MARKET DEVELOPMENT ALTERNATIVES FOR SELECTED TROPICAL FRUITS GROWN IN SOUTH FLORIDA

R. L. DEGNER AND S. D. MOSS
Florida Agricultural Market Research Center
Food and Resource Economics Department
University of Florida, IFAS
Gainesville, FL 32611-0240

Abstract. Telephone surveys of tropical fruit growers and shippers in south Florida and of major food retailers and specialty produce wholesalers nationwide were conducted to determine availability, sales trends, and market development strategies for 11 tropical fruits selected by Florida Tropical Fruit Growers of South Florida, Inc., on the basis of their commercial potential. The fruits targeted were mangos, carambola, lychee, papaya, mamey sapote, specialty bananas, longan, guava, passion fruit, atemoya, and sugar apples. The grower-shopper survey revealed no major changes in the production of most fruits in the wake of Hurricane Andrew although modest increases were anticipated for lychees, longans, and papayas. Mangos, papayas, and carambolas were found to be widely available at wholesale and retail levels, and sales trends were generally positive. However, the remaining fruits had varying degrees of availability at wholesale and retail levels. Some fruits, such as mamey sapote, atemoya, and sugar apples had very limited distribution, particularly west of the Mississippi River because of phytosanitary restrictions. Retail and wholesale produce buyers generally agreed that the greatest impediments to increased sales of tropical fruit from Florida were (1) lack of consumer familiarity and awareness, (2) high prices relative to other types of fruit, and (3) supply problems, such as limited or inconsistent supplies and short production seasons. This paper analyzes marketing suggestions made by the trade and makes specific recommendations for improved marketing programs for south Florida’s tropical fruit growers and shippers.

The Florida Agricultural Market Research Center at the University of Florida recently conducted a comprehensive study of the U.S. market for 11 selected tropical fruits grown in south Florida. The fruits (selected by the Board of Directors of Florida Tropical Fruit Growers of South Florida, Inc., on the basis of their commercial potential) were mangos, carambola, lychee, papaya, mamey sapote, specialty bananas, longan, guava, passion fruit, atemoya, and sugar apples. The basic objective of this study was to improve the efficiency of the marketing system for tropical fruits produced in south Florida and to formulate viable market development strategies for these fruits.

This paper presents a synopsis of the overall study and specific market development recommendations for the south Florida tropical fruit industry. The recommendations are based upon telephone surveys of tropical fruit growers, specialty produce wholesalers, and food retailers, as well as analyses of U.S. population data and literature on specialty produce marketing.

Materials and Methods

Three telephone surveys were conducted to ascertain the current marketing environment for the selected tropical fruits and to solicit trade recommendations for market development. The first survey targeted tropical fruit growers and shippers in south Florida. The second focused on produce buyers of leading chain supermarkets in 30 geographic U.S. markets containing the largest numbers of Asian and Hispanic consumers, while the third survey solicited input from specialty produce wholesalers located throughout the United States.

Because of the extreme diversity of fruit production in south Florida, input from a complete enumeration of fruit growers was attempted in lieu of reliance on a probability sample. A total of 295 fruit growers and shippers were identified through Cooperative Extension Service client lists, the membership roster of Tropical Fruit Growers of South Florida, Inc., and grove owners who appeared on the rolls of the Dade County Tax Assessor’s office. A total of 245 growers and shippers were subsequently interviewed.

Major chain supermarkets, serving the top 25 grocery distribution areas of the United States with the largest numbers of Asian and Hispanic consumers, were identified by analyzing geographic market share data for chain supermarkets in conjunction with detailed, county-level population data (Progressive Grocer, 1994; U.S. Dept. of Commerce, 1990). There was considerable overlap in the top 25 Asian and top 25 Hispanic markets; thus, a total of 30 markets were analyzed (Mazak and Degner, 1994). Markets with large numbers of Asian and Hispanic residents were targeted because many shippers had experienced favorable sales in areas with these ethnic groups. A total of 75 firms, representing more than 15,000 retail outlets in 30 major food distribution regions of the United States provided data on sales trends and made recommendations for improving the marketing of tropical fruits from South Florida. Although the 30 grocery distribution regions were initially selected because of the high concentrations of Asian and Hispanic residents, it should be noted that these regions are among the most densely populated in the United States. In addition to the estimated 7.0 million Asians and 23.7 million Hispanics, the 30 regions also contained 149.0 million whites and 22.9 million blacks in 1990, accounting for approximately 75 percent of the total U.S. population (U.S. Dept. of Commerce, 1990).

The specialty produce wholesaler survey was based upon listings in The Bluebook, a leading produce trade directory (Produce Rprtr. Co., 1995). Approximately 200 firms were identified as specialty wholesalers and were subsequently contacted by telephone. Usable data were obtained from 145 firms. All of the specialty wholesalers interviewed were located in the same 30 food distribution regions as the retail chains described above.

Results and Discussion

The Grower Survey. Prior to Hurricane Andrew in August 1992, about 40 different species of fruits were produced in
South Florida, 20 of them on a commercial scale. Official tree inventories of major tropical tree crops indicate that Dade County accounts for almost 95 percent of total acreage (Florida Agr. Statistics Service, 1996). It is estimated that Dade County accounts for virtually all of the state’s commercial production of the lesser-known, minor tropical fruits (J. Crane/C. Balerdi, University of Florida, personal communication).

Before Hurricane Andrew, there were more than 20,000 acres of tropical fruit groves in Dade County, but there were only about 13,000 acres by the end of 1994, a 33 percent reduction (Degner et al., 1995). Groves of avocados, Persian limes and mangos were hit particularly hard by the storm. Acreages of avocados, limes, and mangos were 33, 57, and 36 percent below pre-hurricane levels, respectively. Following the hurricane, there was speculation that some grove land formerly devoted to avocados, limes, and mangos would be planted to other fruit crops. The grower survey revealed some acreage shifts to lychees, longans, guavas, papayas, and a few other fruits, but the magnitudes of the shifts, in absolute terms, were relatively small. For example, the grower survey indicated that lychee and longan acreage had increased by approximately 100 acres each between 1992 and 1994. Because of strong market demand for these and other fruits with increased acreage, it appeared unlikely that these increases would require major redirection of marketing activities to prevent catastrophically low grower prices.

The grower survey did not find any appreciable pre- to post-hurricane changes in the proportions of fruit marketed through various market channels that could have impacted the existing market structure and affected market development strategies. The survey found that the tropical fruit industry in south Florida—with the exception of limes, avocados, and mangos—was typified by growers with relatively small acreages. Even though many growers of the 11 selected fruits are vertically integrated into packing, shipping and marketing, their relatively small size and lack of market dominance results in a market structure that is likely to foster intense price competition. This is also an environment in which independent market development activities are inefficient or infeasible.

Another finding of the grower survey was that none of the selected fruits was marketed through farmers’ cooperatives. Further, there appeared to be little grower interest in a marketing cooperative; only two percent of those interviewed expressed the need for such an organization. Also, very small proportions of most tropical fruits were found to be marketed directly to consumers despite growers’ proximity to one of the state’s most populous and ethnically diverse metropolitan areas. For eight of the 11 selected fruits, direct marketing accounted for less than 4 percent of total production.

The Chain Supermarket Survey. The chain supermarket survey provided data on the availability of various fruits, sales success, impediments to greater sales, and retailers’ preferred promotional activities and materials. Sales success was rated by buyers as “excellent,” “fair,” or “poor.” Mangos and papayas were available in all chains and all stores, while carambolas were carried by 71 of 75 firms, representing 97 percent of all stores. Sales performance of these fruits was also rated favorably by most produce buyers, with more than 80 percent of the buyers rating sales as excellent or fair.

Passion fruit, guavas, specialty bananas, and lychees were available on a regular (or seasonal) basis in about one-half to two-thirds of all stores, but sales ratings were disappointing; depending on the fruit, about 60 to 80 percent of the retailers rated sales as poor. Atemoya, maney sapotes, longans, and sugar apples were typically available in less than one-third of the chain stores. Sales ratings were also relatively grim, with two-thirds or more of the retailers rating them as poor.

Chain-store produce buyers identified four basic impediments to greater sales volume of the 11 targeted fruits. These obstacles were (1) lack of consumer knowledge and awareness, mentioned by 40 to 70 percent of the buyers depending on the specific fruit, (2) relatively high prices, mentioned by 15 to 20 percent, and (3) supply problems such as limited or inconsistent supplies and short production seasons, cited by 3 to 20 percent. Complaints about product quality, the fourth obstacle to greater sales, were minimal for most of the 11 fruits. However, there were complaints made about blemishes and bruises for almost every fruit. The greatest number of quality complaints were made about specialty bananas, with 11 percent of the buyers complaining that they frequently arrived bruised or overripe.

Most quality complaints about mangoes had to do with varietal preferences, with most chain buyers expressing a preference for blush varieties because of sales or “eye” appeal. A few buyers expressed a particular dislike for yellow or green-skinned mangos, but several recognized that Asian customers were more likely to have a preference for better-tasting yellow or green-skinned varieties. One possible strategy would be to promote yellow and green varieties to the trade as premium quality “Asian mangos.” A similar product differentiation has already been achieved with high-quality (and usually high-priced) Asian pears.

Retailers’ use of various promotional methods for tropical fruit was also explored. About 20 percent of the retailers reportedly used no promotional activities of any type for tropical fruit, other than basic product identification. Not surprisingly, these firms also reported fair or poor sales for all of the selected tropical fruits. Among other stores, the most frequently used, and generally the highest rated promotional methods were newspaper ads, in-store demonstrations, price specials, special displays, recipes, and “tropical theme” promotions involving multiple kinds of fruit.

When asked to evaluate an array of methods and materials for their perceived effectiveness in promoting tropical fruit, price cards, posters, in-store demonstrations, and recipes were recommended by 62, 58, 57, and 49 percent of the firms, respectively. There was slightly more support for these promotional methods among smaller chains. According to buyers, posters are usually incorporated into tropical theme displays where many fruits are featured. Brochures and ad slicks were recommended by about 21 and 14 percent, respectively, but tended to be preferred by larger chains. About one-fourth of the retailers recommended that the Florida tropical fruit industry develop a promotional kit containing a variety of point-of-sale items. Such kits are utilized by many agricultural commodity groups and other consumer product marketers. They usually contain price cards, recipe pads, posters, and ad slicks. Several retailers also recommended that Florida develop generic tropical fruit promotions that could be used for different types of fruit. Although this approach could extend the useful life of some materials, it could also generate a “free rider” problem if retailers were to use Florida materials to promote fruit from other producing regions or countries. Retailers also recommended the use of mass media, such as television, radio, and magazine ads, to promote tropical fruit.

and educate consumers. However, given the limited funds available to the Florida tropical fruit industry, paid advertising directed at consumers is not a viable option. Food publicity methods, such as feature stories in newspaper food pages and magazines and feature appearances by industry representatives on television cooking shows, were also recommended. Several retailers suggested targeting the food service industry as a means of introducing and promoting tropical fruits to consumers.

Several retailers admitted being somewhat unfamiliar with some of the more exotic fruits, and some suggested educational efforts directed at the retail trade. Results of the retailer survey confirmed the unfamiliarity of many buyers with sugar apples, longans, maneye sapotes, atemoya, and lychees. Exhibits at trade shows sponsored by organizations such as the Produce Marketing Association and United Fresh Fruit and Vegetable Association could serve to educate retailers, especially when shows coincide with the availability of fresh fruit. For fruit with very short seasonal availability, it might be more effective to educate retailers by providing them with sample packs of fruit along with an availability calendar, handling information, and point-of-sale materials.

The Specialty Produce Wholesaler Survey. Survey data from 145 specialty produce wholesalers throughout the United States showed an almost universal availability of mangos and papayas. Carambolas were available from about 60 percent of the wholesalers east of the Mississippi River but from just under 40 percent in the western region. Lychees, guavas, and passion fruit were available from nearly one-half of the wholesalers in the eastern region, but availability was considerably lower in the west. Similarly, maneye sapotes, atemoya, longans, and sugar apples were handled by 23, 21, 15, and 10 percent of the eastern region firms, respectively; in the west, availability was only about one-fourth to one-half as great.

The limited availability of many of the exotic tropical fruits in western states is undoubtedly caused by phytosanitary restrictions designed to keep the Caribbean Fruit Fly (Anastrepha suspensa) out of Arizona, California, and Texas (Arizona Dept. of Agr., 1995; California Dept. of Agr., 1996; Texas Dept. of Agr., 1996; P. Hornby, Florida Dept. of Agr. and Consumer Services, Div. of Plant Inspection, personal communication). For some fruits, phytosanitary restrictions require a total ban; others require extended cold treatment or hot water treatment, which can adversely affect quality. Specialty bananas from Florida are not affected by phytosanitary restrictions because bananas are not a host to the Caribbean Fruit Fly. However, based upon wholesale buyers’ current purchasing patterns, competition from Mexico, Central America, and South America will likely keep Florida from capturing significantly larger market shares in distant western and eastern U.S. markets.

In general, specialty produce wholesalers reported that sales trends for the previous two-year period were positive. For nine of the 11 selected fruits, more than 90 percent of the wholesalers reported either stable or increasing sales trends. For the two remaining fruits, more than 85 percent noted stable or increasing sales. For every one of the 11 fruits, the percentages of wholesalers who reported upward trends in sales were considerably greater than the percentage of those who reported declining sales.

Produce wholesalers also provided insights for improving the sales of each of the 11 selected tropical fruits. Increased promotion was the most frequently mentioned market development strategy for eight of the 11 tropical fruits. Increased promotion was recommended by 32 to 80 percent of the buyers, depending on the specific fruit; however, improved quality was cited most frequently for Florida-grown mangos and passion fruit. Increased promotion and improved quality were recommended by equal numbers of wholesalers as preferred means of increasing sales of Florida-grown papayas.

Overcoming supply problems such as erratic availability and short seasonal availability were also mentioned as viable options for many of the fruits. This was particularly true for lychees and longans; approximately one-third of the specialty produce wholesalers complained of supply-related problems. For most of the 11 fruits, about 10 to 20 percent of the wholesalers suggested that lower prices would stimulate consumer awareness and consumption. Some suggested that tropical fruits were less than a good value for consumers when compared to many other types of fruit. While a “lower price” strategy would most likely stimulate consumer trial and greater consumption, current prices reflect prevailing supply and demand conditions. One strategy to develop an improved value image in the trade would be for the Florida tropical fruit industry to anticipate and monitor periods of heavy supplies that are likely to result in lower prices; peak supply periods could be publicized to the trade. Ideally, such publicity would result in retail features along with price specials that would encourage consumers to try the fruits while maintaining F.O.B. prices at acceptable levels for growers and shippers.

Conclusions and Recommendations

This study of the tropical fruit industry in south Florida and the marketing system for tropical fruits throughout the United States indicates that there is much potential for Florida’s tropical fruit growers and shippers, but there are many challenges as well. Many growers, specialty produce wholesalers, and retailers recognized the need for a more aggressive educational and promotional programs as well as improvements in product quality and availability; however, few offered suggestions as to how such objectives could be achieved.

Analyses of the responses from the three surveys described above, in conjunction with other studies, suggest a course of action that consists of three major components: (1) organized marketing, (2) product availability and quality, and (3) market development activities. Although Florida growers and shippers do not necessarily have to be “organized” in order to engage in components (2) and (3), experience by other agricultural commodity groups indicates that organized marketing can facilitate such activities (Forker and Ward, 1993; Abel et al., 1995).

Organized Marketing. Because of the relatively large numbers of small-scale grower-shippers who market many of the tropical fruits examined by this study, it is recommended that growers and shippers who have insufficient volume to afford or justify branded product marketing programs on their own consider combining forces with other growers and shippers in joint or “organized” marketing activities. There are numerous kinds of legal organized marketing arrangements, ranging from informal partnerships and voluntary trade associations to highly structured and regulated marketing orders and cooperatives. While joining forces with other growers and shippers can facilitate more aggressive and effective market development programs by sharing costs, the biggest advantages can be greater efficiency and a consolidation of
market power. By controlling a larger proportion of available supplies and reducing the number of small competitors, large private firms or cooperatives may become more efficient in packing and shipping and can sometimes avoid unnecessary and damaging price competition. Additionally, joining forces with other growers and shippers can also establish and enforce quality standards that can provide the trade and consumers with the assurance of a consistently high-quality product. High quality is especially critical in situations where consumers have little or no experience with a product; a first-time purchaser of an inferior-quality tropical fruit is very unlikely to become a repeat purchaser. Further, organized marketing can also provide buyers with larger or more regular supplies, avoiding the frustration of erratic or limited availability. Finally, large marketing organizations have more leverage in market disputes.

Product Availability and Quality. One of the most frequent complaints voiced by specialty produce wholesalers, and to a lesser degree by retailers, involved tropical fruit availability, i.e., erratic supplies or short production seasons. Obviously, some supply problems cited by the trade are difficult to solve because of natural forces and the biological cycles of the fruit. Lychees, longans, atemoyas, and sugar apples are particularly and adversely affected by short marketing seasons, ranging from a few weeks to several months. Only specialty bananas and papayas have year-round availability in south Florida. New cultivars, cultural practices, or storage technology should be developed in order to extend the availability of higher-quality fruit in the marketplace.

Although this study’s surveys of the produce trade revealed relatively few complaints about product quality, practically every type of fruit received some Florida-grown papayas and mangos in particular received complaints about varietal characteristics. All of the fruits could possibly benefit from improved cultivars, but even excellent cultivars cannot overcome quality problems caused by suboptimum harvest (particularly harvest of immature fruit) or handling practices. In addition to harvesting and packing for optimum quality, fruit quality and retailer acceptance can also be improved by paying greater attention to packaging and labeling. Alternative packaging materials, such as corrugated master containers or flats containing clear plastic clamshell or tub packages, may extend shelf life, prevent fruit damage, and add value for retailers. Such packages can reduce labor requirements at the retail level, showcase the fruit, and also provide a surface on which to place information labels or stickers. Such labels can list brand names, uses, ripening instructions, nutritional information, origin, etc. Further, UPCs (uniform product codes) or PLU (price look-up) numbers should be included, if possible, on retail packs or on individual fruit as appropriate. A leading marketer of specialty produce currently utilizes PLU stickers and labels that include country of origin, a brief product description, storage and serving information, nutrition facts, a free recipe offer, a consumer guarantee, an “800” number, and an e-mail address. Another specialty produce wholesaler includes short recipes on containers (Corder, 1994).

Market Development Activities. The following market development activities are recommended without regard to how they are financed, i.e., by large or small private firms or by organized cooperatives. Some are obviously beyond the financial reach of small firms, but others can be utilized by virtually any participant in the south Florida tropical fruit industry.

Educational Programs and Materials Directed to the Produce Trade

Many produce buyers of wholesale and retail firms could benefit by knowing more about the tropical fruits included in this study. Although most were familiar with mangos, papayas, and carambolas, there was evidence that buyers’ knowledge of some fruits was limited. Increasing buyers’ familiarity with Florida’s tropical fruit will get product into more stores and provide exposure to more consumers. The specific activities below are recommended to reach wholesale and retail produce buyers and merchandisers.

1. Trade shows. Industry trade shows reach top-chelon produce executives. Sponsoring a booth at national shows (Produce Marketing Association or United Fresh Fruit & Vegetable Association) may be feasible, particularly by cooperating with one or more Florida commodity groups or the Florida Department of Agricultural and Consumer Services.

2. Product Samples. Provide potential buyers with product samples if possible. “How does it eat?” is a common question in the produce business; eating is believing, and a great way to educate. Provide samples at trade shows to reach produce retailers and wholesalers. Targeted samples delivered directly to key buyers have been used to good advantage by successful specialty produce wholesalers (Corder, 1994). Samples can be delivered via courier or sales/promotion representatives.

3. Fruit availability calendars. Easy-to-read fruit availability calendars remind buyers of fruit availability. If printed on high-quality stock in four colors with photos of the fruit, this type of item will frequently be posted in buyers’ offices or warehouses and can be relatively long-lived. Funds permitting, fruit availability calendars can also be published as part of paid advertising in trade publications.

4. Handling information. Handling specifications—i.e., recommended storage temperatures, humidities, packing suggestions, and realistic estimates of shelf life—are essential, even to trade professionals. Many are not fully aware of the handling requirements of tropical fruit.

5. Tie-ins. Tie-ins or cross-merchandising ideas, can stimulate impulse sales and improve profitability for retailers. Tie-ins also help educate consumers as to additional uses for tropical fruits.

6. Consumer information. Provide buyers with information that consumers expect, such as ripening techniques, typical uses, preparation methods and recipes. These materials may be distributed in the form of ready-to-use point-of-sale materials that can be distributed to consumers, or they may be included in concise instructions to produce handlers that stress “what your customers need to know about . . . .” The brochure “Tastess of the Tropics” is an excellent means of communicating basic information to the trade and to consumers (Florida Dept. of Agr. and Consumer Services, 1993).

7. Display contests. Encourage retailers to promote tropical fruit by sponsoring display contests with prizes and recognition for winners. Although this method is effective, it is also costly.

8. Paid advertising. Place informational ads in leading trade journals, particularly those that are produce-oriented such as The Packer and The Produce News. Advertising can make potential buyers aware of fruit availability and identities of shippers and their sales staff.

9. Trade directories. As a shipper, make your presence known by getting listed in trade directories, such as The Blue
Book and The Red Book, and membership directories of organizations such as the United Fresh Fruit and Vegetable Association and the Produce Marketing Association.

10. Direct mail, fax, or e-mail. Remind past customers of seasonal availability of fruit by direct mail, fax, or e-mail. Alert them to the beginning of the season and to impending peak supply periods. Most chain stores need at least two or three weeks’ notice to include items in their merchandising plans. Avoid the use of faxes to firms that are not regular customers; many business people resent unsolicited faxes that tie up their machines and increase their operating costs. The same is true for e-mail. The practice of sending unsolicited e-mail, commonly called “spamming,” is an aggravation for many people. If e-mail is used, the potential customer should be given the opportunity to be removed from the e-mail distribution list at once, or the e-mail communication may do more harm than good to the sender’s reputation.

11. Promotional kit. Develop a comprehensive retail promotional kit containing commonly used materials, such as price cards, shelf talkers, recipes, nutritional brochures, posters, ad slicks, etc. Be sure to specify “Florida” on all materials.

12. Videotapes. Provide wholesalers and retailers with a training video that incorporates basic product information and the merchandising suggestions described above. The videotape “Tropical Fruit” is excellent, but additional detail is needed on some types of fruit (Florida Dept. of Agr. and Consumer Services, 1997).

Educational Programs and Promotional Materials Directed to Consumers

There are many kinds of materials that can be used at retail stores and other venues to educate consumers and to stimulate sales. In retail stores, a combination of materials and methods often works best. Several activities are recommended if resources are available.

1. In-store demonstrations. In-store “demos” are particularly effective in getting customers to try and buy new food products. Customers typically receive a product sample and usually get verbal and written information about the product as well. In-store demonstrations are very effective, but also quite costly.

2. Point-of-sale materials. Price cards, posters, die-cuts, brochures, recipes, and videotapes are effective ways to get the attention of retailers and consumers. High-quality materials (good stock, full-color) items are most likely to be used by retailers. Price cards should be 7” x 11” or smaller. Poster size is not critical; they can be 24” x 36” and will likely be used in a multiproduct tropical fruit display. Multiple die-cuts are frequently used in creating larger displays. Bi-fold or tri-fold brochures can convey a lot of information, but displaying them can be problematic. Recipes, on standard 3” x 5” stock and in pads, are usually welcomed by retailers. Recipe cards can also contain information on ripening, storage, and nutritional composition. Informational brochures are sometimes developed by wholesalers and retailers in-house; such firms welcome factual information from growers and shippers. Videotapes should also contain information on ripening, storage, uses, and nutrition. However, recipes, unless extremely simple, should be left to a printed format in the interest of brevity and convenience.

3. A tropical fruit website. The Internet is a rapidly growing communication medium. The proliferation of personal computers in offices and homes makes this an effective way to communicate with consumers, many of them highly educated and affluent. A home page can be established for as little as $100. Monthly server fees and maintenance costs for a modest site average about $100, but these fees depend on the complexity of the home page design and the number of hits (site visitors). A web site could contain color photographs of tropical fruits, basic information on sources (individual Florida shippers), availability, storage, ripening, and recipes. Depending on the design of the site, visitors can also place orders for fruit or request additional information.

In conclusion, the preceding market development recommendations focus primarily on traditional, commercial marketing channels. Small-scale producers of tropical fruits may want to consider other marketing channels, particularly direct marketing to consumers via the Internet, cooperative ventures with established gift fruit shippers, or direct sales at “green markets,” or farmers’ markets. While direct marketing may provide acceptable sales levels for small firms, larger firms will most likely have to face the challenges of the traditional commercial market.

Literature Cited