

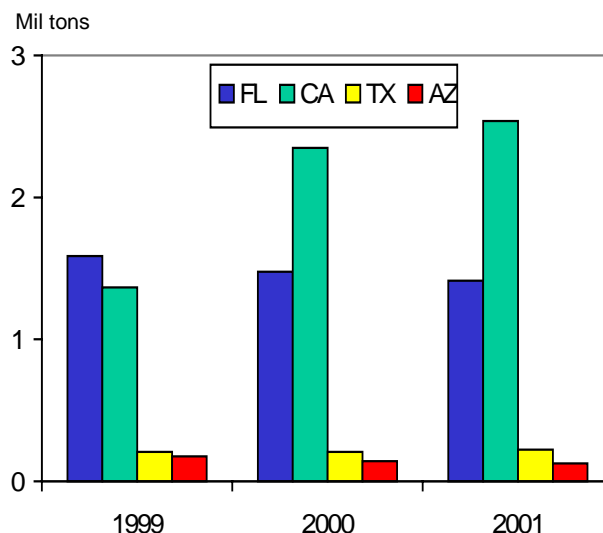
Commodity Highlight

Oranges: The Most Consumed Fruit in America

The orange is believed to have originated in southern China and Southeast Asia and was first brought to the United States by Columbus. The first established orange trees were in Florida. Production is now concentrated in Florida, producing 81 percent of the U.S. crop in 2000/01, while California has 18 percent, Arizona 0.3 percent, and Texas 0.7 percent.

U.S. orange production is the second largest in the world, behind Brazil. In the United States, there is a distinct dichotomy in the industry's production and marketing. In California and Arizona, the majority of the fruit is sold in the fresh market, while in Florida, most of the fruit is grown for processing, mostly to make juice. The origin of this dichotomy comes about naturally. In the western States, the climate is dry and nights during the growing season (the winter months) tend to be cool. As a result, the oranges are not very juicy and have thick skins. Also due to the climate, skin bruising is minimal during most seasons. These oranges are perfect for the fresh market because they are easily shipped with good appearance and are more likely to meet consumer expectations for the fresh market.

Figure 6
Fresh-market oranges: Production by State



Source: National Agricultural Statistics Service, USDA.

The climate in Florida is moist and warm. As a result, its oranges are juicy and thin-skinned. The thinner skin, often with minor blemishes due to moisture and wind, does not ship as well as the thicker skinned fruit, and the more blemished skin is less desirable by consumers. As a result, the

Table 7--Oranges: Production by State, 1989/90 to date

Season 1/	Florida	California	Texas	Arizona	United States 2/
	-- 1,000 short tons --				
1989/90	4,958	2,677	51	59	7,745
1990/91	6,822	961	3/	65	7,848
1991/92	6,291	2,528	1	89	8,909
1992/93	8,397	2,505	22	69	10,992
1993/94	7,848	2,385	23	71	10,329
1994/95	9,248	2,100	45	39	11,432
1995/96	9,149	2,175	40	62	11,426
1996/97	10,179	2,400	60	53	12,692
1997/98	10,980	2,588	65	38	13,670
1998/99	8,370	1,350	61	43	9,824
1999/00	10,485	2,400	71	41	12,997
2000/01	10,049	2,213	95	34	12,390

1/ Season beginning November-Arizona and California, and October-Florida and Texas.

2/ Some totals may not add due to rounding.

3/ Due to the severe freeze of December 1989, no commercial supplies were harvested.

Source: National Agricultural Statistics Service and Economic Research Service, USDA.

processing industry is concentrated in Florida, and most oranges are now grown for processing.

California Leads in Fresh-Market Oranges

In the western States, most oranges are of the navel and Valencia varieties. The navel oranges are the first to enter the market in late October or early November. American consumers tend to prefer the navel orange over other fresh varieties. Navel oranges comprised about 61 percent of California's and Arizona's orange crop in 2000/01. The Valencia orange is the other major variety for the fresh market. They enter the market after most of the navels have been harvested and sold, usually in mid-March. Valencias are in the market through much of the remainder of the year and must compete with other summer fruit, such as cherries, peaches, and plums.

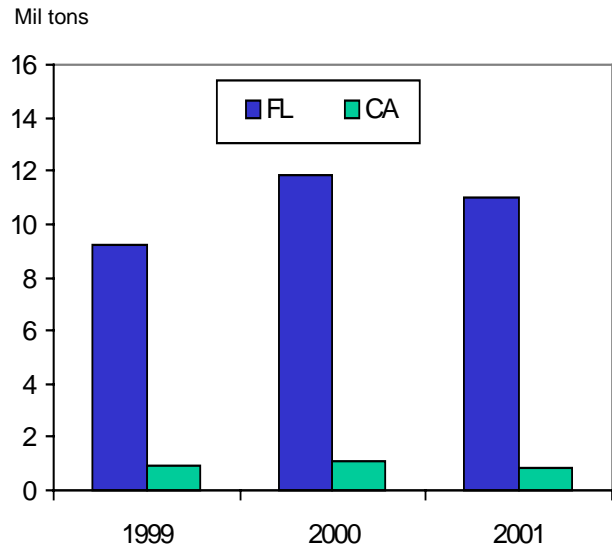
During an average season, about 80 percent of the oranges grown in California and Arizona are sold for fresh use. The remaining 20 percent are unacceptable for the fresh market or are oversupply and are sold for processing. While growers in these States can average about \$8 per 76-pound box for fresh oranges during an average season, they are not able to cover their production and transportation costs for those oranges that they sell for processing. As a result, growers averaged a loss of about \$2 per box over the past two seasons. Growers still market these oranges because they have already been harvested and they are trying to minimize their losses.

Florida is for Orange Juice

There are several orange varieties grown in Florida. Florida grows a small quantity of navel oranges that are mostly sold in the fresh market either locally or to eastern States. Oranges for processing are divided up into the early and mid-season and late varieties. Among the early- mid-season varieties are Ambersweet, Hamlin, pineapple, and Temple. The major late variety is the Valencia.

Processors use a combination of the different varieties to create specific blends of juice, depending on their customers. Some processors produce their own juice, however, many produce for either a large, brand name company, for private labels such as grocery stores, or bulk. There are over 20 processors producing orange juice in Florida this season.

Figure 7
Processing oranges: Production in Florida and California



Source: National Agricultural Statistics Service, USDA.

The production of orange juice for the mass market really came about in the 1940s. Prior to that there was canned juice or else fresh squeezed. During the forties, researchers for the U.S. Department of Agriculture's Agricultural Research Service created frozen concentrated orange juice (FCOJ) as a way of providing fruit to soldiers during World War II. After the war, the juice became popular in U.S. households as consumers found it more convenient than squeezing the fruit themselves. FCOJ reigned for the next 50 years.

In the 1990s a new form of orange juice became available to American consumers, not from concentrate orange juice (NFC), sold in cartons and ready to consume. During the economic boom of the nineties, NFC took hold. Consumers changed their preference at the retail level for NFC over FCOJ, despite the price disparity of about \$2.50 per gallon during the 1999/2000 season.

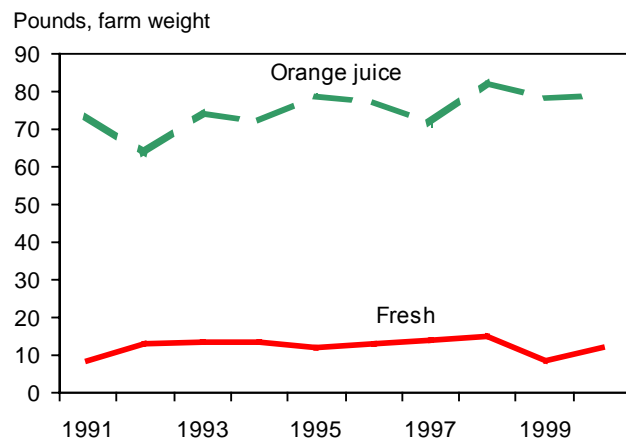
While NFC is popular at the retail level, frozen concentrate is sold to the food service industry and for institutional use. It is also shipped to northeastern States where it is reconstituted, mostly by dairies, into ready-to-serve orange juice, which is sold much like NFC.

Juice Drives Orange Consumption

Americans consume more oranges than any other fruit. For all uses, orange consumption averaged 91.5

Figure 8

Per capita orange consumption, 1990-2000



Source: U.S. Department of Agriculture, Economic Research Service.

pounds in 2000. Much of this consumption took place as juice. An average American consumed 5.8 gallons (single-strength equivalent) of orange juice, equal to 79.5 pounds of fruit. Consumed fresh, Americans ate an average of 12 pounds in 2000, still well behind bananas and apples.

Purchased orange juice is mostly an American phenomenon. The United States leads the world in orange juice consumption from processed orange juice. In most other countries, consumers still buy fresh oranges and squeeze their juice at home. Purchasing processed orange juice, however, is growing in popularity in Europe and Japan as consumers in these countries look for more convenience.

The United States is the leader in exports of NFC orange juice, much of which goes to Canada, followed by the European Union, Mexico, Japan, and Singapore. While some single-strength orange juice is produced in Spain and Italy, it is not enough to meet the growing demand in the region. Brazil

remains the leading producer and exporter of FCOJ. The majority of the FCOJ it produces is exported to the EU or the United States, since the United States does not produce enough juice to meet all its domestic needs. The U.S. industry's reliance on Brazilian FCOJ has declined in recent years as Florida's production has increased. While it is still necessary to import from Brazil, the U.S. dependence on imports as a share of consumption has declined from a high of 52 percent in 1985 to 21 percent in 2000.

During seasons with production shortfalls in Florida, usually due to weather-related problems, the share of imports as a proportion of domestic consumption can be expected to be somewhat higher than 21 percent, depending on stocks on hand. A high proportion of imports in 1985 was a result of production shortages in 1984 and 1985 due to the 1983 freeze.

Oranges for fresh use are almost all domestically grown. During an average season, California's and Arizona's crops are sufficient to meet the needs of Americans and still export about a quarter of the crop, mostly going to Canada, Japan, Hong Kong, South Korea, Malaysia, and China.

During the 1999/2000 season, a December freeze destroyed about half of California's crop and many packers turned to imports to meet end-of-season demand. Since then imports from Australia have grown, with shipment occurring mostly during the time Valencia oranges are in the market. Importers are able to obtain navel oranges from Australia because they are on an alternate season and they are able to get top prices at the retail level because demand for navels exceeds that for Valencia. As a result, orange imports may become an increasingly more important part of the U.S. fresh orange market, especially during the spring months.