Agricultural Issues Center
University of California

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Commodity Profile: Cabbage

By Hayley Boriss, Junior Specialist
Marcia Kreith, Program Analyst
Agricultural Issues Center
University of California
agissues@ucdavis.edu

Overview

Cabbage, a member of the cruciferous family that includes broccoli, mustard, cauliflower, Brussels sprouts, kale, kohlrabi and bok choy, is thought to have been domesticated as a crop in the Mediterranean region of Europe (Baldwin). It was originally valued by ancient Romans and Greeks as a medicinal for use with a variety of ailments including gout, headaches, and ingestion of poisonous mushrooms (Economic Research Service (ERS) 2002a). Today cabbage is primarily valued as a fresh market vegetable, although research continues on the value of the medicinal properties of cruciferous vegetables that have been found to aid in the prevention of cancer. It is a cool season perennial with moderately high frost tolerance. U.S. commercial production of cabbage can be found throughout every state with the top producing states including California, New York, Texas, and Georgia.

Marketing

The U.S. cabbage industry is a domestically oriented market. The majority of cabbage is used in processing for coleslaw (45%), followed by fresh head cabbage (35%), sauerkraut (12%), and other fresh-cut products (5-10%) (ERS 2002a). Fresh cabbage markets and sauerkraut markets are distinct, with the majority of sauerkraut grown under contract between grower and buyer (ERS 2002b). Production of cabbage has become more concentrated. According to the USDA's 2002 *Census of Agriculture* data, harvested acreage of head cabbage increased by 299 acres between 1997 and 2002, while the number of cabbage farms decreased by one thousand, to 3,757.

Cabbage demand is highest in the month of March, fueled by the Saint Patrick's day holiday promoting the traditional corned beef and cabbage meal (ERS 2002b). December and February also remain high consumption months with lowest demand in the summer months. Although cabbage is harvested year round in California, some shippers in New York, Pennsylvania, Michigan, and Wisconsin, where harvest is during early October through December, coldstore cabbage for up to 6 months to market their late-season harvests the following summer (ERS 2002a).

According to the USDA "1994-1996 Continuing Survey of Food Intake by Individuals," consumption of cabbage in the United States was found to be correlated across geographic, ethnic/racial, gender, age, and income lines (ERS 2002a). The survey found that the highest per person consumption of head cabbage occurs in the South, while the highest percentage of sauerkraut is consumed in the Midwest and the East. The lowest overall consumption level occurs in the West. Coleslaw and sauerkraut are also consumed by those with the greatest financial means, though middle income households accounted for the highest percentage use of all cabbage. In addition, men were found to consume 25 percent more cabbage than women and people under the age of 20 consume very little cabbage. The same study found that over two-thirds of head cabbage is consumed at home, while over half of cole-slaw consumption occurs away from home (ERS 2002a).

Demand

Per capita consumption of fresh market cabbage has never climbed back to the 22 pounds of per capita seen in the 1920s and consumption has been relatively stable over the last decade and a half. The lowest estimate of fresh cabbage consumption was 7.5 pounds per person in 2003, although the 1999 estimate was 7.6 pounds. Domestic consumption of canned cabbage (sauerkraut) has also declined, from 2.3 pounds per capita in 1970 to 1.1 pounds in 2003 (Figure 1). Factors that have helped cabbage consumption from slipping further include the marketing of fresh-cut products, including coleslaw products, the use of red cabbage in fresh-cut salad mixes, growth in away from home eating (increasing coleslaw consumption), increased use in new recipes, and marketing towards health-conscious consumers.

Exports

The United States was a net exporter of cabbage by $9.8 million in 2004 (exports minus imports), although in a typical year only 3 to 4 percent of total cabbage production is destined for export. The majority of exported U.S. cabbage consists of fresh cabbage. In 2004, sauerkraut accounted for about 13 percent of total exports and historically has accounted for 10-15 percent. The largest market for U.S. fresh cabbage in 2004 was Canada, which accounted for 92.5 percent of the $22.9 million in total exports (Figure 2). Japan and Mexico were the second and third most significant export markets respectively, but each accounted for less than 5 percent of total exports.

Supply

According to Food and Agricultural Statistics of the United Nations (FAO), China remains the leading producer of cabbage worldwide, accounting for 48 percent of world production in 2004. The United States ranks 6th in terms of production accounting for 3 percent of the world total, behind India (9%), Russia (6%), South Korea (4%), and Japan (3%).

In 2004 California accounted for 13,600 (18%) of the 76,000 harvested acres of cabbage in the United States, followed by Georgia with 10,000 acres (13%) and New York with 10,600 acres (14%). While Georgia ranks second in terms of acreage, consistently lower yields and lower market prices make Georgia fifth in terms of value of production. Total U.S. cabbage acreage has remained relatively unchanged at around 76,000 harvested acres in the last decade (Figure 3).

Total value of production of cabbage has been variable from year to year, but has been generally increasing over time (Figure 4). In 2004 California accounted for 29 percent of the total value of $347 million in fresh cabbage production, followed by Texas with 17 percent, and New York with 12.5 percent (National Agricultural Statistics Service (NASS).

Prices

Prices for fresh market cabbage have been variable. Prices decreased most dramatically between 1984 and 1990, from a high of $17.59 per hundredweight to a low of $9.44 (expressed in year-2000 inflation-adjusted dollars)**.** Since then, prices have rebounded slightly, but have remained well below the 1984 peak (Figure 5). In 2004, the average inflation-adjusted domestic price for fresh-market cabbage was $12.9 per cwt.

Imports

Like exports, imports have typically made up less than 4 percent of domestic utilization. Total imports of cabbage (fresh and sauerkraut) were $13.2 million in 2004, down 13 percent from 2001 when imports peaked at $15.2 million, but still following a generally increasing trend (Figure 6). The largest sources of U.S. cabbage imports were Canada and Mexico. Imports from Canada in 2004 accounted for 28 percent of total cabbage imports while Mexican imports also accounted for about 30 percent of the total. Typically fresh cabbage makes up the majority of imports, with sauerkraut accounting for 5 to 10 percent, most of which comes from Germany.

Sources

Baldwin, Brian. The History of Cabbage. Department of Plant Sciences, University of Saskatchewan. Available at http://www.gardenline.usask.ca/veg/cabbage.html.

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

United States Department of Agriculture, Economic Research Service (ERS). Food Consumption (per capita) Data System. Available at: http://www.ers.usda.gov/data/foodconsumption/datasystem.asp

__2005. Vegetables and Melons Yearbook. Available at: http://www.ers.usda.gov/publications/FTS/index.htm#yearbook

__2002 (a). Commodity Spotlight, Cabbage Heads Higher. Available at: www.ers.usda.gov/publications/agoutlook/sep2002/ao294e.pdf

__2002 (b). Commodity Highlight: Fresh-Market Cabbage. Available at: www.ers.usda.gov/Briefing/Vegetables/vegpdf/FrCabbageHigh.pdf

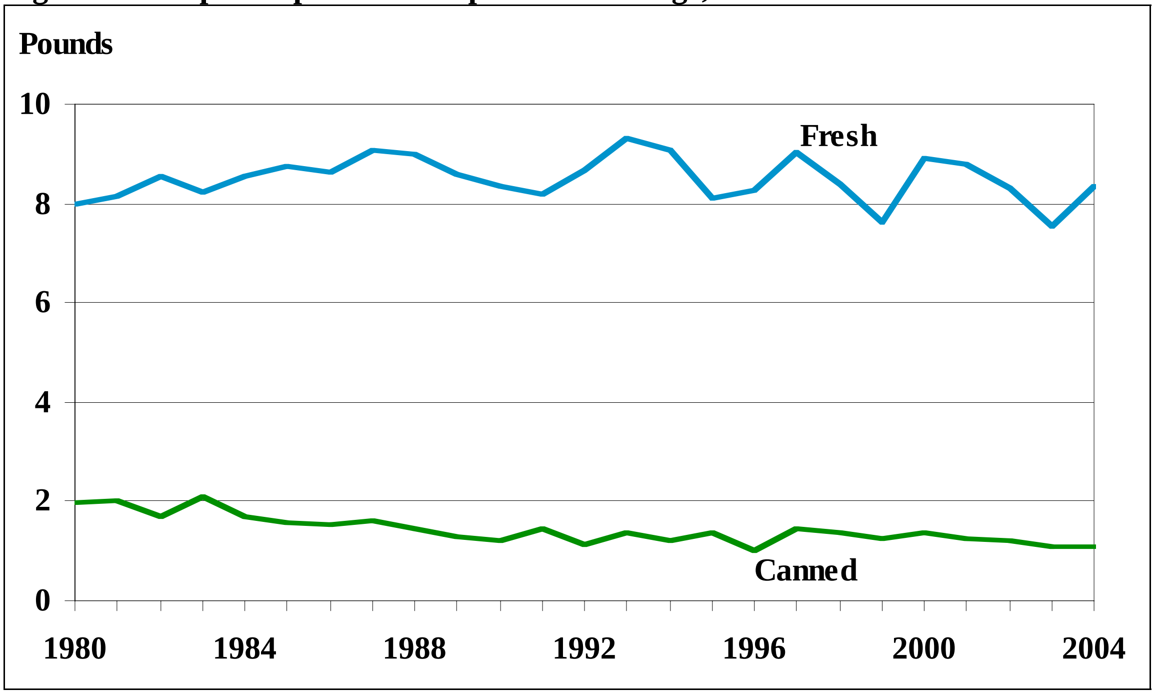
United States Department of Agriculture Foreign Agricultural Service (FAS). Dataweb. Available at: http://www.fas.usda.gov/ustrade/

United States Department of Agriculture, National Agricultural Statistical Service (NASS). Census of Agriculture, 2002. Available at: http://www.nass.usda.gov/Census_of_Agriculture/index.asp

___Commodity Reports. Available at: http://www.usda.gov/nass/pubs/estindx.htm

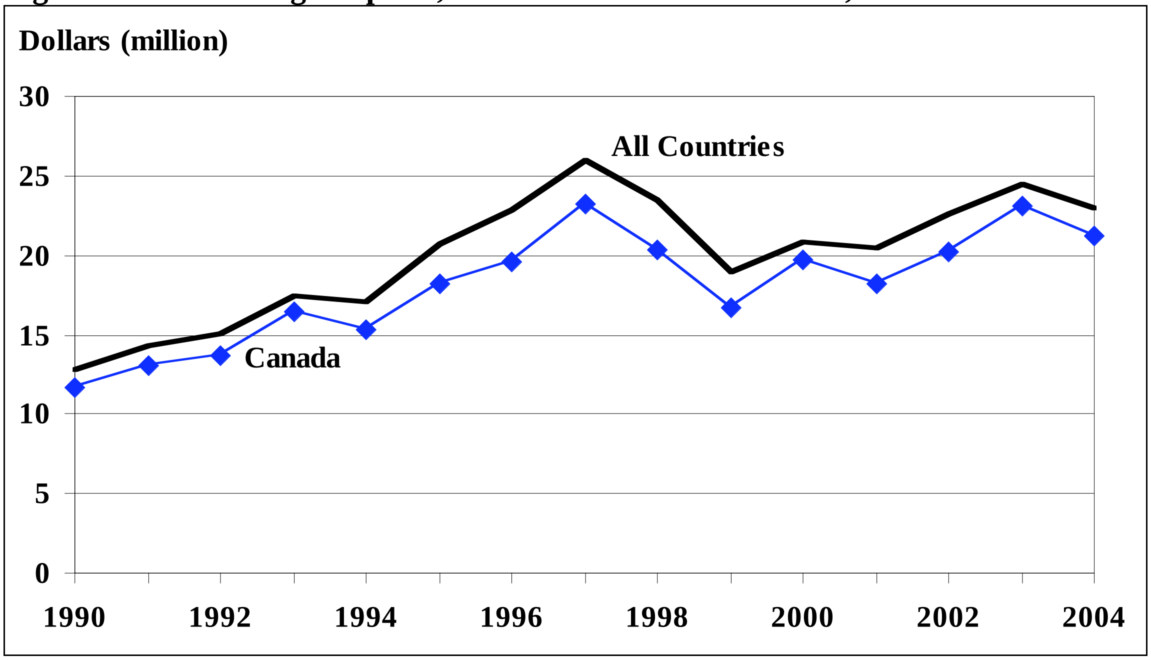
Figures

Figure 1. U.S. per Capita Consumption of Cabbage, 1980-2004



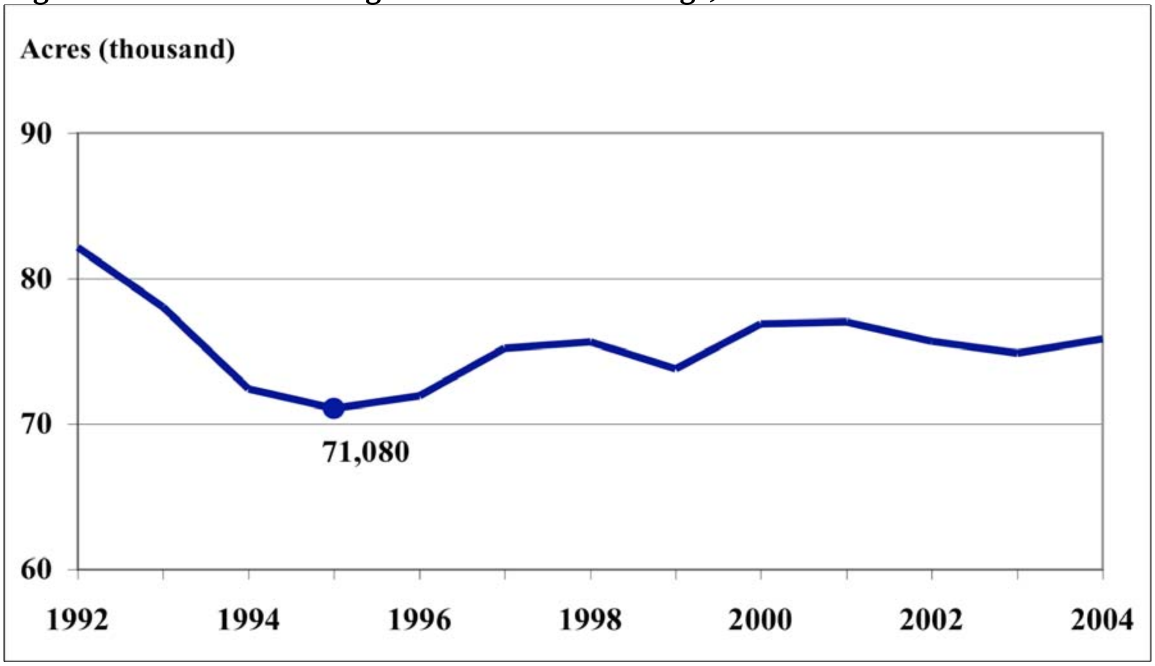
Source: USDA Economic Research Service, Per Capita Data System

Figure 2. U.S. Cabbage Exports, All Countries and to Canada, 1990-2004



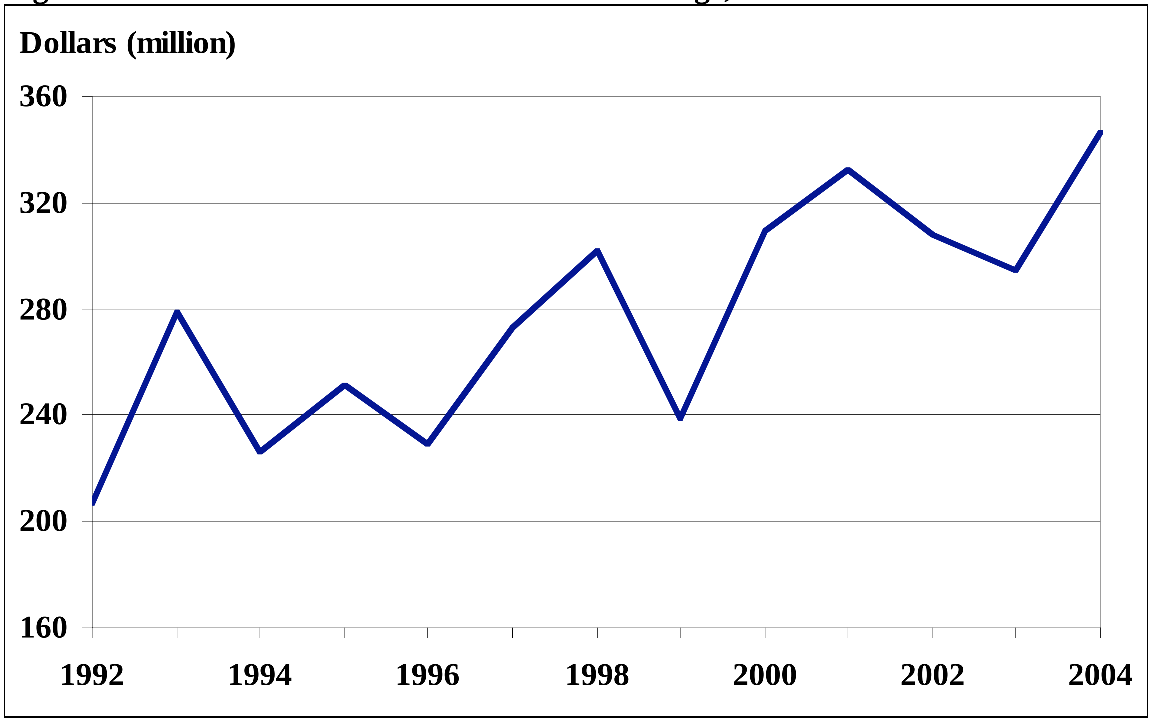
Source: USDA Foreign Agricultural Service

Figure 3. Harvested Acreage of U.S. Fresh Cabbage, 1992-2004



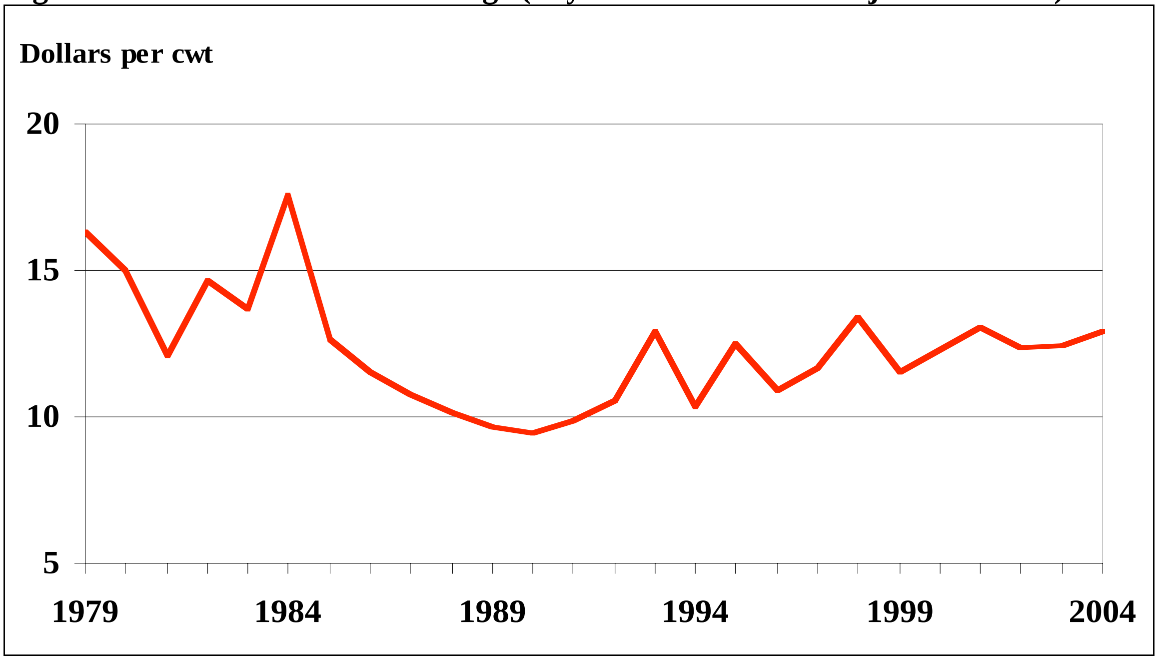
Source: USDA Economic Research Service Vegetables and Melons Yearbook

Figure 4. Value of Production of U.S. Fresh Cabbage, 1992-2004



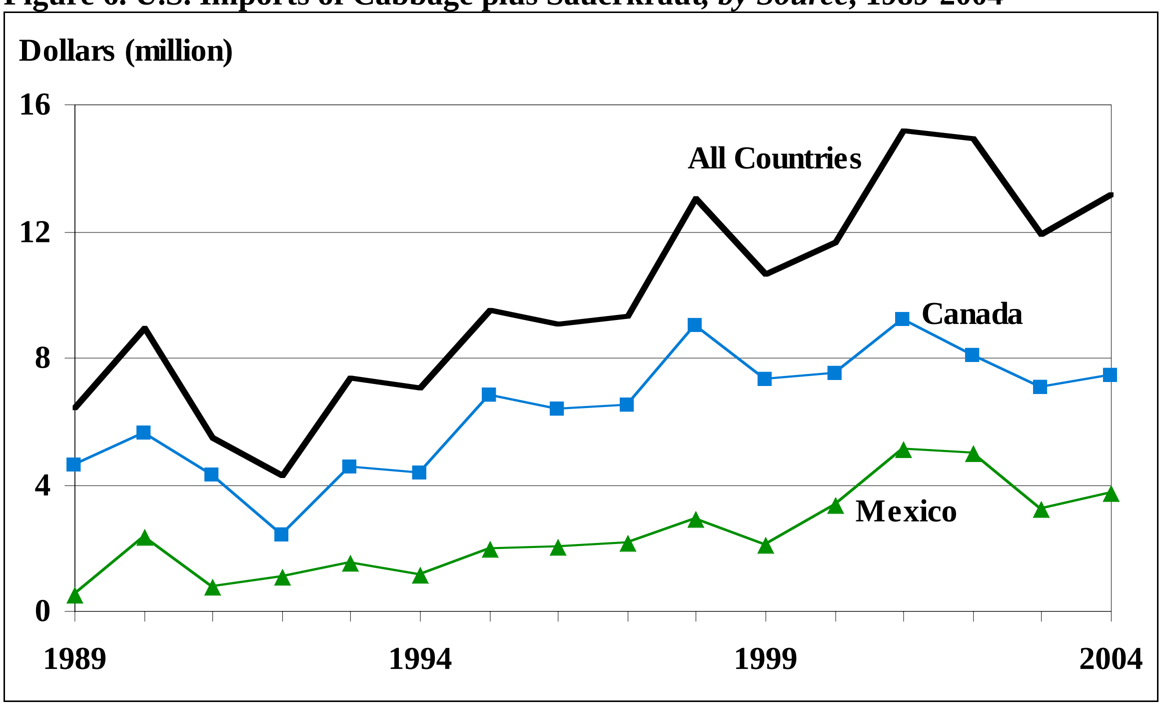
Source: USDA Economic Research Service Vegetables and Melons Yearbook

Figure 5. U.S Price of Fresh Cabbage (in year-2000 inflation-adjusted dollars)



Source: USDA Economic Research Service, Vegetables and Melons Yearbook

Figure 6. U.S. Imports of Cabbage plus Sauerkraut, *by Source*, 1989-2004



Source: USDA Foreign Agricultural Service