lead to more than a 1% decrease in price). In general, mango prices have been steadily declining over the past decade. Table 4 shows the average CIF (cost, insurance, and freight) prices for mango imports into the United States during the 1998 to 2006 period.

## Concluding Remarks

Worldwide mango production occurs in over 90 countries. While only a small proportion of total mango production enters international trade (less than 4%), the volume traded has risen substantially over the last decade. Among the factors responsible for increased mango production, trade, and consumption are lower prices, year-round availability, fewer trade

barriers, longer shelf life, and consumer interest. Although not a major mango producer, the United States has developed most of the popular cultivars traded on the international market, and is the largest single-country mango importer.

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**Table 1.** World's top ten mango producers, 1996–2005.

Countries	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2003–2005 (%)
	(1,000 metric tons)										
India	11,000	11,000	10,230	9,780	10,500	10,060	10,640	10,780	10,800	10,800	38.58
China	2,074	2,410	2,562	3,127	3,211	3,273	3,513	3,571	3,582	3,673	12.90
Thailand	1,181	1,198	1,088	1,462	1,633	1,700	1,700	1,700	1,700	1,800	6.20
Mexico	1,189	1,500	1,474	1,508	1,559	1,577	1,523	1,362	1,573	1,679	5.50
Indonesia	783	1,088	600	827	876	923	1,403	1,526	1,438	1,478	5.29
Pakistan	908	914	917	916	938	990	1,037	1,035	1,056	1,674	4.48
Brazil	593	508	469	456	538	782	842	1,254	1,358	1,000	4.30
Philippines	898	1,005	945	866	848	882	956	1,006	968	985	3.53
Nigeria	656	689	731	729	730	730	730	730	730	730	2.61
Egypt	203	231	223	287	299	325	287	319	375	380	1.28
Others	3,248	3,230	3,347	3,656	3,597	3,731	4,001	4,327	4,242	4,308	15.34
World Total	22,733	23,773	22,584	22,584	24,730	24,973	26,634	27,609	27,822	28,508	100.00

Source: FAOSTAT 2007.

**Table 2.** World's top ten mango exporting countries, 1996–2005.

Countries	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2003–2005 (%)
	(1,000 metric tons)										
Mexico	148	187	209	204	207	195	195	216	213	195	22.64
India	27	45	47	38	39	46	42	179	156	223	20.25
Brazil	24	23	39	54	67	94	104	138	111	114	13.18
Pakistan	18	25	39	41	48	52	48	60	82	49	6.94
Netherlands	21	25	17	37	34	43	33	58	51	69	6.42
Peru	11	6	11	20	21	27	35	40	60	58	5.71
Ecuador	0	2	7	0	26	34	30	38	41	40	4.31
Philippines	40	45	53	35	40	39	36	38	36	25	3.61
Thailand	8	9	10	10	9	11	9	8	33	2	1.55
China	12	7	9	10	5	5	15	22	10	4	1.31
Others	80	104	87	103	132	121	127	126	127	135	14.08
World Total	391	478	529	552	628	666	673	923	920	913	100.00

Source: FAOSTAT 2007.

**Table 3.** World's top ten mango importing countries, 1996–2005.

Countries	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2003–2005 (%)
United States	171	187	197	219	235	238	263	278	276	261	32.70
Netherlands	25	34	35	63	62	70	71	91	76	98	10.62
United Arab Emirates	28	37	48	48	42	46	52	62	58	51	6.82
Saudia Arabia	10	16	14	9	28	36	35	40	42	51	5.32
China	36	40	47	33	33	34	38	47	57	19	4.91
Bangladesh	5	9	0	11	21	21	14	43	37	36	4.63
United Kingdom	16	18	18	23	22	27	24	32	37	47	4.63
Germany	13	17	17	24	23	25	28	32	33	37	4.11
France	18	23	22	31	26	26	27	32	35	35	4.09
Malaysia	14	6	21	1	20	27	31	26	45	19	3.59
Others	61	68	66	84	114	106	101	142	148	173	18.58
World Total	398	454	486	545	628	656	684	825	843	827	100.00

Source: FAOSTAT 2007.

**Table 4.** Average cost, insurance, and freight prices for selected varieties from main suppliers to the United States, 2006.

Country of Origin	1998	1999	2000	2001	2002	2003	2004	2005	2006
	(U.S. dollars per kilogram)								
Brazil	3.43	2.13	2.09	1.74	1.67	1.72	1.65	1.67	1.65
Ecuador	3.21	1.67	1.69	1.65	1.47	1.28	1.83	1.94	1.67
Haiti	N/A	2.24	2.05	2.24	2.13	1.96	1.98	2.11	2.11
Peru	3.61	1.89	1.65	1.85	1.61	1.45	1.43	1.58	1.39
Mexico	2.09	1.78	1.72	1.69	1.61	1.45	1.43	1.67	1.72
N/A = Not Applicable									
Source: Compiled by authors.									