



Agricultural Issues Center
University of California

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Commodity Profile: Lettuce

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Overview

Lettuce is believed to be one of the first vegetables brought to the new world by explorer Christopher Columbus and has been grown in the United States since colonial times (California Lettuce Research Board). In the early 1900s, the iced shipping industry developed in the western states, expanding the range and popularity of lettuce. Today, in terms of production value, it is the leading vegetable crop in the United States. More than 90 percent of U.S. lettuce production is located in California and Arizona. The main varieties include iceberg, romaine and various leaf varieties.

Market Structure

Lettuce production occurs year-round throughout the United States, through a sequence of production in Arizona and California. The majority of production from April through October occurs in the Salinas Valley of California, while production from November through March occurs in Yuma, Arizona and the Imperial Valley of California. Huron, California is responsible for much of the production during the transitional period between seasons (Economic Research Service (ERS) 2001).

A small number of firms are responsible for growing, processing, and transporting lettuce to retail outlets. In addition, the share of firms competing for bagged products has become more concentrated in recent years. The higher concentration is thought to be the result of barriers to market entry including high capital investments, difficulty in transporting bagged products while maintaining freshness, and brand recognition (ERS 2001). Between 1993 and 1999 fresh-cut salad items saw an increase in sales of 560 percent, from \$197 million to \$1.3 billion, while the number of firms decreased by one, to 54, and the top two firms together captured 75 percent of national sales (ERS 2001). Technological improvements, namely in packing materials, have been largely responsible for the increase in availability of different varieties and ready-to-eat salads (ERS 2001).

Demand

Attempts to increase consumer demand have focused on improving freshness, variety, and convenience of lettuce (ERS 2001). Per capita consumption of all lettuce varieties has been increasing since 1960. In 2004 total lettuce consumption reached a record high of 34.5 pounds per capita. In terms of lettuce variety, iceberg lettuce remains the most popular, however, per capita consumption of iceberg lettuce has been declining in more recent years while consumption of both romaine and loose leaf lettuces has been increasing (Figure 1). Consumption of iceberg lettuce peaked in 1989 at 28.7 pounds and by 2004 had decreased to 22.5 pounds, still slightly above consumption in 1960. Meanwhile, in 1985 when reporting by ERS began, per capita consumption of romaine and leaf lettuce was 0.7 and 2.5 pounds per capita, respectively. By 2004 consumption had increased to 8.1 pounds for romaine lettuce, nearly doubling between 2001 and 2004, and other leaf lettuce varieties increased to 3.9 pounds (ERS 2005). Some of the increased popularity of romaine lettuce is due in part to the increased popularity of the Caesar salad. Leaf lettuce consumption has risen largely due to the popularity of salad bars, while both have benefited from the introduction of packaged salads (ERS 2001).

Exports

Among the world's leading lettuce exporters, the United States ranked second behind Spain in 2004, accounting for nearly 19 percent of global exports with Spain accounting for 36 percent. Italy, the Netherlands, and Belgium each made up roughly 10 percent of global lettuce exports in 2004 (Food and Agricultural Organization of the United Nations (FAO)).

The United States is a net exporter of lettuce, exporting roughly 20 percent of domestic production. Lettuce exports have increased continuously in value since 1989 when an estimated \$60.5 million worth was exported compared to a record of \$275.2 million in 2004 (Figure 2). However, the type of lettuce exported has evolved since 1989. In 1989 romaine and leaf lettuce exports accounted for only 19 percent of total exports compared to 59 percent in 2004.

By far the biggest share of U.S. lettuce exports are shipped to Canada and Mexico. Combined, lettuce exports to the two North American Free Trade Agreement (NAFTA) partners amounted to \$244.8 million in 2004, or 89 percent of total exports (Figure 3). The next largest importer of U.S. lettuce was Japan with \$12.6 million, which accounted for less than 5 percent of the total. Before the Canadian-U.S. Free Trade Agreement (CUSTA) in 1989, Canada imposed a tariff of 2.76 cents per kilogram on all lettuce. Under CUSTA, that tariff was reduced over 10 years and reached zero in 1998. Similarly, Mexico imposed a tariff of 10 percent ad valorem on lettuce shipments from the United States before 1994. Under NAFTA, that tariff was incrementally reduced until it was eventually eliminated.

Canada has been the leading recipient of U.S. lettuce since at least 1989 and exports have continued to increase. Canada received 82 percent (\$224.9 million) of total U.S. lettuce exports in 2004 compared to 74 percent in 1989. Exports of romaine and leaf lettuces to Canada have continued to increase. In 2004 romaine and leaf lettuce exports to Canada accounted for 64 percent of total exports compared to 20 percent in 1989.

Exports to Mexico accounted for 7.2 percent of U.S. lettuce exports in 2004. In general, lettuce exports to Mexico have been increasing, reaching a high of \$20.5 million in 2002. The

majority of exports to Mexico consists of head lettuce. In contrast to exports destined for Canada, in 2004 only 19 percent of exports to Mexico were romaine or leaf lettuce.

Supply

The United States is the second largest lettuce producing country behind China, which continues to dominate world production. U.S. production of lettuce in 2004 totaled 9.7 billion pounds, while China produced more than twice as much with 23 billion pounds (FAO). Chinese production accounted for 48 percent of global production compared to 20 percent for the United States. A large portion of China's production is consumed domestically, however, making Chinese exports less than U.S. exports worldwide (FAO).

The value of U.S. lettuce production in 2004 totaled more than \$2 billion, making lettuce the leading vegetable crop in terms of value. Total acreage of all lettuce plantings reached 325,400 acres in 2004. Head lettuce is grown on almost two-thirds of the total acreage and continues to dominate total acreage percentages, since the 1960s fluctuating from 198,000 to 256,000, but has decreased in the last 6 years, reaching a low of 182,000 acres in 2003 (Figure 4). Conversely, acreage of romaine and leaf lettuce has been increasing in recent years.

In the United States, California and Arizona are responsible for nearly all lettuce production, with California accounting for 73 percent and Arizona 26 percent of U.S. production in 2004. Colorado and New Jersey were the only other lettuce producing states that combined accounted for roughly 1 percent of production (National Agricultural Statistical Service (NASS)). Much of California production is concentrated in the Salinas Valley of Monterey County, where the majority of lettuce shipper headquarters and sales offices are located. Arizona production is concentrated in Yuma.

U.S. lettuce prices have been highly variable as notable in Figure 5, and are significantly affected by changes in supply. Prices reached all time lows in 1991 and 1999 at \$13.50 per cwt and reached record highs in 1995 after a series of March storms in central California caused flooding and effectively decreased supply. Prices for head lettuce in 1995 averaged \$25.51 per cwt, largely due to prices for head lettuce in April reaching an unprecedented level of \$48.20 per cwt, nearly a five-fold increase from the same month the previous year (NASS). In the same year romaine and leaf prices averaged \$27.36 per cwt. Historically, leaf and romaine lettuce have receive higher prices than iceberg and other head varieties. In 2004 head lettuce price was \$15.53 per cwt and leaf and romaine varieties were valued at \$17.65 per cwt.

Imports

Although the United States is a net exporter of lettuce, total lettuce imports into the United States have increased from \$9.4 million in 1989 to \$37.3 million in 2004. The most dramatic increase occurred between 2001 and 2002, when total lettuce imports increased 70 percent, mainly as a consequence of a 464 percent increase in leaf and romaine lettuce imports (Foreign Agricultural Service). In 2004, 32 percent of the lettuce imports were of the romaine and leaf varieties compared to 50 percent in 2002.

Canada and Mexico have been the leading sources of lettuce entering the United States. However, the two countries have traded positions as the top country exporting to the United

States over the last decade and a half. Since 2002, Mexico has been the top U.S. supplier of all lettuce, accounting for 53 percent of total lettuce imports in 2004 compared to 35 percent from Canada in the same year. Much of this increase in imports from Mexico is a consequence of increased romaine and leaf lettuce imports.

Sources

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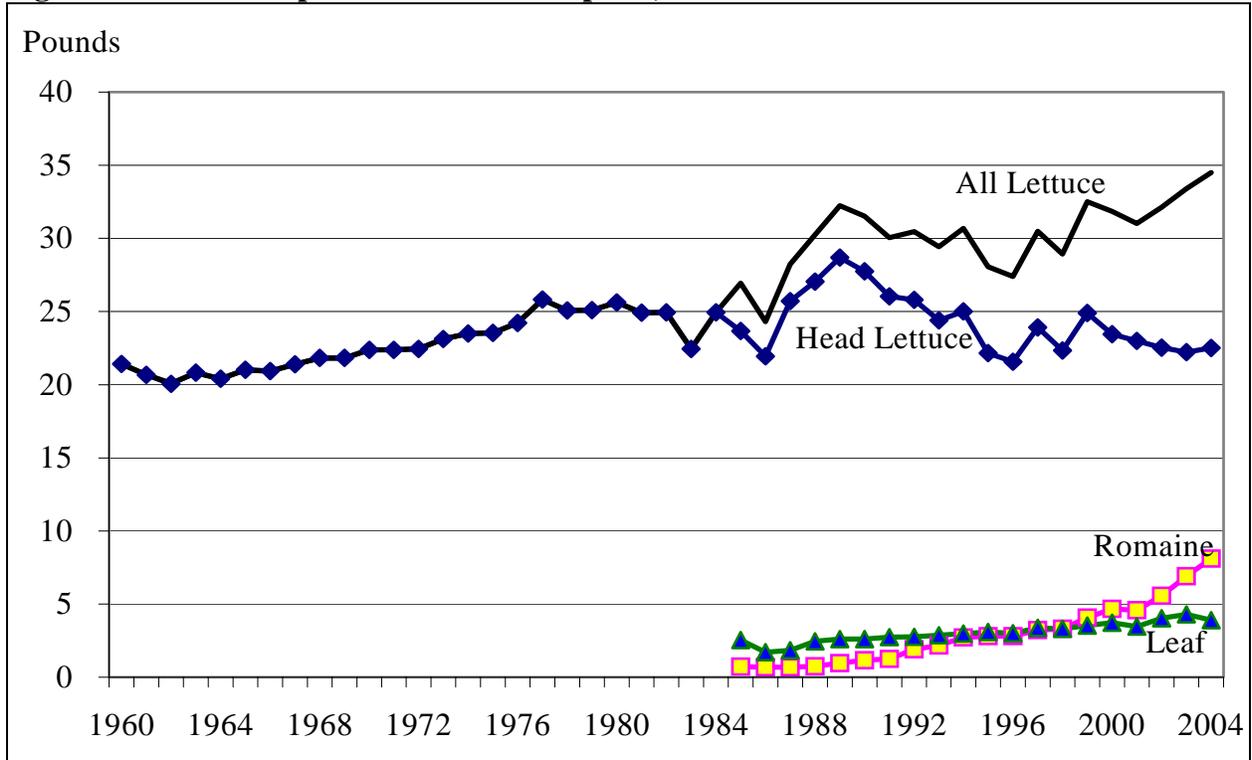
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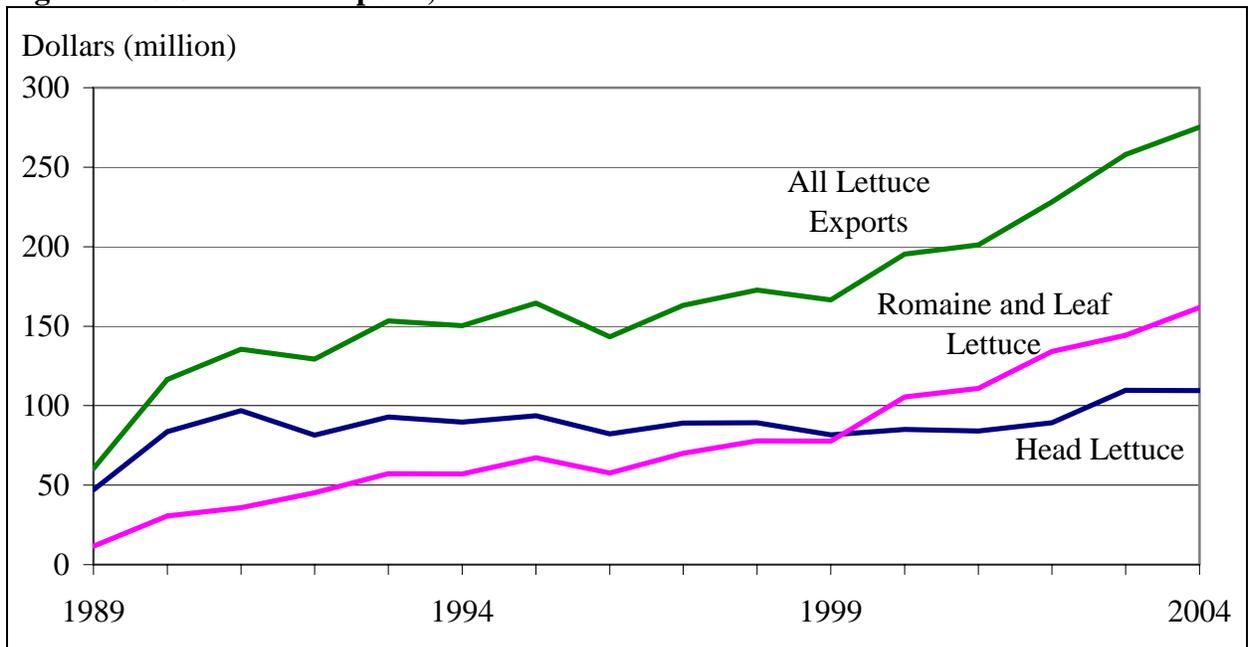
FIGURES

Figure 1: U.S. Per Capita Lettuce Consumption, 1960-2004



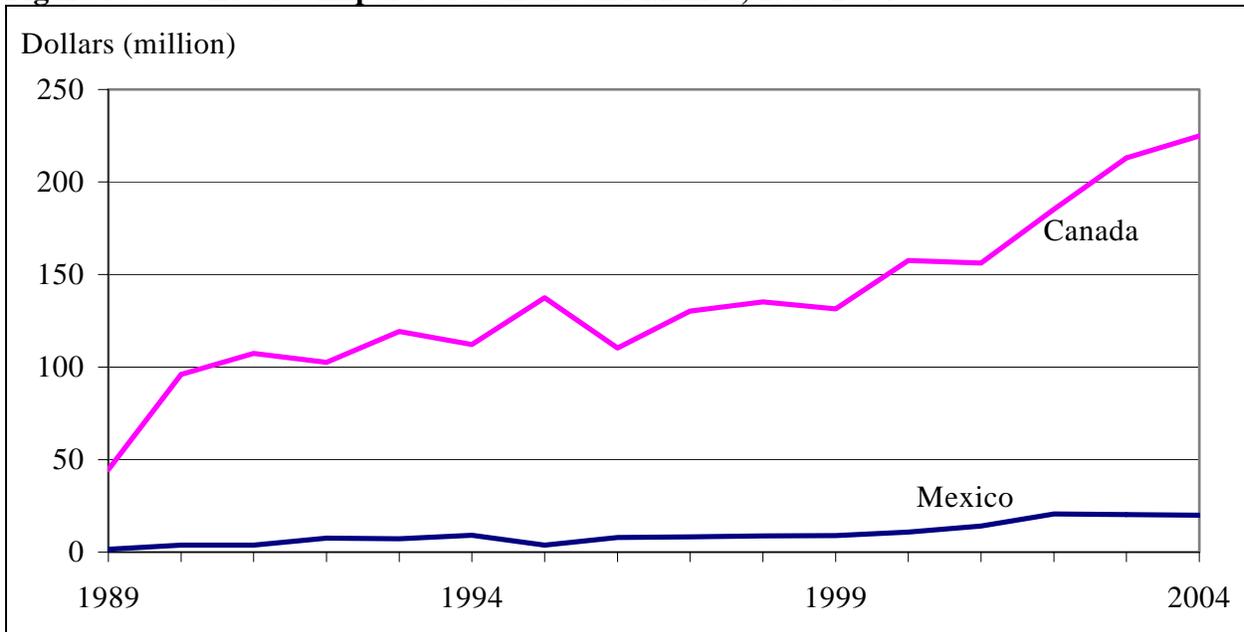
Source: USDA Economic Research Service, Lettuce Statistics

Figure 2. U.S. Lettuce Exports, 1989-2004



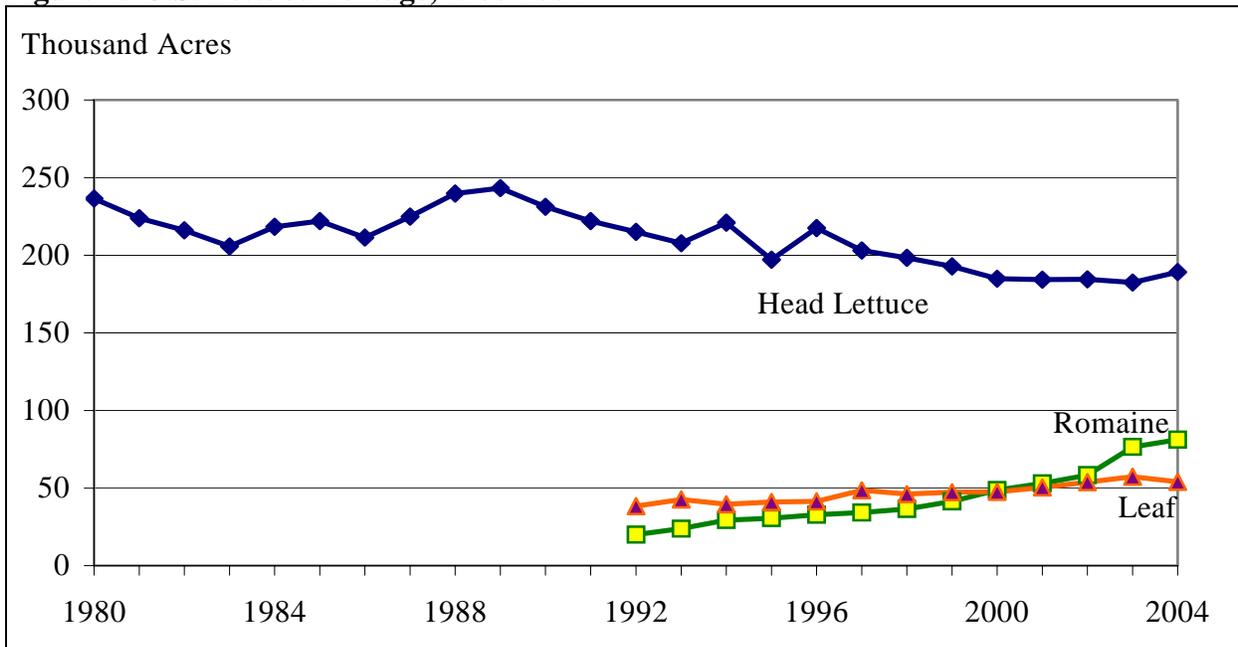
Source: USDA Economic Research Service, Lettuce Statistics

Figure 3. U.S. Lettuce Exports to Canada and Mexico, 1989-2004



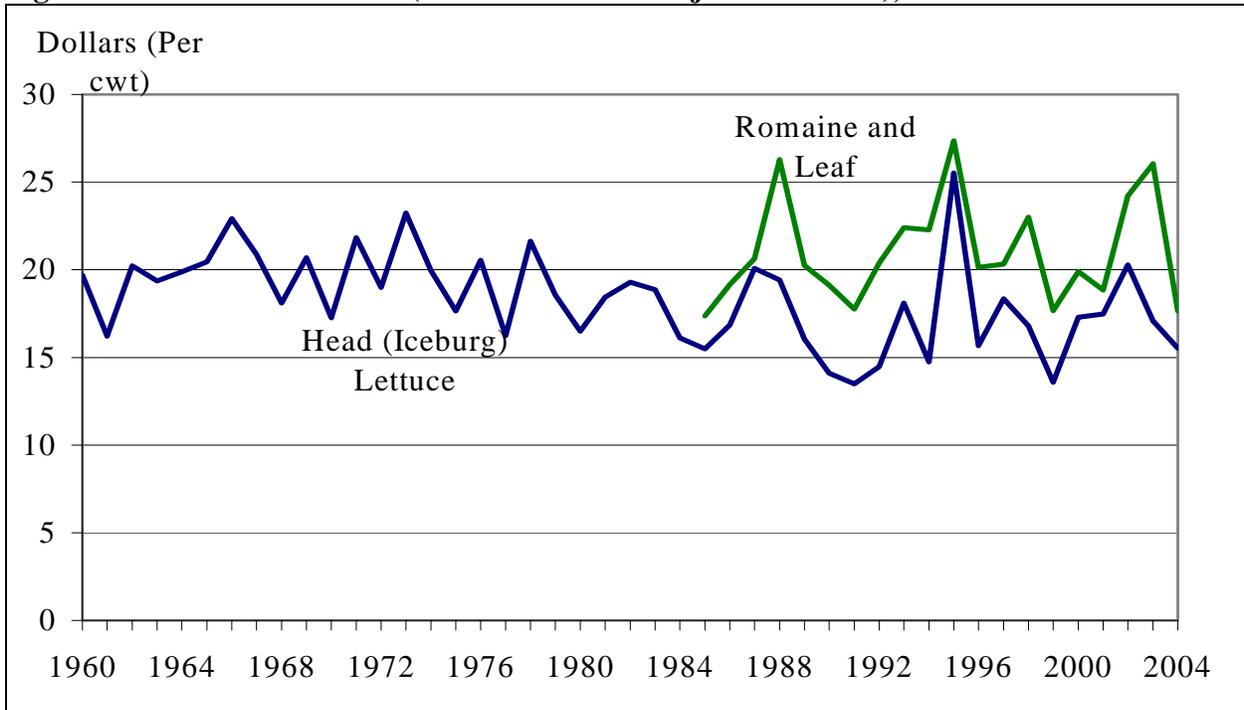
Source: USDA Economic Research Service, Lettuce Statistics

Figure 4. U.S. Lettuce Acreage, 1980-2004



Source: USDA, Economic Research Service, Lettuce Statistics

Figure 5. U.S. Lettuce Prices (In 2000 Inflation-adjusted Dollars), 1960-2004



Source: USDA Economic Research Service, Lettuce Statistics