

Strategies for Subtropical Peach Production in Florida¹

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In the 1960s, peach acreage in north Florida totaled 3,958 acres, with Madison (1860 acres), Jefferson (950 acres), Holmes (450 acres), and Gadsden (245 acres) counties accounting for 89% of the acreage. By 2000, acreage had declined to approximately 1,000 acres and is now estimated to be less than 500 acres. Late spring freezes, competition from other US production areas, and marketing problems caused the decline of this industry. However, since the 1970s the UF stone fruit breeding program, frequently in cooperation with the University of Georgia and the USDA, has released over 30 peach, nectarine, and plum cultivars intended primarily for north central and north Florida, with some recently released cultivars adapted for central and south central Florida (Table 1). However, some of these low chill peach cultivars are grown more widely in other subtropical and Mediterranean regions of the world, producing profitable crops for early market windows in Europe.

Many Florida stone fruit cultivars developed up until the 1990s were not patented, but increasing emphasis on intellectual property rights and the need

for royalty income to support breeding programs has resulted in patenting of recently released cultivars. However, even cultivar patenting and royalty costs per plant may not alleviate boom and bust cycles for fruit crops like blueberries and peaches. Building upon recent developments in cultivar patenting and global marketing for fresh apple cultivars, this paper discusses the potential for a new, subtropical peach industry in central Florida, with the goal of developing low chill, early ripening cultivars with non-melting flesh for improved on-tree ripening and shelf life.

New Paradigms in Fruit Production

During the past ten years, dramatic changes occurred in international apple production and marketing and could serve as a model for Florida subtropical peaches. An international market glut of apples, even of premium value cultivars like 'Gala' and 'Fuji', reduced the climatic and market window advantages of traditional apple production regions. These crop surpluses coincided with the merging of supermarket chains into mega groups, depending on a

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few commodity or crop category managers who eliminated a whole class of wholesale buyers. Large buyers consequently began to set crop quality standards ranging from best management practices to food safety and third party certification by private companies as part of a continuous improvement process.

To avoid oversupply of even popular cultivars and resulting low prices, a new marketing strategy evolved. When new cultivars are developed as intellectual property and patented, exclusive licensing to a marketing agency as a brand franchise or club variety can prevent oversupply and low prices. Such a marketing agency controls nursery production, acreage planted, and crop marketed, and could be the exclusive marketer. For example, a new apple cultivar, 'Jazz', developed by HortResearch, a private New Zealand fruit science company, was licensed to a marketer, who approved acreage planted, production, and marketing of this new cultivar in New Zealand, France, and Washington state. A number of other patented brand names like 'Cara Cara' navel orange, 'Kandy Primo' and 'Sunnygold' melons and 'Grapple' (a 'Fiji' apple dipped in a Concord-grape-flavored solution) are being marketed as sweeter varieties.

The club varieties are a means to control planting and marketing of new patented cultivars to maintain long term premium prices. Following this strategy, subtropical peach production could rapidly expand in Florida, providing a profitable specialty crop. Fresh-packed, tree-ripe fruit could be marketed as high value produce rather than as a broad seasonal commodity. Patented cultivars could be exclusively licensed to grower investors operating as a business. These businesses would own exclusive rights to UF-patented subtropical peaches, operating as production and marketing entities to control nursery production and orchard development, to provide yield-based royalties to support research and extension programs, and ultimately to manage market supply for profitable grower and investor returns.

A key feature of this production and marketing system is the selection of qualified growers who can produce consistently high quality, premium fruit rather than commodity fruit. In this context,

commodity fruit refers to fruit of uniform quality, grown in large quantities by many different producers. Commodity fruit production has become subject to strong pressures for production efficiency and profitability. Even new fruit cultivars that have strong demand and high prices initially are quickly adopted by growers and subject to overproduction that eventually depresses prices. International industry groups, like those of apple growers, are shifting emphasis from commodity production to high value premium fruit marketing.

This club variety concept depends on sizeable initial investment linked with consistent brand and market development. Such new relationships among plant breeders in the public and private sectors, growers, investors, and marketing agents have changed international apple markets and have implications for the development of a subtropical peach industry in Florida. For nurseries and growers, these new arrangements could involve costs for tree, acreage, and production royalties but could also bring membership in a carefully managed organization that enables long term profits. The University of Florida stone fruit breeding program, now at a critical point in its course, is developing patented, low chill, non-melting or firm-fleshed cultivars for a growing Florida stone fruit industry. Lack of an organized marketing strategy could result in overproduction.

The Florida southern highbush blueberry industry, which has grown from 1,000 acres in 1994 to almost 3,000 acres in 2005, is a good example of a rapidly developing alternative crop industry with average prices over the past seven years ranging from \$4.00 to \$5.00 per pound. However, growers are already voicing concern about the effect new plantings could have on current high returns. Another option would be to use the club variety model to develop a new, subtropical peach industry from the beginning, in contrast to an already established brand name apple industry apple or a trademarked, geographically located, Vidalia onion industry. Risks are certainly involved, but the international stature of Florida's peach cultivars, our early market window during April and May, and the rapidly growing local Florida market in proximity to large urban markets like Orlando and Tampa, makes Florida a strong competitor against other north

American production regions like southern California or Mexico.

Substantial private investment with exclusive licensing within a club variety concept may be needed for the rapid development of a subtropical Florida peach industry, especially for the development of new cultivars. Mature fruit can be harvested from individual peach cultivars over a 7- to 10-day period, emphasizing the need for a range of new cultivars to provide fruit for an 8- to 10-week season. Although new to Florida growers, this breeding, production, and marketing strategy, already pursued by other fresh fruit industries, may be the key to maintaining our competitive advantage in both Florida and international markets.

Reference

Young, H. W., and H. H. Bryan. 1966. The peach in Florida. *Proc. Fla. State Hort. Soc.* 79:4 405-412

Table 1. Characteristics of peaches released by the University of Florida breeding program ^z

Cultivar	Date Released	Patented Status	Chill Units	Fruit Development Period	Flesh Type
UFSun	2004	Patented	100	80	Non-melting
TropicBeauty	1988	Not patented	150	89	Melting
Flordaprince	1982	Not patented	150	78	Melting
Flordaglo	1988	Not patented	150	78	Melting
UFBeauty	?	Patented	200	82	Non-melting
UFGold	1996	Patented	200	80	Non-melting
UFO	2002	Patented	250	105	Non-melting
UF2000	2000	Patented	300	95	Non-melting
UFBlaze	2002	Patented	300	80	Non-Melting
Flordadawn	1989	Not patented	300	60	Melting
Flordacrest	1988	Not patented	350	75	Melting
Gulfking	2004	Patented	350	77	Non-melting
Flordaking	1978	Not patented	400	68	Melting
Gulfprince	1999	Patented	400	110	Non-melting
Gulfcrest	2004	Patent pending	525	70	Non-melting

^zAll melting flesh peach and nectarine cultivars released from the University of Florida breeding program begin with the prefixes "Florda" and "Sun," respectively, with all non-melting peach and nectarine cultivars sharing the prefix, "UF." Joint releases by the University of Florida, the USDA, and the University of Georgia have the prefix, "Gulf."