

Vegetable Section

Proc. Fla. State Hort. Soc. 117:1-3. 2004.

A HISTORY OF COMMERCIAL VEGETABLE PRODUCTION IN CENTRAL AND SOUTHERN FLORIDA

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Abstract. Commercial agricultural production began in central Florida in the mid 1800s and in southern Florida towards the end of the same century. The back-to-back freezes of 1894 and 1895 devastated all commercial agriculture with the exception of Dade and Broward Counties, in the extreme southeastern corner. Early transportation was by rail, which extended as far south as Palm Beach prior to the great freezes, and by ship for

Dade and Broward counties. Early crops included celery (*Apium graveolens* L.) in central Florida and tomatoes (*Lycopersicon esculentum* Mill.). Areas such as Homestead became famous for winter tomatoes as early as the late 1890s, with production peaking in the 1920s at 35 train carloads per day. Dania (now Dania Beach), south of Fort Lauderdale, was briefly the "Tomato Capital" of Florida in the early 1900s. Production stopped due to salt water intrusion following a hurricane in 1947 and construction of the 'Dania Cut-off Canal'. Central Florida has seen a loss of 90% of vegetable land in the area to the north of Orlando. West central Florida, which includes the Palmetto-Ruskin area, has switched from growing celery to tomatoes. Plant City has been growing strawberries (*Fragaria* × *ananassa* Duch.) as a major crop for over 100 years. Production in eastern Palm Beach County has shrunk considerably with increasing urbanization, while Homestead has seen a shift from tomatoes to snap beans (*Phaseolus vulgaris* L.) as the major crop.

For over a hundred years, commercial vegetable production has been important to the economy of central and southern Florida. Commercial production began in central Florida in the mid 1800s and in southern Florida in the late 1800s. In 1881, a pamphlet was written to attract new settlers to Florida. It listed some of the crops being grown in the area as corn (*Zea mays* L.), rice (*Oryza sativa* L.), sugarcane (*Saccharum officinarum* L.), sweetpotatoes [*Ipomoea batatas* (L.) Lam.] and Irish potatoes (*Solanum tuberosum* L.), and vegetables of all kinds. Produce was sold locally due to the difficulty of getting highly perishable products to northern markets in good condition (DeVane, 1979). In 1920, 125,000 acres of vegetables were grown in the state (Jamison, 1937). In 1937, estimates ranged from 25,000 to 37,000 acres of tomatoes, making it the number one vegetable crop in the state (Jamison, 1939), a place it still holds today (FDACS, 2002). In 1943-44, truck crops totaled 212,550 acres (Gratz, 1945). In 2001-02, there were 285,200 acres (FDACS, 2002).

Celery was a major crop in the Sanford-Oviedo area of central Florida. The first farmer's market in the U.S. opened in Sanford in 1934. After several hard freezes in the 1980s followed by government purchase of muck land around Lake Apopka, production declined and shifted to cucurbits, sweet-corn (*Zea mays* L. var. *rugosa* Bonaf.) and cabbage (*Brassica oleracea* L.). Today, U-picks, Community Supported Agriculture (CSA) and hydroponic lettuce (*Lactuca sativa* L.) and tomatoes have increased the trend toward direct marketing. The Red Coast currently produces approximately 38,000 acres of vegetables and has grown in acreage in spite of urbanization pressures. Today, tomatoes are produced on over 13,000 acres, mostly by corporate farms. Family farms grow a majority of the area's 7,000 acres of strawberries.

In the southwest area, over 500,000 acres were brought into production in 1915-20. The North American Free Trade Agreement (NAFTA) and environmental pressures have led

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to greater diversification on less land, with approximately 42,000 acres currently in production. In response to pressure from both NAFTA and increased urbanization, the Gold Coast has gone from a being major source of peppers (*Capsicum annuum* L.), corn and eggplant (*Solanum melongena* L.) to more CSA and direct marketing ventures. Starting in 1910, Dania (now Dania Beach), just south of Fort Lauderdale, nicknamed the “Tomato Capital of the World,” was shipping 1,000 to 1,500 train carloads during the 3-month season (www.FloridaVisiting.com, 2004). The area went out of production due to salt water intrusion following a hurricane in 1947 (McIver, 2004) and construction of the “Dania Cut-off Canal” that same year (Ferri, 1999). In the 1920s, Homestead shipped up to 35 train carloads of tomatoes per day. Today, thanks to NAFTA and Everglades restoration projects, growers have had to diversify into other crops and, like the Gold Coast, houses seem more profitable than vegetables.

There are several factors that have greatly influenced commercial vegetable production. Weather has played a significant role, both good and bad. The mild winter climate was a key factor leading to central and southern Florida becoming major producers of winter vegetables for northern markets. Fresh vegetables such as tomatoes, celery, lettuce, and peppers could be grown here when much of the country was too cold. At the same time, Florida’s weather is very unpredictable. Major frost and freeze events, as well as torrential rains, have had disastrous effects on the vegetable industry. Droughts have also played a role, particularly before irrigation was common, while heat waves often hastened ripening.

The back-to-back freezes of December 1894 and February 1895 were a major influence on the vegetable industry. Only Dade and Broward counties were not devastated. Following these freezes, growers in central Florida planted vegetables while they waited for their citrus groves to recover. Tropical storms and hurricanes have been major forces, especially devastating storms like Hurricane ‘Andrew’ in 1992. The Federal-State Horticultural Protection Service was started in 1934 to provide cold weather forecasts to growers so measures could be taken to save crops (Anonymous, 1939). This was suspended in April 1996 due to budget cuts (Mary Lamberts, 2004, personal communication).

Water is another valuable asset that helped determine the location of early vegetable production areas. The first artesian well was in Manatee County in 1895. In 1940, Sanford-Oviedo area growers credited their success in growing celery to the fact that their farms were tiled for irrigation and drainage and that they had artesian wells (Dawson, 1940). A 1937 article in *Florida Grower* listed the types of irrigation being used as: surface irrigation; flooding; seepage from ditches around the field; irrigation by underground tile; and sprinkler systems (Jamison, 1937). Use of micro-irrigation with drip tape began in the mid-1960s. Plastic mulch was added in the mid-1970s. Problems with over-pumping and saltwater intrusion in wells were noted starting in 1950 (Anonymous, 1950).

In certain areas of the state, too much water was the greater problem. This was a major factor causing the southwestern area to come into production later than other areas. Two big water projects were initiated to help control water and allow these muck areas to become productive farmland. The first project began in 1912, resulting in the creation of the Everglades farming area by draining the Everglades. By 1951, the land surface had sunk as much as 7 feet. This led to a plan to save the area by controlling water levels (Lovering, 1951).

The other project was the “1949 Central and Southern Florida Flood Control District Project” to control both water going into Lake Okeechobee from the north and discharge from the lake to the south (Mullen, 1949).

The availability of transportation to move highly perishable produce to northern markets was another key to the development of production areas. In the late 1800s, lack of transportation limited most sales to local markets. On the other hand, areas near the coasts were able to use boats and thus were able to develop commercial production earlier. Between the Civil War and World War I, transportation by railroads became more readily available. This allowed many growing areas to move their produce quickly to northern markets. A major reason for the growth of railroads in Florida was the Internal Improvement Act passed by the state legislature in 1855. This Act offered cheap or free public land to investors, especially for transportation. It encouraged people like Henry Flagler and Henry Plant to build railroads in Florida. The Act also provided the initial monies to drain the southern part of the state to make farmland (Fla. Heritage Collection, 2004). Another factor that helped produce arrive in northern markets in better condition was postharvest cooling. In 1902, the first icehouse in Florida was built in Manatee County. It was reported to be the largest one in the world at that time (Phyllis Gilreath, 2004, personal communication). In addition to pre-cooling, shipping under cool conditions greatly improved product quality at the receiving end. Trucks were used to transport produce before World War II, but during the war there were no boats and very few trucks available, so the railroads again dominated (Jamison, 1944). Airplanes were also used. This was the quickest method, but was very costly (Anonymous, 1947). Today, trucks are the main method of transporting produce.

The availability of labor has historically been a concern of Florida growers. During World War II, there was a shortage of labor. In 1943, the U.S. Department of Agriculture brought in workers from Mexico (Cooper, 1943). In 1944, the Florida Vegetable Committee coordinated a program to use offshore labor, war prisoners, and migratory domestic labor to harvest crops (Anonymous, 1944). During World War II, women worked on the farms, helping run the operations and harvest the crops. During 1943, approximately 200,000 women went to work on farms through the Extension Service Farm Labor Program (Carter, 1944). In 1947, growers depended on contract labor from the Bahamas (Jamison, 1947). In 1940, workers made \$1.60 per day. In 1948, the daily wage had increased to \$5.50 (Anon. 1948). Another big development occurred in the 1940s when the Rural Electrification Administration brought electricity to rural areas (Crow, 1941).

In the 1930s, the Florida Experiment Stations found that the muck soils could be made more productive by adding micronutrients to the soil. Celery crack stem could be prevented by the addition of boron (Jamison, 1937). New insecticides and fungicides released in the 1940s helped control many problems. This allowed growers to increase the acreage of crops such as sweetcorn since corn earworm (*Helicoverpa zea* Boddie) could finally be controlled. Likewise, cantaloupe (*Cucumis melo* L. var. *reticulatus*) could be successfully grown because gummy stem blight [*Didymella bryoniae* (Auersw.) Rehm] could be controlled (Kelbert, 1951). In October of 1946, late blight [*Phytophthora infestans* (Mont.) de Bary] devastated the fall tomato crop, but Dithane®, which had been introduced in 1944, promised to save the crop (Anonymous, 1946.)

Table 1. Timeline and changes in production in central and southern Florida production regions.[†]

| Location [‡] | Production began | Then | Now |
|----------------------------|------------------|---------------------------------------|---|
| Central | 1880s | Celery | Housing |
| Red Coast | 1840s | Celery & cauliflower | Tomatoes & strawberries |
| Southwest | 1915-1920 | Spring tomatoes, pineapple, sugarcane | Tomatoes, watermelons, beans |
| Gold Coast | 1890s | Leafy greens & celery | Housing |
| Dania (Beach) [*] | 1910 | "Tomato Capital of the World" | Antique stores (from late 1940s) |
| Homestead | 1890s | Tomatoes | Snap beans, squash, sweet corn, tomatoes; housing |

[†]Information in table provided by authors.

[‡]Central refers to the Sanford-Oviedo/Lake Apopka area. Red Coast includes Hillsborough and Manatee Counties, with tomatoes in Palmetto/Ruskin and strawberries around Plant City. Southwest includes the Everglades farming area and Hendry, Collier and Lee Counties. Gold Coast includes eastern Palm Beach County and Fort Pierce. Dania (Beach) is just south of Fort Lauderdale. Homestead is Miami-Dade County south of Miami.

^{*}www.beachcalifornia.com/dania.html

Spray equipment was modernized and covered a greater area at one time. In 1929-30, the Vowell sprayer was introduced. It was mule drawn with a 7.5-gal spray pump and could spray two rows at a time. Prior to that, growers had to use knapsack sprayers. By the end of World War II, sprayers were still pulled by mules, but were air-cooled, engine-powered 15-gallon pumps that could now spray four rows at a time (Phyllis Gilreath, 2004, personal communication).

Florida has faced foreign competition for over 60 years. Heuck (1939) stated that south Florida vegetable growers faced competition from Cuba with the importation of similar products during the winter and spring months. Jamison (1947) talked about competition in the tomato market with Cuba, Mexico, and Texas. Even in the late 1940s, growers wanted to know why the price they were paid was so much lower than the price the housewife paid in the store (Saffer, 1947).

In conclusion, whether it is weather, pests, labor, transportation or foreign competition, the problems growers face today are similar to the problems that have challenged Florida vegetable growers for the last 100 years. With improved technology, expanded markets, and ingenuity, they have met these challenges and the results have in turn shaped the industry we know today.

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