



Commodity Profile: Melons

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Overview

Melons belong to the cucurbit family that also includes cucumbers. Southern Mexico and Central America are thought to be the source origins of cucurbits (Damania et al.). Today's predominant melon varieties include watermelon, cantaloupe, and honeydew. In 2004, the total value of production of U.S. watermelons was \$313.5 million. Cantaloupe production was valued at \$300.6 million and honeydew production totaled \$89 million. Combined, all melons made up the third highest ranked vegetable and melon crop in the United States behind lettuce and onions. By weight of national production, watermelons alone, because of their bulk, were the third ranked vegetable and melon crop behind onions and lettuce (NASS).

Ideal growing conditions for melons include a long, warm frost-free season. Thus, the primary commercial producers of all U.S. melons are found in the southern portion of the country including in California, Arizona, Texas, Georgia, and Florida. The harvest season for melons lasts from April through December but varies within states.

Demand and Marketing

The United States is one of the world's leading consumers of melons. Per capita consumption of melons has remained around 25 pounds over the last 15 years (Figure 1). Per capita consumption peaked in 1999 at 29 pounds. Melon consumption has remained high for a variety of reasons including health consciousness of consumers, improved year-round availability, creative marketing and improved varieties. Melons are often consumed as desserts, snacks, in fruit salads, breakfast foods, and as picnic foods. Marketing attempts recently have focused on pre-cut product displays, in-store salad bars, and other strategies to appeal to the single serving market and to smaller households. Seedless varieties have also helped spur consumption and are popular with consumers in the western United States (ERS 2003). In addition, industry improvements in harvesting and handling techniques as well as the introduction of sweeter hybrid varieties have improved quality and reduced the number of poor eating experiences (ERS 1998).

Watermelons have accounted for roughly 50 percent of U.S. per capita melon consumption, cantaloupes 40 percent and honeydews about 10 percent. In 2004 watermelon consumption was 13 pounds per capita followed by cantaloupe consumption at 9.5 pounds and honeydew at 2.2 pounds. Although cantaloupes have reportedly been purchased more often than watermelons, the sheer weight advantage of watermelons have made them the highest per capita consumed melon in terms of pounds. The increase in consumption of watermelons in the 1990s has in part been attributed to more effective marketing, including pre-cut and wrapped watermelons as well as increased advertising and smaller varieties. As watermelons continue to be consumed in smaller portion sizes, per capita demand may fall despite an increase in eating occasions (ERS 2003).

Supply

The largest producer of cantaloupes and other melons worldwide in 2004 was China, accounting for over 50 percent of world production by weight, followed by Turkey with 6.1 percent, Iran was third with 4.4 percent, the U.S. fourth with 4.2 percent, and Spain fifth with 3.9 percent.

California is the leading U.S. producer of all melons, accounting for 33 percent of total acreage in 2004, followed by Texas (14.4%), Georgia (11.7%), Arizona (10.5%), and Florida (9.8%). By acreage and weight, California leads the nation in cantaloupe and honeydew production, while Florida is the nation's leading producer of watermelons.

Total U.S. melon acreage decreased more than 100 thousand acres between 1992 and 2004. In 2004 melon acreage was estimated at 253,000 acres (Figure 2). Watermelons account for the largest share in total acreage but watermelon acreage has decreased by 38 percent since 1992 from 229,400 to 141,200 acres in 2004. Total acreage of cantaloupe and honeydew melons have each decreased by nearly 17 percent since 1992. In 2004 U.S. cantaloupe acreage totaled 89,950 and honeydew acreage totaled 21,700 acres.

In 2004 U.S. melon production was valued at \$703 million, with watermelon accounting for the largest value followed by cantaloupe, and honeydew (Figure 3). Historically, cantaloupe production accounts for the greatest share of production value, while watermelon accounts for a larger share of production based on volume by pounds. However, the value of watermelon production exceeded that of cantaloupe production in 1995 and 2004 when watermelon production was valued at \$350 million and \$313 million respectively. In 2004, the value of U.S. cantaloupe production was \$300.6 million, a decrease of over \$100 million from \$429.3 million in 2001. U.S. honeydew production was valued at \$89.7 million in 2004, a decrease of just under \$9 million from the previous year.

Imports

In the past, melons were considered "seasonal delights" because of their limited availability throughout the year. However, as production flexibility and imports have increased availability, melons have become available year round and have gained in

popularity. Today, not only is the United States a net importer of melons (imports minus exports) but it is the largest importer of cantaloupes and other melons worldwide. France and the United Kingdom are also large import markets for cantaloupes and other melons on the world market. Germany is the largest importer of watermelons followed by the United States and then Canada (Food and Agricultural Organization for the United Nations (FAO)).

The total value of melons imported into the United States in 2004 was \$281.8 million, up from \$123.4 million in 1990. The majority of melon imports occur in the winter season from December through May. These imports predominately originate in Latin American countries such as Mexico, Guatemala, and Costa Rica. Mexico has been and remains the largest supplier of U.S. melon imports (Figure 4). Since 2002, Guatemala has been the second largest importer to the United States, followed by Costa Rica.

About \$100 million, or nearly one third, of the total value of all melon imports is attributed to watermelon imports. Mexico is the dominant source, accounting for 91.2 percent of watermelon imports. Guatemala and Costa Rica are the next largest sources of watermelon imports, accounting for 3.5 percent and 2.4 percent respectively (Table 1).

Total U.S. imports of cantaloupes were valued at \$117.3 million in 2004. Although historically Mexico has been the largest supplier of cantaloupes to the United States, by 2002, both Guatemala and Costa Rica had become the main suppliers of U.S. imported cantaloupes. One reason for this shift was the decline in U.S. imports of Mexican cantaloupes following a series of salmonella outbreaks in the United States that were traced back to Mexican cantaloupes. In 2000, Mexico accounted for 27.9 percent of U.S. cantaloupe imports. By 2004 Mexico accounted for just 4 percent of cantaloupe imports while Guatemala accounted for 41 percent and Costa Rica 32 percent. However, Mexico has been and still remains the dominant supplier of U.S. imports of watermelon and other melons with the exception of cantaloupe. In 2004, Mexico accounted for 91 percent of U.S. watermelon imports and 54 percent of other melon imports.

Table 1. Share of U.S. Melon Imports by Type and Source Country, 2004

Melon Type	Mexico	Guatemala	Costa Rica
Cantaloupe (\$117.3 million)	4.1 %	41.1%	32.3 %
Watermelon (\$100.6 million)	91.2 %	3.5 %	2.4 %
Other Melons (\$62.6 million)	54.2 %	15.7 %	10.2 %

Exports

The world's largest exporter of cantaloupes and other melons is Spain, followed by the United States and then Costa Rica (FAO). Although the United States is a net importer of melons, in 2004 U.S. melon exports were valued at \$98.1 million, up from \$68.4 million in 1990. Canada has been, and remains, the major U.S. export market for all melons. U.S. exports to Canada increased from \$56.1 million in 1990 to \$85.2 million in 2004 (Figure 5). Exports to Canada account for nearly 87 percent of all U.S. melon exports, 99 percent of all watermelon exports, and nearly 80 percent of cantaloupe and honeydew exports. Japan is the second largest market for U.S melon exports. In 2004,

Japan accounted for 7 percent of total U.S. melon exports, and 13 percent of cantaloupe and other melon (excluding watermelon) exports.

Price

After adjusting for inflation, prices for all domestically produced melons have shown some variability over the years, however both honeydew and cantaloupe prices have fallen in recent years while watermelon prices remained relatively flat (Figure 6). Honeydew prices (in year-2000 inflation-adjusted dollars) peaked in 1981 at \$26.05 per cwt and were \$16.27 per cwt in 2004. The season-average price for cantaloupe peaked in 1980 at \$25.17 per cwt, but has been variable, increasing through much of the late 1990s and decreasing in the early part of the 2000s. In 2004, cantaloupes were valued at \$13.68 per cwt. Watermelon prices have varied mostly between \$6 and \$10 per cwt over the last decade, but peaked in 1980 at \$12.19 per cwt. In 2004 the season-average price for watermelon was \$7.87 per cwt.

Sources

Damania, A.B., J. Valkoun, G. Willcox and C.O. Qualset (Eds). 1998. The Origins of Agriculture and Crop Domestication. Proceedings of the Harlan Symposium. ICARDA, Aleppo, Syria. Report No 21 of the Genetic Resources Conservation Program, Division of Agriculture and Natural Resources, University of California.

Food and Agricultural Organization of the United Nations (FAO). Statistical Database. Available at: <http://faostat.fao.org/faostat/collections?subset=agriculture>

United States Department of Agriculture. Economic Research Service (ERS). 2005. Vegetables and Melons Yearbook. Available at: <http://usda.mannlib.cornell.edu/data-sets/specialty/89011>

_____ Food Consumption per capita Data System. Available at <http://www.ers.usda.gov/data/foodconsumption/FoodAvailQueryable.aspx>

_____ 2003. Commodity Highlight: Watermelon. Vegetables and Melons Outlook. Available at: www.ers.usda.gov/Briefing/Vegetables/vegpdf/Watermel.pdf

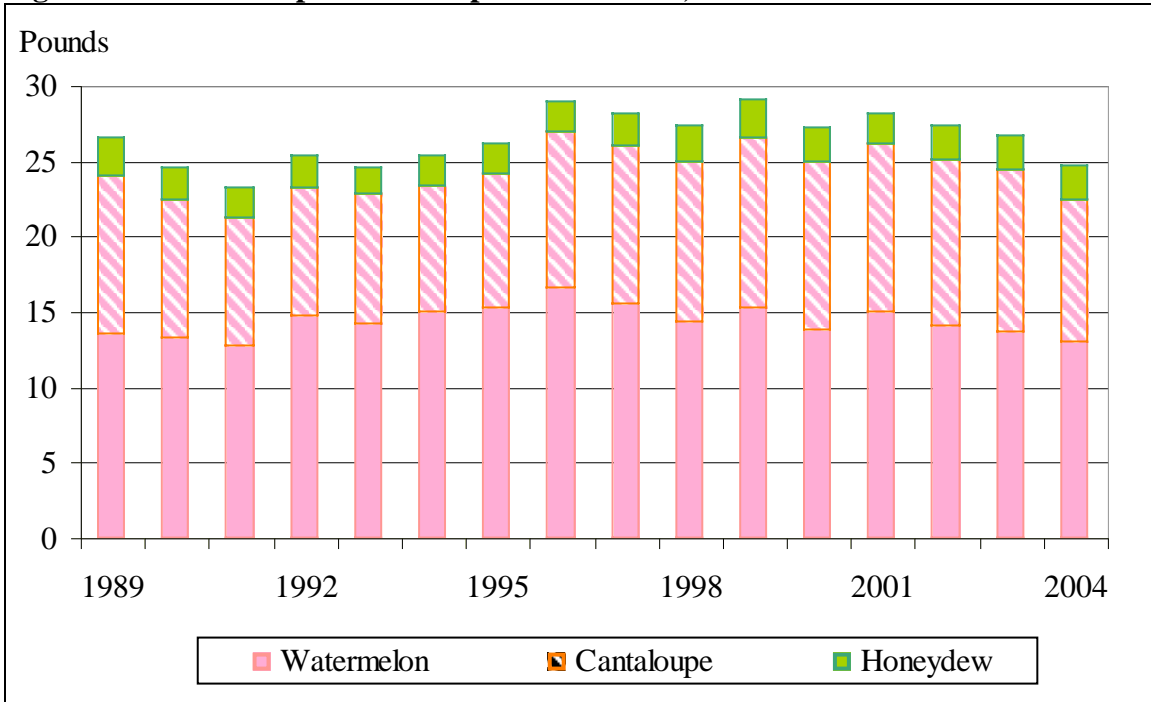
_____ 1998. Commodity Spotlight. Melons: Food for the Angels. Agricultural Outlook. Available at: www.ers.usda.gov/publications/agoutlook/aug1998/ao253c.pdf

United States Department of Agriculture, Foreign Agricultural Service (FAS). Trade Database. Available at: <http://www.fas.usda.gov/ustrade/>

United States Department of Agriculture, National Agricultural Statistical Service (NASS). Crop Values 2004 Summary. Available at: <http://usda.mannlib.cornell.edu/reports/nassr/price/zcv-bb/>

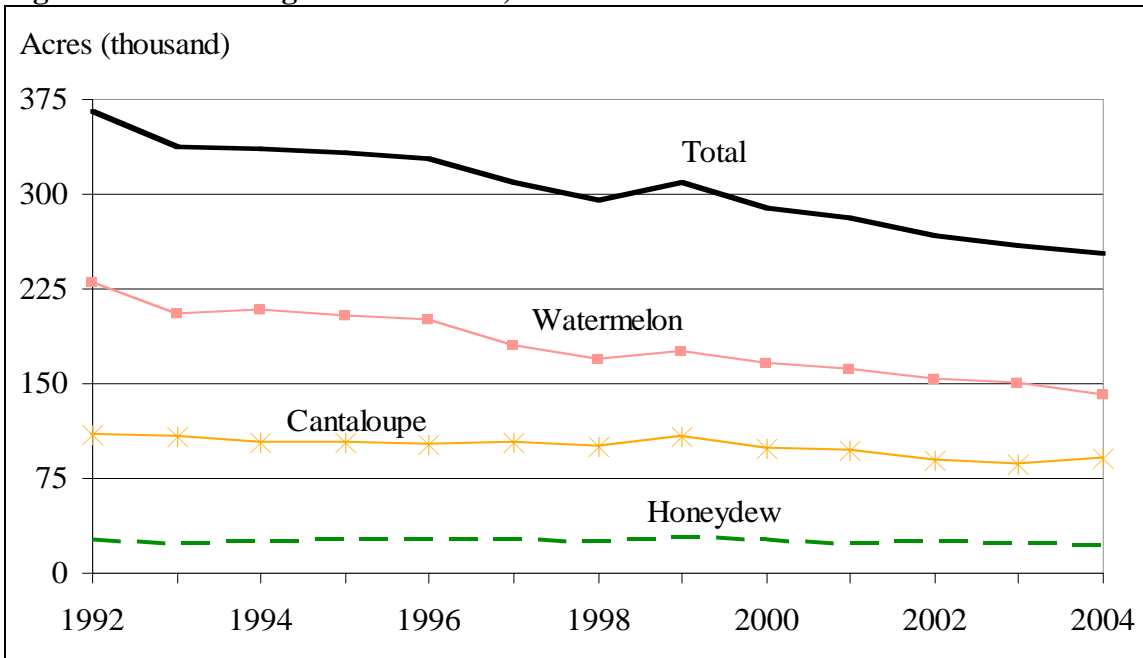
FIGURES

Figure 1. U.S. Per Capita Consumption of Melons, 1989-2004



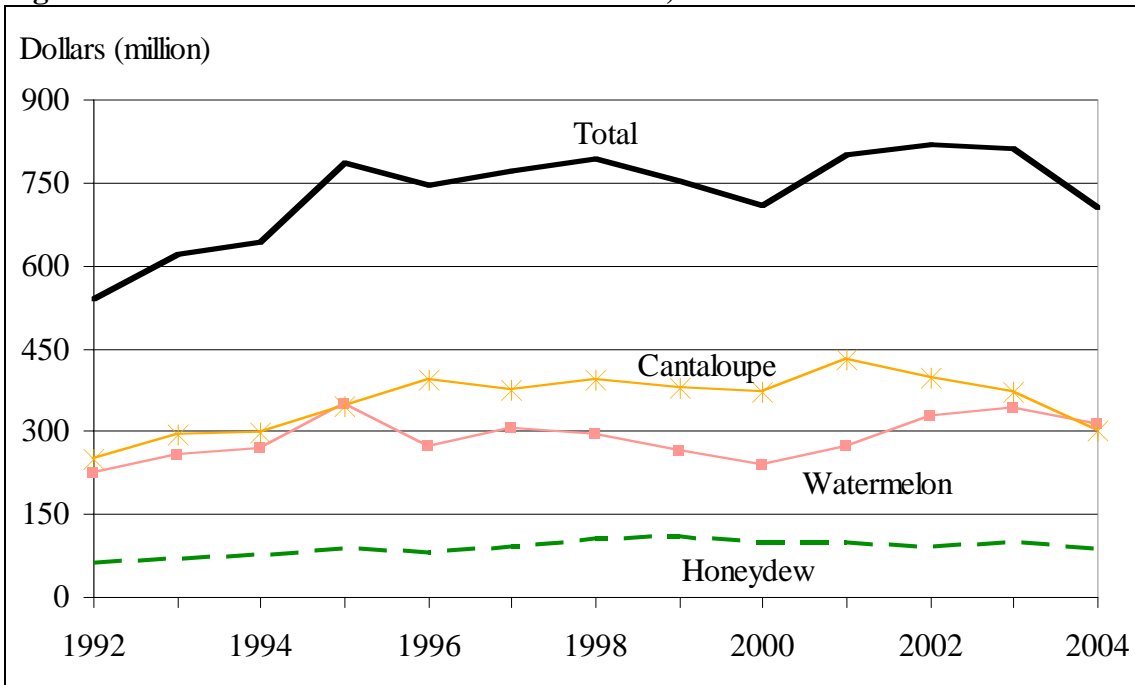
Source: USDA Economic Research Service, Per Capita Consumption Data System

Figure 2. U.S. Acreage of All Melons, 1992-2004



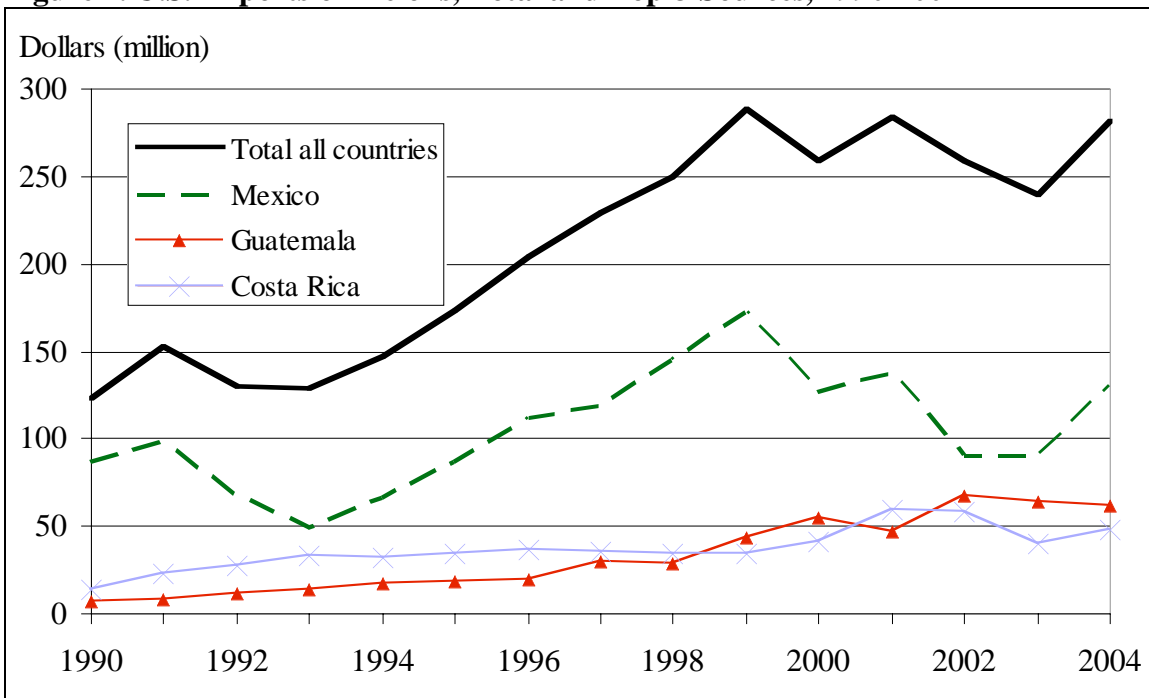
Source: USDA Economic Research Service Vegetables and Melons Yearbook

Figure 3. U.S. Value of Production of All Melons, 1992-2004



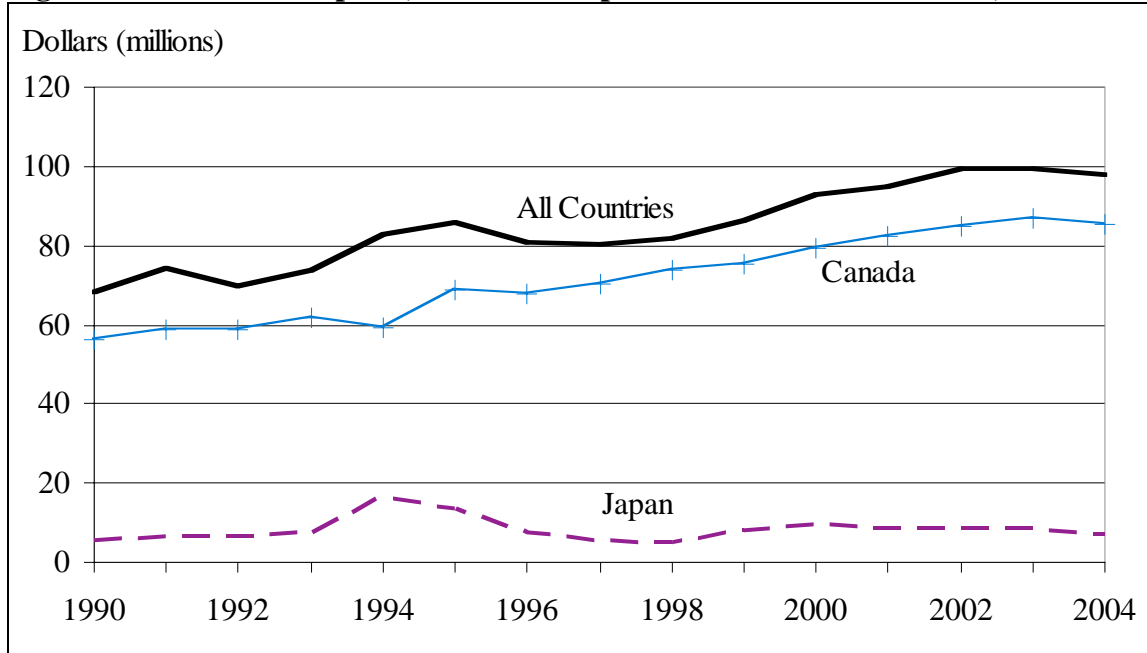
Source: USDA Economic Research Service Vegetables and Melons Yearbook

Figure 4. U.S. Imports of Melons, Total and Top-3 Sources, 1990-2004



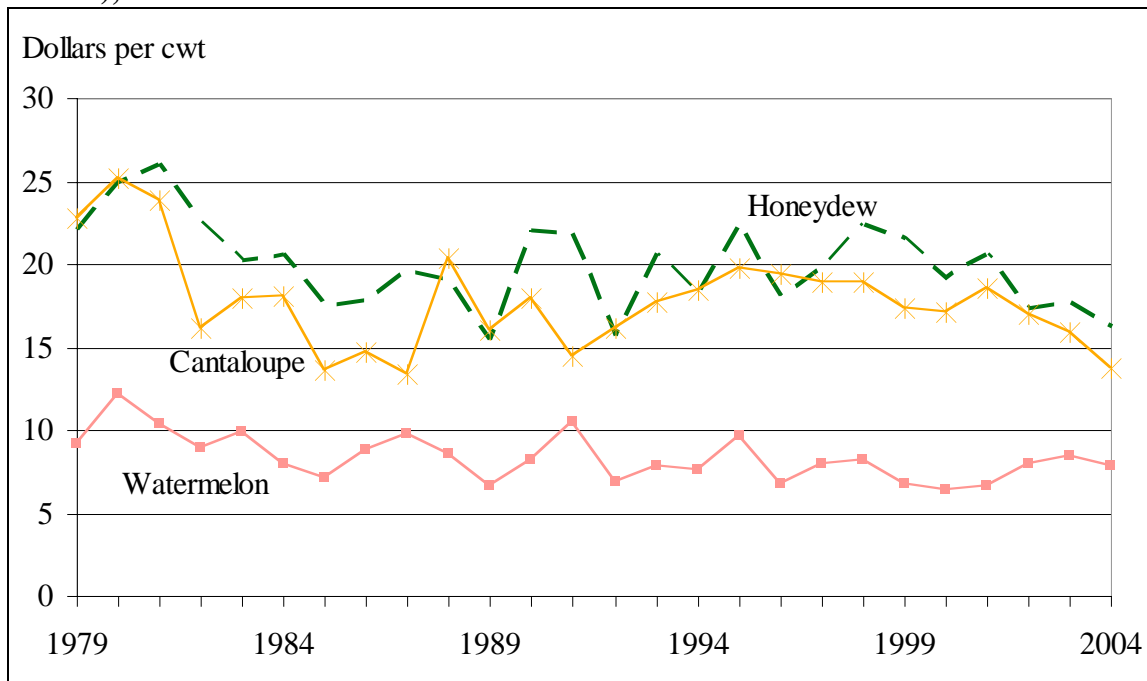
Source: USDA Foreign Agricultural Service

Figure 5. U.S. Melon Exports, Total and Top Two Destination Countries, 1990-2004



Source: USDA Foreign Agricultural Service

Figure 6. U.S. Grower Season-Average Melon Price (year-2000 inflation-adjusted dollars), 1979-2004



Source: USDA Economic Research Service Vegetables and Melons Yearbook