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Commodity Highlight: Sweet Potatoes

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U.S. Sweet Potato Production Surges

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U.S. sweet potato production has increased substantially over the last 15 years. In 2000, total U.S. production was 13.8 million hundredweight (cwt) and close to the 10-year (1990-99) average of 12.42 million cwt. In subsequent seasons, sweet potato production increased by an average of 6.1 percent per season, ultimately resulting in record high production (29.6 million cwt) for the 2014 marketing year. Sweet potatoes are grown across the country, but they are best suited for cultivation in Southern States which have warmer climates and longer frost-free growing seasons relative to other regions of the United States. In particular, North Carolina's climate and soil conditions are ideal for sweet potato production. Since 1971, this State has been the No. 1 sweet potato producer and, in 2014, North Carolina produced 53 percent of all sweet potatoes grown in the country.

Fifteen years ago, in 2000, North Carolina produced 5.6 million cwt of sweet potatoes; by 2014, production had expanded to 15.8 million cwt. The 185-percent increase in North Carolina's production has buoyed the U.S. sweet potato industry; however, other States make significant contributions and have also experienced gains. Over the same 15-year period, California production has increased by nearly 100 percent; Mississippi's production has increased by 155 percent.

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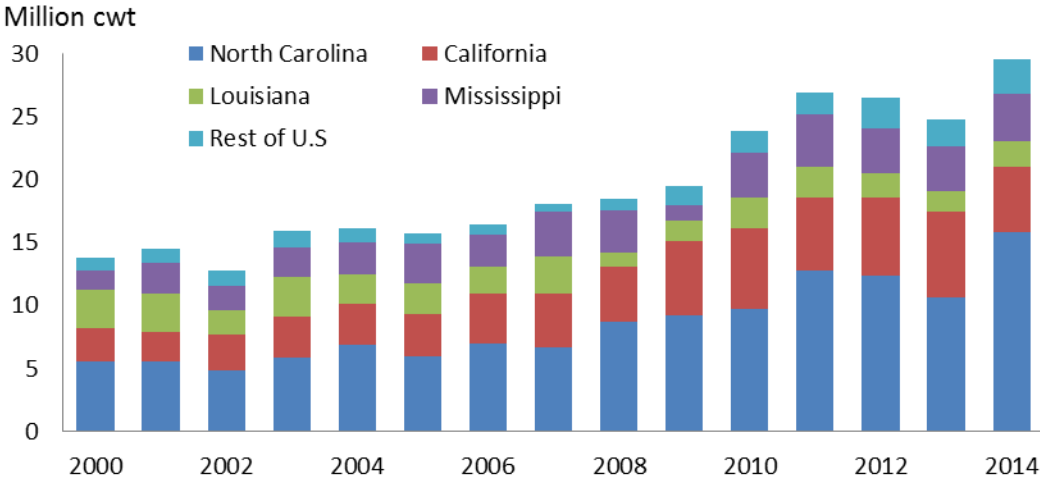
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In 2000, California and Mississippi’s combined harvest totaled 4.1 million cwt or approximately 30 percent of the U.S. total. In 2014, the two States still harvested 30 percent of total U.S. production but aggregate production had increased to 8.9 million cwt. Louisiana is the only State with significant sweet potato production that has seen production (down 1.1 million cwt) and its share of the U.S. market (down 35 percent) decline since 2000.

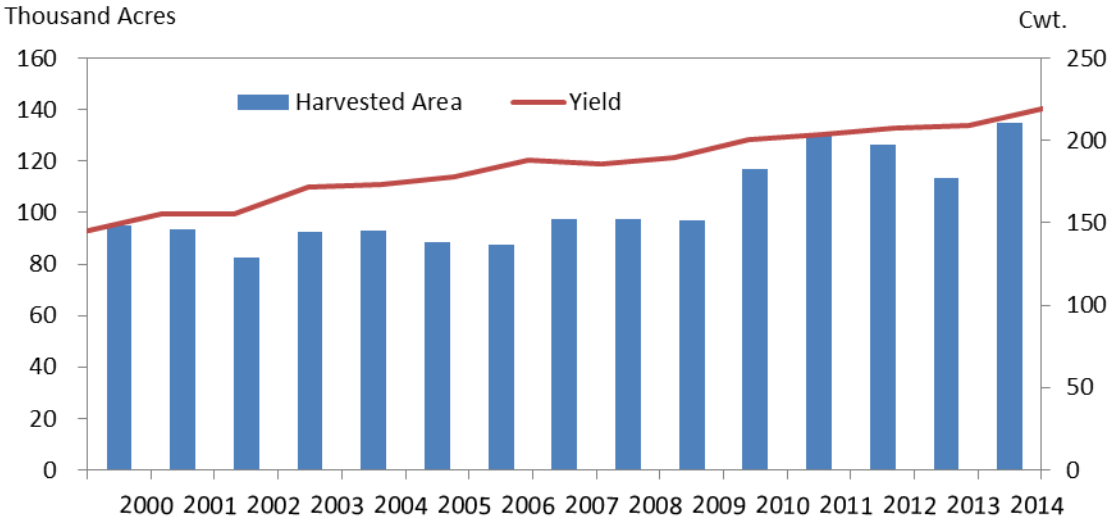
Figure 1
U.S. sweet potato production, by State: 2000-2014



Note: Cwt=hundredweight (100 pounds). Source: USDA, National Agricultural Statistics Service, QuickStats Data Portal.

The dramatic increase in aggregate sweet potato production—91 percent of which is accounted for by North Carolina, California, Mississippi, and Louisiana—is attributable to yield and harvested area gains. Nationally, yields averaged 145 cwt per acre in 2000 and have increased an average of 3.3 percent per year through 2014, when the yields were estimated at 219 cwt per acre. Harvested area has risen as well; in 2000, 95,000 acres of sweet potatoes were harvested; by 2014 the figure had risen to 135,000 acres.

Figure 2
U.S. sweet potato harvested area and yields: 2000-2014



Note: Cwt=hundredweight (100 pounds). Source: USDA, National Agricultural Statistics Service, QuickStats Data Portal.

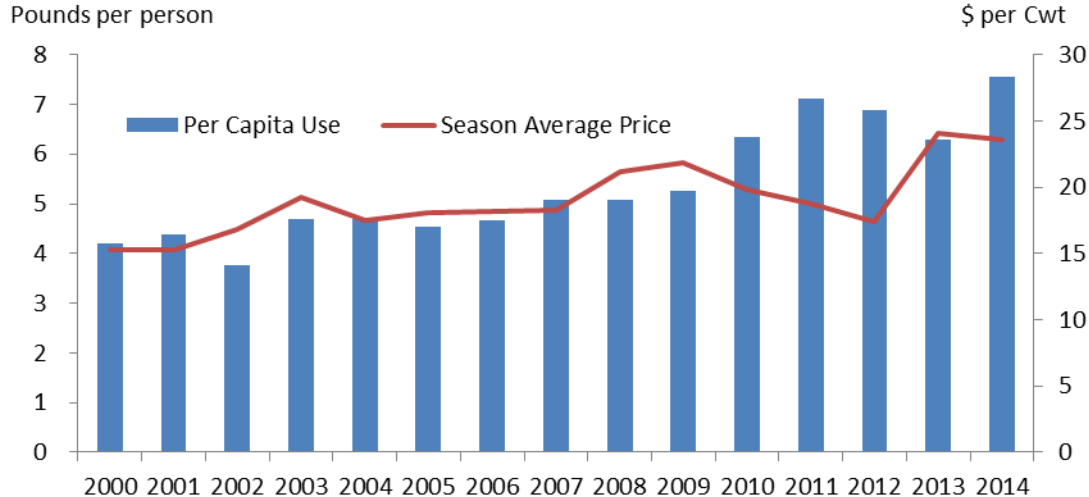
North Carolina leads the Nation in area harvested and total production; however, California typically posts the highest average yields. In 2014, California producers harvested an average of 275 cwt per acre; in North Carolina farmers realized 220 cwt per acre. Of the top sweet potato-producing States, Mississippi tends to have the lowest yields. Still, improved seeds and cultivation techniques have assisted growers in Mississippi to increase yields from 120 per acre in 2000 to an average of 175 cwt in 2014.

Domestic Prices Rise Along With Per Capita Consumption

The 2014 U.S. season average farm price for sweet potatoes, at \$23.6 per cwt, is the second-highest on record and is just 50 cents below the record high, \$24.1, received for the 2013 crop. Since 2000, the average sweet-potato price has posted year-to-year increases in 9 of 14 marketing years for an average annual gain of 3.8 percent over the period. With production steadily increasing, growth in utilization—including domestic consumption—has supported higher prices.

Between 2000 and 2014, U.S. consumption increased nearly 80 percent, from 4.2 pounds to 7.5 pounds per capita (Wells, Thornsby, and Bond, 2014). Significant increases in per capita consumption have taken place since 2010, when the availability-based estimate of per capita use indicated a 1-pound per-person increase to 6.3 pounds per person as compared to the 2009 estimate of 5.3 pounds per person. Consumption estimates jumped again between 2010 and 2011, rising 0.8 pounds per person, before falling to 6.3 pounds per person in 2013. The current per capita estimate is 1.3 pounds per person higher than the 2013 estimate and is the highest per capita consumption estimate on record.

Figure 3
U.S. per capita sweet potato consumption and season average price: 2000-14



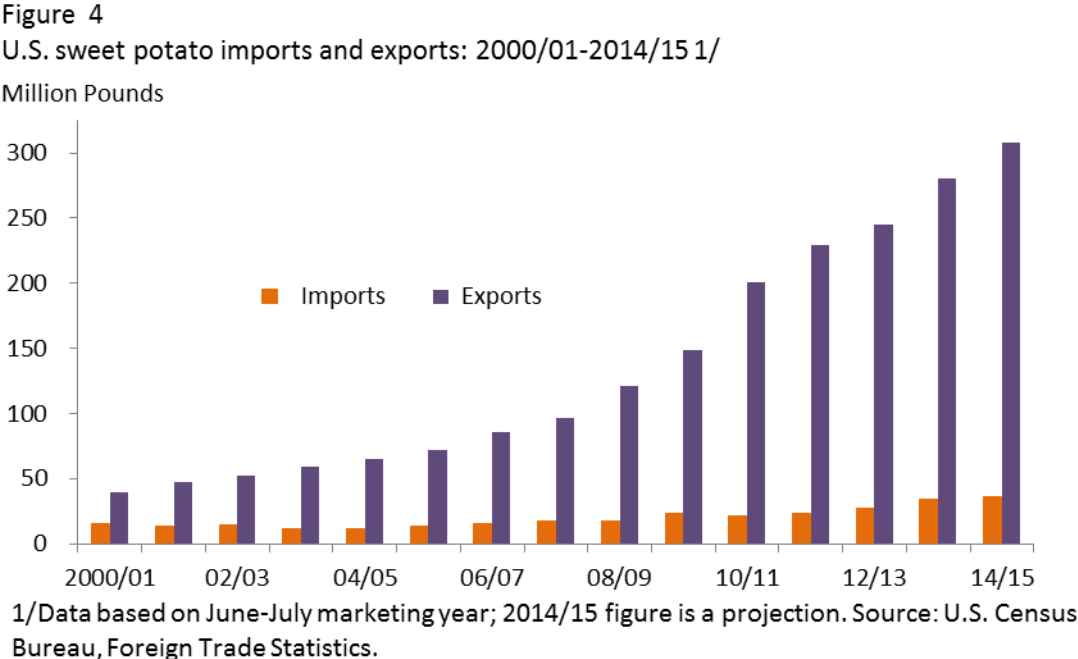
Note: Cwt=hundredweight (100 pounds). Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service.

Growing consumer demand for sweet potatoes, as evidenced by rising per capita consumption, has been encouraged by the promotion of the tuber’s health benefits. Researchers report that sweet potatoes are higher in beta carotene than many other vegetables, and they also serve as a source of potassium, fiber, and vitamins A and C (USDA, Agricultural Research Service, Nutrient Data Laboratory, 2014). “Because of their rich nutrition cache of protein, carbohydrates, vitamins and minerals, sweet potatoes have been considered . . . an ideal crop for feeding the world's hungry” (Palmer, 2009, p. 8).

Recognition of the relative health benefits of sweet potatoes has boosted fresh consumption, as well as, the utilization of processed sweet-potato products such as sweet potato chips, fries and pre-cut, cubed, mashed, and pureed sweet potatoes. The latter of which may be used as a sweetener in desserts or as an additive in other foods (Rockett, 2013). For example, to meet Federal nutrition guidelines, some schools have added sweet potato puree to pizza sauce to boost the vitamin A content (Hellmich, 2012). Sweet potatoes have also been used as a source for ingredients such as flour, starch, and pectin and used to make food products such as pasta (Huntrods, 2013). These types of products are used increasingly at home and abroad.

Sweet Potato Trade Boosts Utilization

In addition to support from increased domestic consumption, U.S. sweet potato prices have also been lifted by expanded exports, which serve to increase total utilization and reduce domestic supplies. Since 2000, when domestic production began its precipitous rise, U.S. exports of sweet potatoes have increased from 39.1 million pounds (fresh-weight equivalent) to the 308.9 million pounds projected for the 2014/15 marketing year. Exports for the 2013/14 marketing year (June-July) totaled 280.1 million pounds or roughly 11 percent of total supply; for the 2014/15 marketing year, exports are projected to utilize 9.4 percent of total supply.



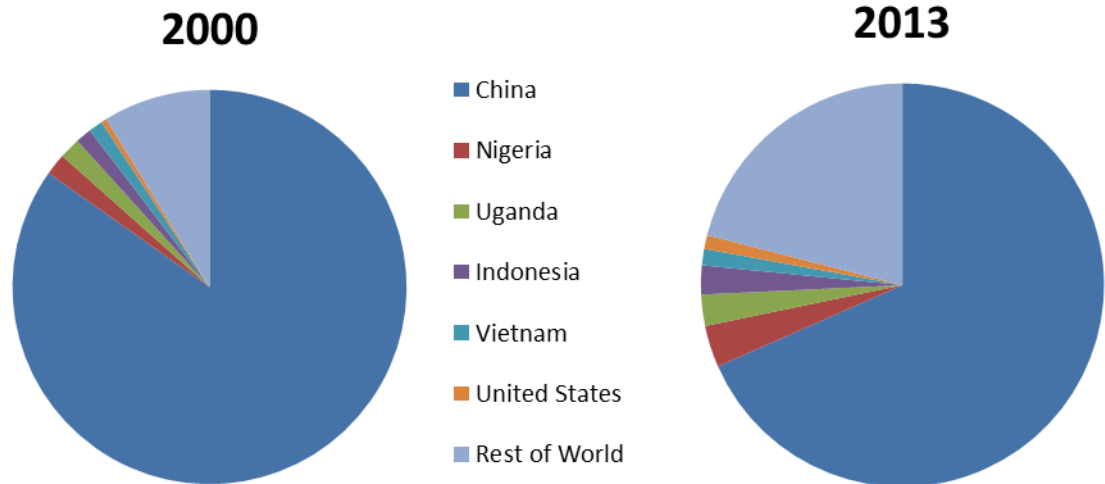
Traditionally Canada is the largest export market for U.S. sweet potatoes. However, exports of fresh or dried sweet potatoes to Canada declined through the 2010/11 and 2012/13 crop years, with a small recovery in the 2013/2014 crop year. The United Kingdom (UK) is a significant and growing export market for fresh or dried sweet potatoes. In 2013/2014, the UK became the largest export market for U.S. sweet potatoes by value of trade. In the 2013/2014 crop year, Canada and the UK represented 77 percent of U.S. sweet potato exports.

Concurrent with increased exports, though on a proportionally smaller scale, U.S. imports have generally been on the rise. U.S. sweet potato imports commonly originate from the Dominican Republic and China and nearly all imported product is fresh or dried. Imports of frozen sweet potatoes are minimal and typically represent less than 3 percent of the total volume of imports.

China Is Top Global Producer of Sweet Potatoes

While U.S. production has significantly increased, it still does not approach the volume of sweet potatoes produced globally. The sweet potato is widely cultivated in a number of developing countries, where it serves as a principal source of food and income for many of the world's poorest and most nutritionally insecure peoples. Data from the United Nations, Food and Agriculture Organization (FAO) indicates that over 95 percent of the sweet potato crop is produced in developing countries (UN/FAO, 2014).

Figure 5: Proportional sweet potato production, by country: 2000 and 2013



Source: United Nations, Food and Agriculture Organization (FAO).

By far, China produces more sweet potatoes than any other nation. In 2013, the most recent year for which UN/FAO production data were available, China produced over 70.5 million metric tons, or 68.4 percent of the estimated world production. China's production in 2013 was down significantly from 2000, when 117.9 million metric tons of sweet potatoes were cultivated, or approximately 84.8 percent of total world production. Other nations, primarily in Asia and Africa, are significant producers of sweet potatoes. The top six sweet potato-producing nations include Nigeria, with a 2013 harvest estimated at 3.5 million metric tons or 3.3 percent of total world production; Uganda with 2.5 million metric tons or 2.5 percent of total world production; and Indonesia and Vietnam, with production totaling 2.3 and 1.3 percent of world production, respectively. With 2013 production of 1.1 million metric tons, or roughly 1 percent of total world production, the United States is the sixth largest sweet potato-producing nation in the world.

Summary

In the past 15 years, the U.S. sweet potato industry has experienced a period of significant expansion. While North Carolina, California, and Mississippi, have posted the largest production gains, all producers have benefited from the price-bolstering effects of rising export volumes and domestic demand for sweet potatoes. Indeed, sweet potato prices have increased more than 50 percent between 2000 and 2014, and attained a new record high for the 2013/14 marketing year. Per capita consumption and trade trends indicate that demand for sweet potatoes will be sustained into the near future. If the sweet potato industry can continue to offer new value-added products and further promote the health benefits of sweet potatoes, future growth looks promising, both domestically and abroad.

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