Commodity Spotlight

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Onions: The Sweet Smell Of Success

Onions rank fourth among U.S. vegetables in per capita consumption as well as in value (following potatoes, tomatoes, and lettuce). Onion consumption in 1997 was, at 18.8 pounds per capita, just under the record high of 18.9 pounds set in 1995. From 1995 to 1997, farm cash receipts for onions averaged $711 million—5 percent of receipts for all vegetables—with an estimated retail value of over $2 billion. The U.S. is the world's third-largest producer of onions, with production up 46 percent between 1985-87 and 1995-97.

Onions' prominent role may seem surprising, since onions are not major plate vegetables and lack the visibility of commodities like potatoes and tomatoes. But onions frequently work in the background, adding flavor and texture to a wide variety of dishes.

Onions are a versatile vegetable used in fresh, canned, frozen, and dehydrated forms. In addition to use as a cooking ingredient in countless recipes, onions are frequently used as a condiment, sandwich ingredient, side dish, and appetizer. Fresh onions can be barbecued on shish kebabs, stuffed and roasted, or used to flavor meat dishes.

While the fresh market accounts for the largest share of onion use, other forms account for a significant share. Most onions used in canning and freezing are taken from fresh-market varieties while dehydrated products use varieties with high solids content. Onions in frozen form are estimated to account for close to 10 percent of all onions consumed.

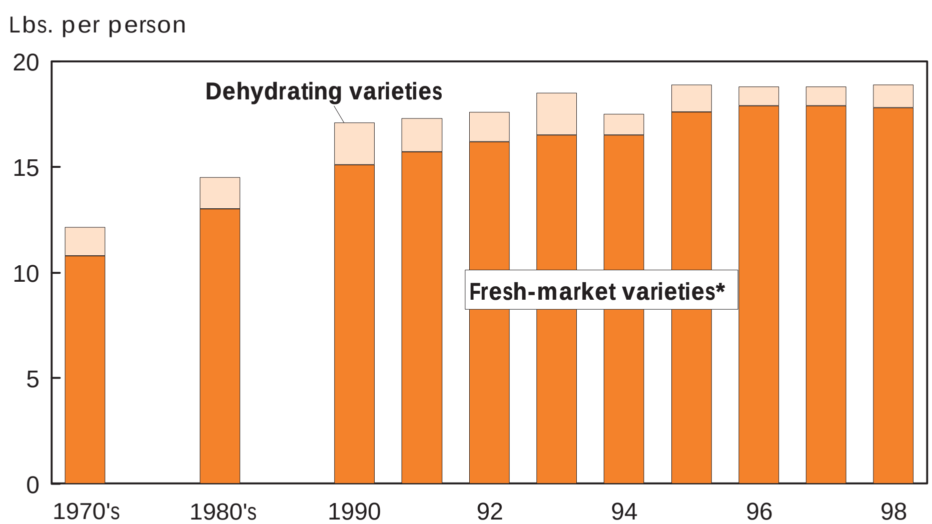
Both fresh and dehydrated onions appear in a wide variety of canned and frozen products such as salsa, soups, stews, salad dressings, and pickled products. Some fast-food hamburgers are topped with dehydrated (reconstituted diced/minced) onions. Dried and dehydrated onion products are manufactured for both domestic and export markets.

Onion Use Is Up

Two major categories of bulb onions, which the industry refers to as spring/summer varieties and storage varieties, are grown in the U.S. Both storage and spring/summer onion types can be yellow, white, or red. Spring/summer varieties are characterized by juiciness, fragility (a thin, light-colored skin), sweet, mild flavor (less pungent with a higher sugar and water content), and shorter shelf life. Among the familiar trade name varieties of spring/summer onions are Vidalia, Walla Walla Sweets, Sweet Imperials, Nu-Mex Sweet, and Texas 1015 (1015 refers to the October 15 planting date).

Storage varieties (including those used for processing), which are harvested during the late summer and fall, account for three-fourths of the U.S. onion market. These varieties tend to have a stronger, more pungent flavor and are well suited for longer-term storage and processing. The Northwestern States (Washington,

U.S. Per Capita Onion Consumption Is Up in the 1990's



1998 forecast.
*Most canned and frozen onions are taken from fresh-market varieties.

Oregon, and Idaho) produce 48 percent of the U.S. fresh-market storage onion crop.

Under proper conditions, these onions can be stored for later marketing for up to 8 months. Some shippers keep onions in climate-controlled refrigerated storage where the ideal temperature is 32° F (onions freeze at 30.6° F). On average, about 15 percent of the storage crop is lost to shrinkage (moisture loss) and sorting loss (defects found while packing).

For most of the year, the storage onion crop sets the pricing tone for the market. Since storage onions represent a majority of the crop, shipping-point prices tend to be lowest around the peak of harvest in September and October. Onion prices then begin to rise from this low, reflecting the costs of storing the crop as well as other factors, and reach a peak in April when marketing of the storage crop is complete and mild spring/summer onions are just coming onto the market. Over each of the past three decades, April prices have averaged a third higher than the annual average, while October prices have been a fifth below the annual average.

Per capita use of onions has been expanding since the 1970's. Fresh use (which also includes freezing and canning) is currently at a record-high 17.9 pounds, with use of dehydrating onions at 0.9 pound (fresh-weight basis). Fresh use is 38 percent above the average of the 1980's and 66 percent above the 1970's. Dehydrated use equals the average of the 1970's but is down 10 percent from the 1980's. These trends may reflect the overall move toward fresh and frozen produce in the foodservice industry over the last decade.

Consumption of the spring/summer onion varieties–sweet and less pungent—is undoubtedly up strongly this decade. These varieties are popular for salads and on sandwiches but have not been the primary driving force in raising overall onion consumption. The more pungent storage varieties, which tend to impart more flavor to cooked dishes and have a longer shelf life, still dominate the market. Consumers, food manufacturers, and foodservice operators base their onion purchases largely on the intended use.

Onion Roots & Relatives

Onions are classified as members of the *Amaryllidaceae* (amaryllis) family but are also sometimes included as members of the lily family. Onions, *Allium cepa*, are a cool-season crop (tolerant of frost) botanically related to shallots, garlic, leeks, and chives. Onions are believed to have originated in the regions around Iran and Pakistan, and ancient Egyptian tombs contain references to onions. Onions made their way into Europe during the Middle Ages, eventually reaching the U.S. The various types of onions include subcategories of the major bulb onion categories as well as onion relatives.

Boiler/creamer—small-sized common bulb onions between 1 inch and 1 7/8 inches in diameter; popular as boiled onions and in onion cream sauces.

Picklers—small-sized common bulb onions not greater than 1 inch in diameter.

Green onions—common bulb onions, also knows as scallions, that are harvested in the green immature stage prior to formation of a large bulb; used in salads and Chinese dishes; the green tops are high in vitamins A and C.

Pearl onions—small (less than 0.63 inch in diameter) white, red, or golden yellow bulbs popular for pickling, shish kebabs, and casseroles; bulb is botanically different from the common onion but has a crisp texture and mild onion flavor.

Leeks—related to the pearl onion but generally without a bulb; mild flavor is less pungent than most onions; popular in stir-fry, soups, salads, and vichyssoise. Popular in Europe, leeks are a national emblem of Wales.

Shallots—related to the onion family and have the appearance of small onions; mild taste resembles that of garlic; usually sold dried and used for boiled or sauce onion dishes; green shallots available during the summer.

Chives—long, thin, delicate green herblike plants, used primarily as a garnish and a flavoring agent; generally form no bulbs; also grow in the wild in the U.S.

Onion sets—vegetative small bulbs (not seeds) used to establish a planting; generally produced in the fall and planted in late winter/early spring for production of green onions or dry-bulb onions; popular with home gardeners.

Dehydrating onions—dry-bulb storage onions intended for manufacture into various dried products; generally contain higher soluble solids than those intended for the fresh market.

Onion juice—also known as onion oil, an extract of storage-type onions used largely by food manufacturers to enhance flavors; produced in very small quantities.

Onion demand during the 1970's rode the increasing popularity of fast-food hamburger chains that featured onions on burgers and onion rings as side orders. In the 1980's, the booming popularity of salad bars added another layer to onion demand. By the end of the decade, onion demand was gaining from the growing popularity of pizza, pasta, salsa, and other ethnic cuisine. The booming economy of the 1990's has propelled demand for away-from-home foods, in many of which onions play a role.

The shortages and high costs of urban labor in the 1990's has likely increased demand for yet another onion product. Food manufacturers and restaurants are finding it economical to purchase onions and other produce in pre-prepared forms. Whole-peeled onions and various sliced, diced, and chopped products save time and labor costs for end-users. Demand for these products provides jobs and boosts the economy of rural areas where much of the processing takes place.

In the 1990's, some restaurant chain menus added a specially sliced fried onion appetizer. Made largely from storage varieties, these products have apparently increased demand for the larger-sized onion bulbs, which foodservice operations have always preferred since they are easier to chop and slice. Output of storage onions, accounting for a majority of the fresh dry-bulb market, is up 41 percent between 1985-87 and 1995-97.

Onions also have natural qualities that make them attractive to consumers, particularly in today's health-conscious market. For centuries, onions have been thought to have certain medicinal and disease prevention powers; modern science has begun to show that there may be some fact in the ancient lore. Onions contain an antioxidant (quercetin), which according to some studies may be capable of inhibiting growth of certain cancer cells. Onions also contain compounds that reportedly reduce blood cholesterol levels. At the same time, onions are low in calories and are a source of dietary fiber. Bulb onions also provide vitamin C, with one medium onion providing 15 to 20 percent of the daily requirement.

Four Federal marketing orders exist for onions—Georgia Vidalia onions, Walla Walla Valley (Washington/Oregon) onions, Idaho/Eastern Oregon onions, and onions grown in south Texas. Each order, funded through assessments on onion shippers, authorizes promotion, paid advertising, and research and development in production and marketing. In addition, the Walla Walla order regulates the markings placed on onion containers, while the Idaho/Oregon and south Texas orders authorize grade, size, quality, maturity, and pack or container regulations. The minimum grade, size, quality, and maturity regulations also apply to imported onions when the Idaho/Oregon and south Texas orders are in effect (early June-early March for Idaho/Oregon and March to early June for south Texas.).

Western States Dominate Onion Market

U.S. output of both spring/summer and storage onions has increased during the decade. Production of *storage* onions has become more geographically concentrated. California, Oregon, and Washington produced 62 percent of the storage crop (including onions for processing) during 1995-97, compared with 57 percent during 1985-87. Production has been shifting to western States, with Mountain and Pacific States producing 87 percent of the U.S. storage onion crop during 1995-97, compared with 81 percent in 1985-87.

Fertile soils, irrigation, and fewer cloudy days (more sunlight) make higher yields possible in many western States. While western production has been on the rise, output in New York has changed little over the past decade, although the State's market share of storage onions fell from 8 percent to 5 percent of the national total.

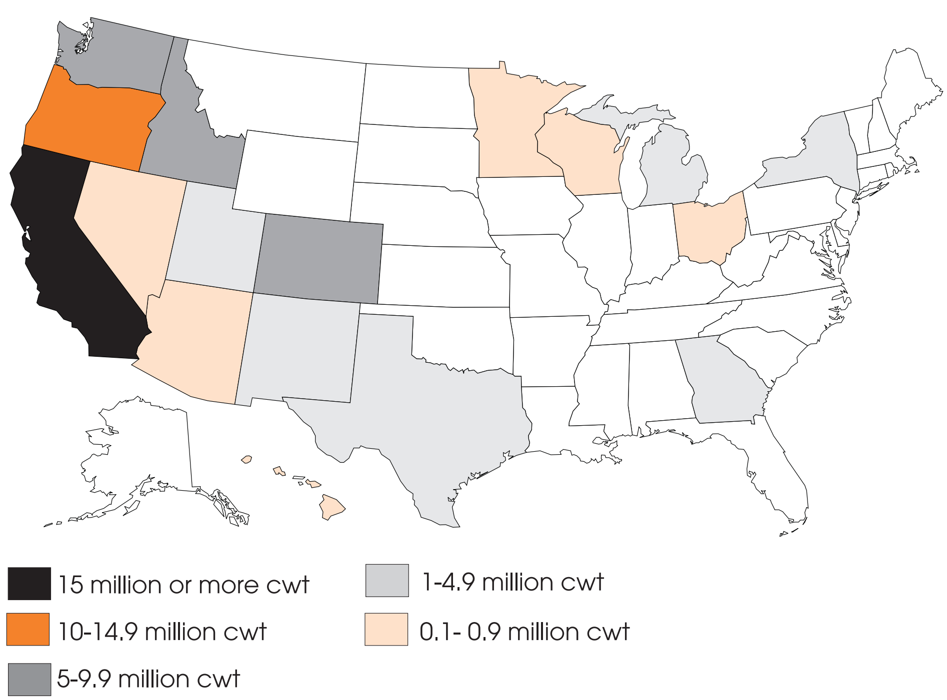
Output of *spring/summer* onions is up significantly, but gains have not been shared equally. The industry has experienced strong increases in Georgia, New Mexico, and Arizona, but no growth in other areas. In Georgia, the fastest-growing area, onion area has expanded from less than 2,000 acres in 1987 to over 16,000 acres in 1997, the result of successful national promotion of Vidalia onions.

California is the leading U.S. producer of onions, averaging 25 percent of the crop over the past 3 years. California produces most of the onions destined for dehydration. About half of the onions grown in California are for manufacture into dehydrated products like onion powder, flakes, and minced and chopped pieces. California ships fresh-market storage onions in the fall and ships mild spring/summer onions from April to June. Over the past 3 years, California has been the third leading producer of spring/ summer onions.

Oregon is the second leading onion-growing State, accounting for 16 percent of the U.S. crop. It is also the leading producer of fresh-market storage onions, growing 21 percent of the total. About 70 percent of the State's crop is grown along the Snake River in the fertile Treasure Valley, known for production of large onions. Onions are shipped August-April from Oregon.

Washington accounts for 12 percent of U.S. onion production, making it the third leading producer. About 95 percent of the State's onions are of the storage

Onion Production Is Concentrated in the West



Based on 1995-97 averages.
Economic Research Service, USDA

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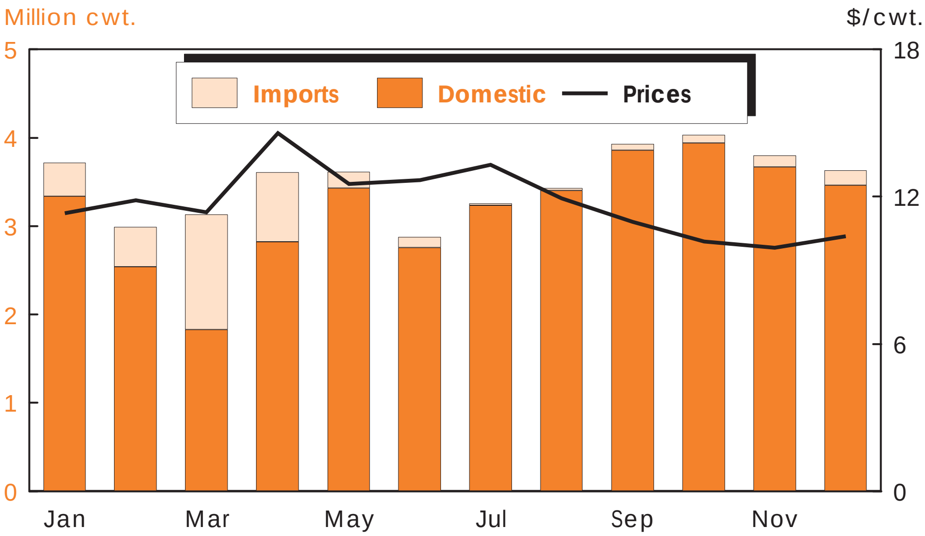
Fresh Onion Imports and Prices Peak in Early Spring



1997 shipment data. Average shipping point prices, 1995-97.
Economic Research Service, USDA

type. Washington's storage onion industry has been expanding, with production in 1997 up 187 percent since 1990 and nearly six times greater than during 1980. A combination of excellent growing conditions, high yields, and favorable port access for export to Asian markets have been key. Washington ships onions from July to April.

Idaho ties with *Colorado* for fourth place in onion production, each accounting for 9 percent of the Nation's crop over the past 3 years. Colorado plants twice the acreage of Idaho, which has a substantial advantage in per-acre yields. The third largest producer of storage onions, Idaho, like Oregon, raises the trademark variety Spanish Sweets. Idaho's shipping season is the same as for the Snake River area in Oregon.

About an eighth of Colorado's production is grown from transplants rather than seed. While costs are higher, this allows Colorado to begin onion shipments earlier in the season when there is less competition and the potential exists for higher prices. Harvest begins in late July, with shipments from storage completed in April.

Texas grows 6 percent of the U.S. crop, with New York and New Mexico each holding 5 percent, and Georgia 4 percent. Georgia's crop is centered in a 20-county area around Vidalia, which gives its name to the mild variety produced there. Georgia's mild onion crop has slowly been carving out an enhanced profile in the marketplace with a combination of innovative marketing and promotional efforts. Vidalia onions are probably the most widely known trademark variety.

The U.S. Is a Net Exporter of Onions

U.S. onion production is surpassed only by China's and India's. The U.S. accounts for 8 percent of world onion output, well behind China's 25 percent and India's 11 percent.

Global per capita use of onions averaged 13.5 pounds during 1994-96, according to data from the Food and Agriculture Organization (FAO) of the United Nations. Kuwait's per capita use is highest, at 63 pounds. Turkey, the fourth leading onion producer, has the second highest reported consumption at 59 pounds per person, followed by Turkmenistan at 48 pounds. The U.S. is 37th.

The U.S. is a net exporter of fresh and processed onions—in 1997, exports totaled $169 million while imports were $131 million. Imports accounted for 12 percent of the fresh-market onions consumed in the U.S. in 1997, while exports took 8 percent of available supplies. Most imports are fresh-market onions, while both fresh and dried onion products are major components of exports. Three-fourths of all fresh-market onion imports enter the U.S. market during the winter months, when fresh-market onion exports reach a seasonal lull.

Over 80 percent of fresh-market onion imports come from Mexico, while Canada and Japan are major markets for U.S. exports. Exports of fresh-market onions are sensitive to weather in major onion-consuming nations (especially in Asia), and exports tend to show the largest gains in years of poor weather. West Coast shippers, given their proximity to ports that can easily serve Asian markets, tend to dominate the onion export market.

An estimated 70 percent of the U.S. dehydrated onion crop is exported. In 1997, the U.S. shipped $78 million in dried and dehydrated onion products to 60 different countries, with Canada, Japan, and the United Kingdom the top U.S. markets.

With strong exports earlier this year and weather-related damage and planting delays in some States, shipping-point prices for onions have continuously averaged well above the low levels of a year earlier. The U.S. spring/summer crop this year was up about 8 percent from a year earlier as higher output in New Mexico, Texas, and Arizona offset weather-induced reductions in California and Georgia. However, the fall storage onion crop is expected to be 7 percent below a year ago, due to reduced acreage and lower yields. Hail and rain damage in New York earlier this summer resulted in a 43-percent cut in output for that State. Nationally, the smaller overall crop and continued strong domestic and export demand should keep prices above year-earlier levels for the remainder of the year.

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