Agricultural Issues Center
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Commodity Profile: Spinach

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Overview

Spinach is a native of Southwest Asia (Damania et al.). Because warm temperatures stimulate premature seedstalk formation, making it unmarketable, spinach is grown in cool coastal areas.

In the United States, California and Arizona combined accounted for 90 percent of fresh-market spinach production in 2004 and 84 percent of the harvested acres of fresh-market spinach. Three-quarters of all U.S. spinach acreage was dedicated to fresh spinach production. Of the remaining acreage dedicated to processed production, 93 percent was intended for freezing. In California, fresh-market spinach is grown continuously throughout the year and accounts for 74 percent of the total U.S. fresh-market production. Texas markets fresh spinach from December through March and accounts for 4 percent of U.S. fresh spinach production. The top counties for fresh spinach production in California are Monterey, Riverside, San Benito, Santa Barbara and Ventura.

According to the 2002 U.S. Census of Agriculture, the number of spinach farms in the United States has decreased since 1997, from 1,331 to 1,109 in 2002 while the number of harvested acres increased from 41,861 to 49,859 over the same period of time.

Demand

Per capita consumption of spinach has grown considerably in the early 2000s, driven to a large extent by increasing demand for fresh-market spinach. Per capita consumption of all spinach reached a record 2.4 pounds in 2000 and then increased further to 2.5 pounds in 2003. Fresh spinach consumption increased substantially from 0.63 pounds in 1996 to 1.7 pounds in 2003 (Figure 1). Per capita consumption of processing spinach has not experienced similar rates of growth.

Much of the rise in fresh spinach consumption is the result of increased demand for packaged salads. Recently triple-washed spinach, cello-packed spinach, and baby spinach, have been a leading source of growth in the packaged salads industry (Economic Research Service (ERS) 2003).

Exports

The United States was the world's largest exporter of spinach in 2004 followed by Spain and Italy (Food and Agricultural Organization of the United Nations (FAO)). The United States exported 8.6 percent of its production in 2004, down from a share of 15.9 percent in 2001 (Figure 2). Exports of fresh and processed spinach totaled $38.5 million in 2004, and have increased significantly since 1999 (Figure 3). Fresh spinach, valued at over $34 million in 2004, made up 89 percent of all U.S. spinach exports. The largest export destination for U.S. spinach is Canada. In 2004 Canada received $37.5 million, or 97 percent of the value all U.S. spinach exports. The majority of exports to Canada (90%) consisted of fresh spinach shipments.

Supply

The United States is the second largest producer of spinach in the world behind China. Chinese spinach production accounted for 85 percent of world production in 2004 while U.S. production accounted for 3 percent (FAO).

In 2004, California accounted for 69 percent of the nation's 40,600 harvested acres devoted to fresh spinach and 63 percent of the 12,400 harvested acres used for freezing and canning spinach. Since 1992 acreage of fresh spinach has trended upwards while acreage of spinach used for processing has trended slightly downward (Figure 4).

While acreage of fresh spinach has increased since 1992, the value of fresh spinach production has increased at a greater rate. In 1996, fresh spinach production was valued at $56.7 million. By 2004 this value had increased to $245.7 million (Figure 5). This increase is due largely to a strengthening demand that exceeded production increase and higher prices. Also shown in figure 5, spinach used for processing (canning and freezing) was valued at about $15 million in 2004, relatively unchanged form a decade ago.

Imports

In 2004 total U.S. spinach imports were valued at $17.3 million, making the United States a net exporter (exports less imports) of spinach by just over $21 million (Figure 3). The majority of U.S. spinach imports originates in Mexico, with Canada and China accounting for small additional shares of spinach imports. In 2004, 56 percent of the spinach imports originated in Mexico, 18 percent from Canada, and 15 percent from China. Globally, in 2004 the world's largest importer of spinach was Canada, followed by the United Kingdom and the United States.

Marketing

Highly sensitive to ethylene, spinach cannot be stored or distributed with apples, melons or tomatoes. In 2004, only a small portion of spinach was procured on the open market, almost all of the planted acreage and production was under contract (ERS 2006).

Prices

In the 1980s and early 1990s, prices for fresh spinach were highly variable and followed a generally decreasing trend. From 1979 to 1992 the price of fresh spinach decreased from $48.2 per cwt to $27.1 per cwt (in year-2000 inflation-adjusted dollars). Since 1993, the price for fresh spinach has remained less variable, fluctuating between $31.2 and $37.2 per cwt (Figure 6). In 2004, the price for fresh spinach was $35.2 per cwt. The price for spinach used for freezing has historically been much lower than fresh-market spinach prices and was valued at $5.4 per cwt in 2004.

Sources

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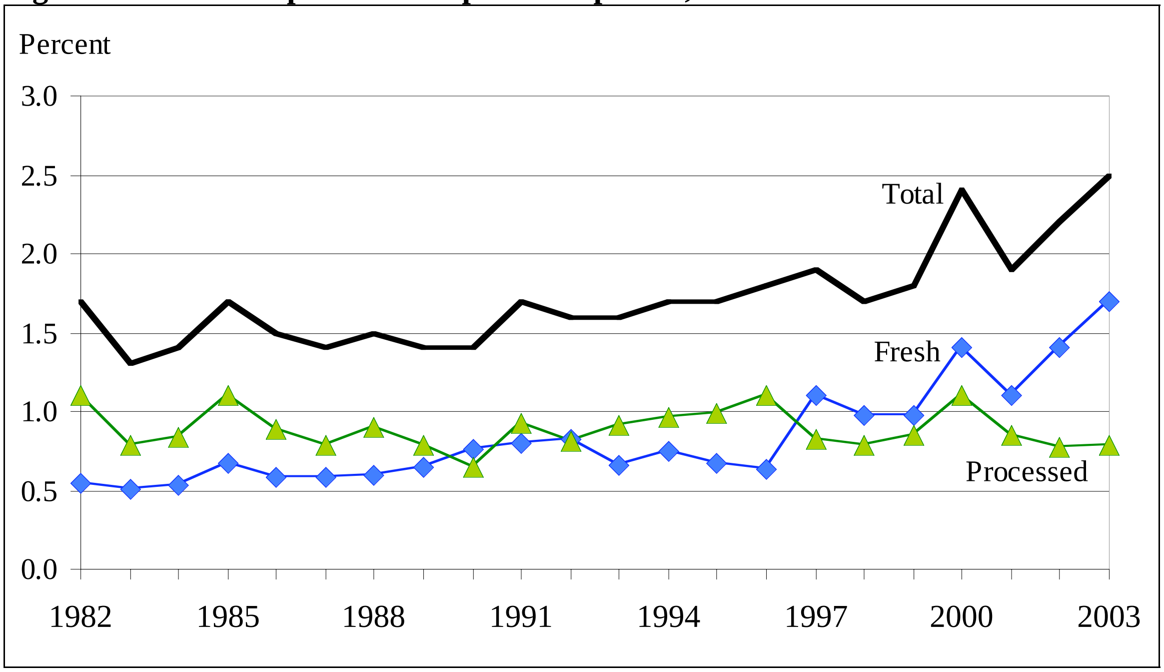
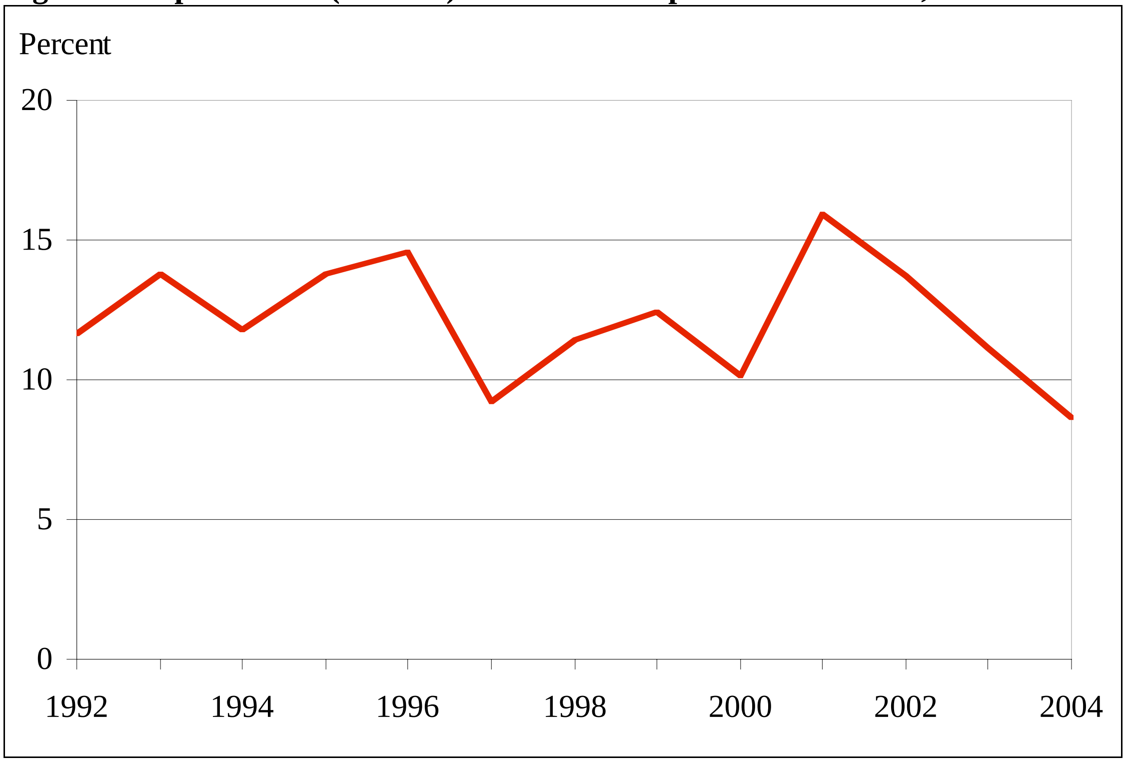
FIGURES

Figure 1 U.S. Per Capita Consumption of Spinach, 1992-2004



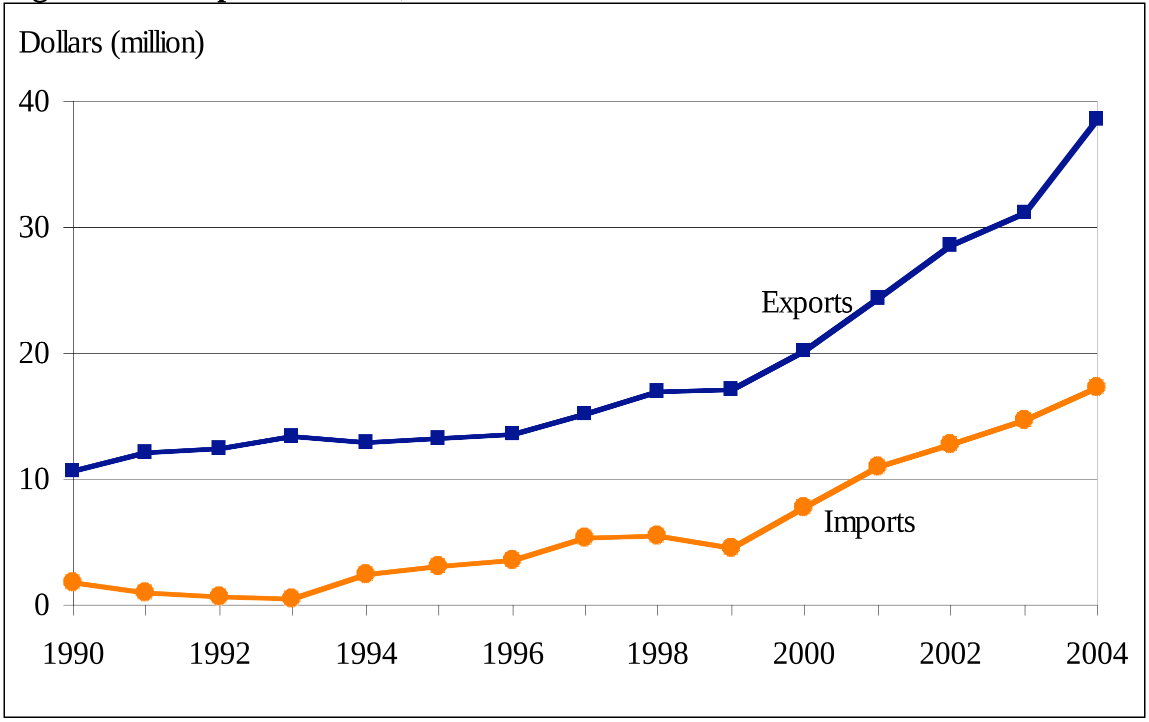
Source: USDA, Economic Research Service, Per Capita Data System

Figure 2: Export Share (Volume) of U.S. Fresh Spinach Production, 1992-2004



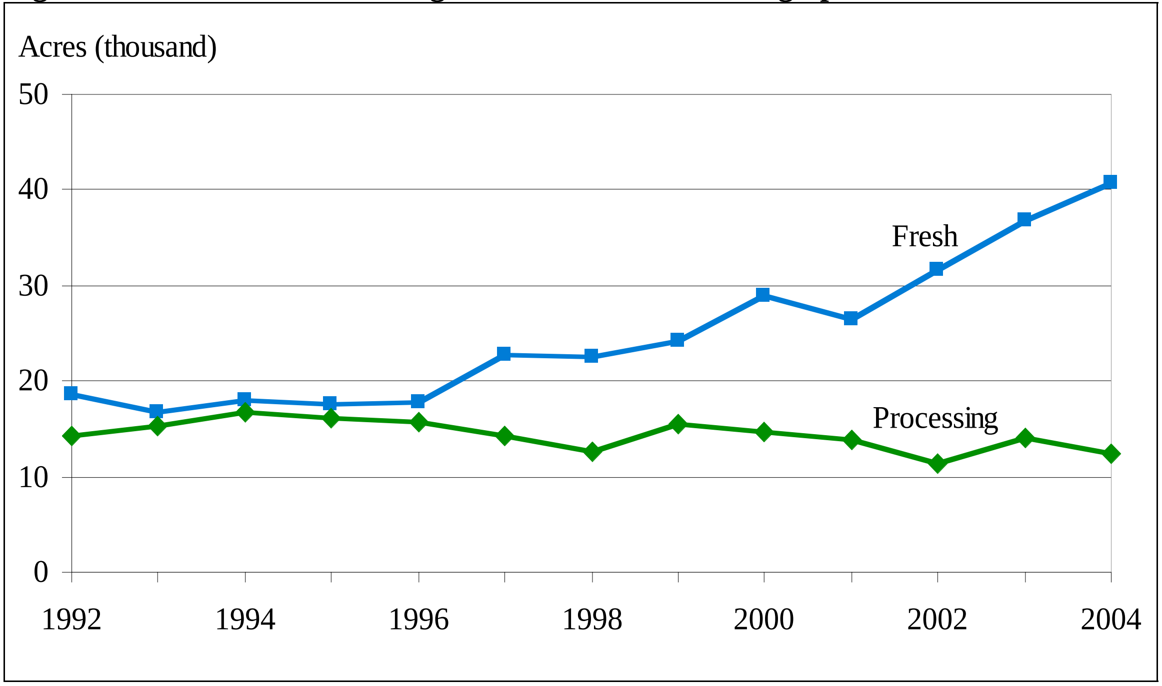
Source: USDA Economic Research Service Vegetables and Melons Yearbook Table 60

Figure 3. U.S. Spinach Trade, 1990-2004



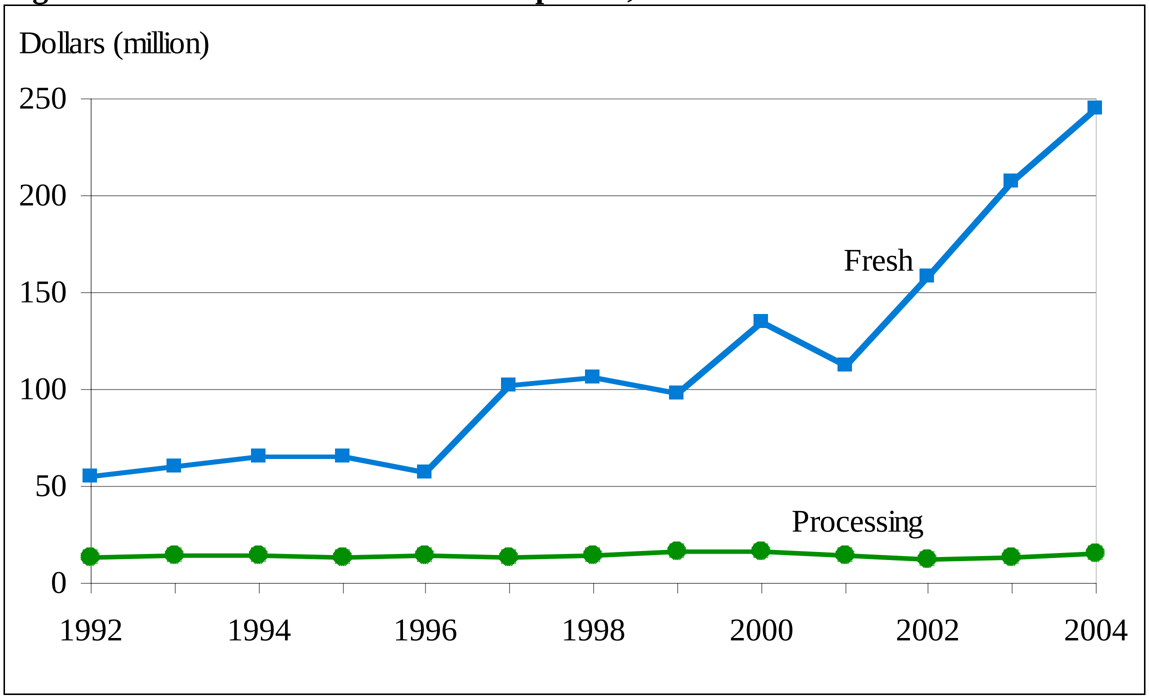
Source: USDA Foreign Agricultural Service

Figure 4. U.S. Harvested Acreage of Fresh and Processing Spinach 1992-2004



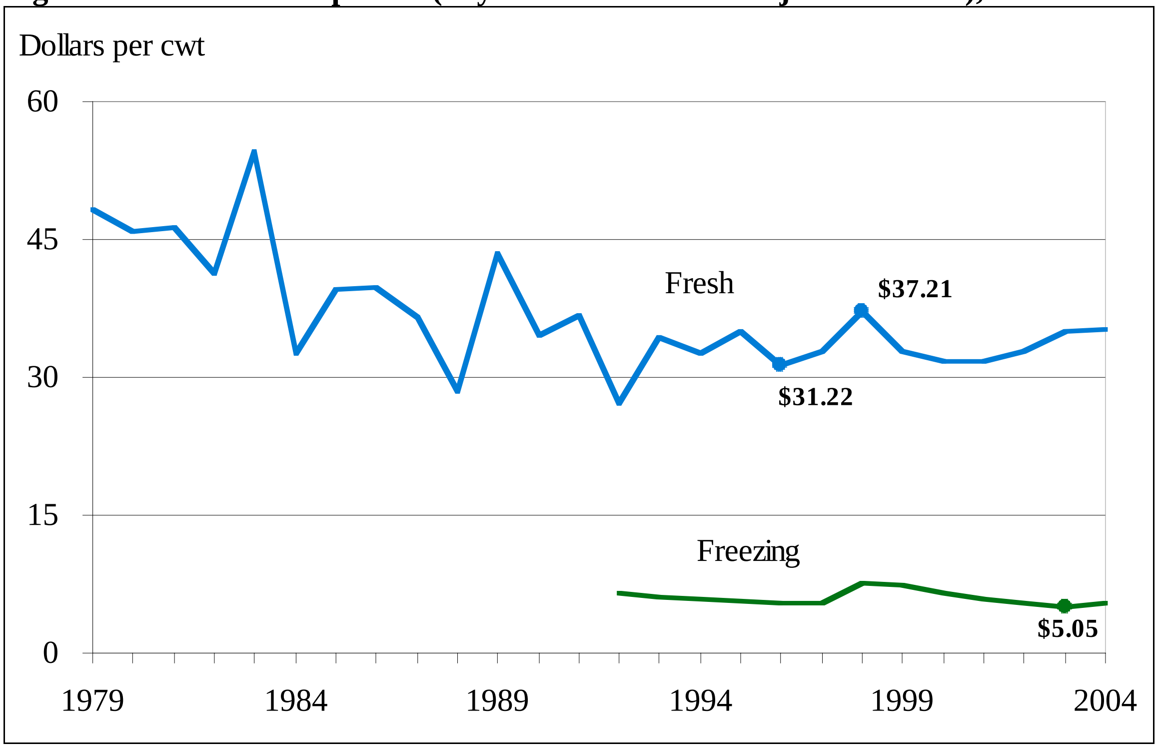
Source: USDA Economic Research Service Vegetables and Melons Yearbook

Figure 5. U.S. Value of Production of Spinach, 1992-2004



Source: USDA Economic Research Service Vegetables and Melons Yearbook

Figure 6. U.S. Price of Spinach (in year-2000 inflation-adjusted dollars), 1979-2004



Source: USDA Economic Research Service, Vegetables and Melons Yearbook