

SURVEY ON THE MARKETING OF FRESH CHILE PEPPERS

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Abstract. Produce buyers in supermarkets and wholesale houses were surveyed in 1996 and 1997 to determine current and potential demands for chile peppers (*Capsicum spp.*) Buyers ranked jalapeño, serrano, Anaheim, and poblano as the top four chile peppers sold by volume. Demand for jalapeño, serrano, Anaheim, and poblano averaged 12,242, 10,622, 2,235 and 1,786 lb/week, respectively. Customer demand for the top seven products were being adequately met. The highest priced chile peppers at the retail level were, in order from highest to lowest, habanero, jalapeño and serrano, poblano and Anaheim. Twenty-six percent of respondents indicated discontinued sales of one or more types of chile peppers. Sales of poblano, serrano, and red cherry hot were most frequently discontinued. Buyers indicated jalapeño, Anaheim, serrano, Cubanelle, and habanero as the best potentials for single tray-pack combinations. To educate their customers about chile peppers, buyers suggested labels with recipes and a "heat meter" to determine "hotness." Hispanics, Asians and people of Caribbean and African heritage were more frequently targeted for sales of chile peppers.

The purpose of this survey was to determine the market demand for selected chile pepper varieties. Understanding market demands could improve the growers' ability to get the right product to their buyers.

There are as many as 150 to 200 different varieties of chile peppers that have been positively identified (Miller, 1991). Chile peppers are usually classified by fruit characteristics, i.e., color, size, shape, pungency, use, and flavor (Bosland, 1992); (Produce Availability & Merchandising Guide, 1997). Chile pepper production represents one of the fastest growing specialty produce markets in the U.S. From 1992 through 1996, U.S. production of chile pepper rose by 144%, from 287,1000cwt to 414,1000 cwt (USDA Market Reports, 1992 - 1996). Per capita use of chile peppers has about doubled since 1980. On a fresh-weight basis, the United States now uses more chile peppers (6.9 pounds per person) than many traditional vegetables including asparagus (1.0 lb), cauliflower (3.0 lb), and green peas (4.2 lb) (Lucier and Greene, 1993). In 1995 and 1996, an estimated 72% of consumers purchased chile peppers, compared to 91%, who purchased bell peppers. Between 1995 and 1997, the routine use of fresh chile peppers in consumers diets rose from 18 to 22% (Fresh Trends, 1997).

Increasing demand for chile peppers is due to a number of factors, including: the changing American diet with an emphasis on variety and nutrition; the quest for alternative seasonings to maintain flavor when sodium is reduced; the

growing influence of U.S. Latino and Hispanic populations where chiles have traditionally been consumed; and the wider use of chile pepper in manufacturing salsa and other condiments (Lucier and Greene, 1993). However, while the demand for chile peppers grows, chile pepper growers are often undecided as to the best variety to plant. Growers must be careful to grow the right chile peppers for flavor, size, color, pungency, expected price, and for possible use in new marketing techniques, such as combination pack. Combination pack is the presentation of various varieties in one pack to extend the use of the purchase by additional colors, flavor, and pungency.

Materials and Methods

In September of 1996, the survey on the marketing of fresh chile peppers was sent to 250 chile pepper buyers in wholesale and retail outlets throughout the country. The buyers and their respective companies were chosen at random and represented a mix of brokers, produce houses, and supermarkets. All names and addresses were taken from the July 1997 edition of "Red Book Credit Services" (The Red Book, July 1997). Twenty-nine surveys were returned through surface or fax mail. Ten respondents answered "no" when asked "do you sell chile peppers?", and did not proceed with the survey. Nineteen surveys were returned completed.

In January of 1997, the survey was again sent to those previously unresponsive. Another ten surveys were returned completed for a total of 29 positive responses.

Among other questions, survey takers were directed to indicate their top three selling varieties and the quantities sold. Top three varieties were also indicated for highest valued varieties, those varieties not sold but possibly considered for sales and varietal selections for single tray-pack. For this reason, the percentage of respondents often exceeded 100 percent.

Results and Discussion

Great variation in size of operation existed among businesses (Fig. 1). Respondents from supermarkets represented 56.6% of those surveyed and were affiliated with 4,082 stores. In the extreme, two individuals supplied 1,000 stores each and one respondent supplied two stores. Wholesalers represented 19.2% of respondents, supplying 845 produce houses. Brokers were 12.1% of respondents. A fourth group of buyers, representing supermarkets and wholesalers, made up another 12.1% of respondents and supplied 262 stores and produce houses.

To determine if possible niches exist for particular varieties, those surveyed were asked to list the fastest selling varieties, the actual and desired quantities sold, the months when shortage occur, and the highest priced varieties.

The fastest selling chile pepper varieties were determined by ranked choices and the actual pounds per week of each variety sold. Eighty-nine percent of buyers selected jalapeño as the fastest selling variety, followed by serrano, Anaheim, poblano, habanero and Hungarian wax ranked equally, and Cu-

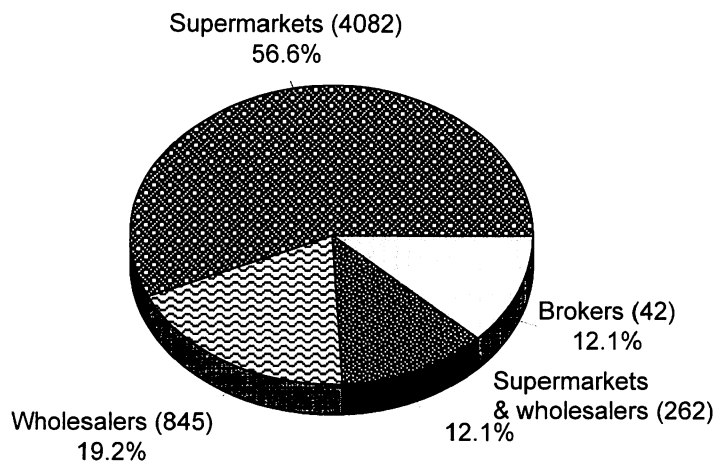


Figure 1. Areas of business and numbers of facilities represented by respondents.

banelle; 41, 28, 21, 17, 17, and 16%, respectively (Table 1). This ranking is supported by quantities of peppers sold. The average weekly quantities sold for jalapeño, serrano, and Anaheim were 12,242, 10,622 and 2,235 lb, respectively, and 616, 601, and 338 lb for habanero, Hungarian wax and Cubanelle, respectively. When asked the actual quantities of each variety desired, there was little or no indication of a lack of supply (Table 1). Apparently, consumers demand for the top seven chile pepper varieties is being adequately met.

However, when shortages did occur, May through July were more often the months of perceived shortages.

Jalapeño, the top selling chile pepper, is known for its mild vegetable flavor making it desirable for a wide range of dishes including salsa, guacamole, salad, and many Mexican dishes. It is bright medium to dark green, tapering to a rounded end, and measuring about 2 to 3 in. long and 1 to 1½ inch diameter.

The highest priced chile peppers at the retail level were, in order from highest to lowest, habanero, jalapeño and serrano ranked equally, poblano, and Anaheim (Fig. 2). Forty-one, 27, 27, 17, and 10%, respectively, as indicated by respondents.

Habanero is a dark green to orange, orange-red, or red pepper when fully ripe. It is the hottest of any chile grown worldwide. It has an estimated "heat" 60 to 90 times greater than jalapeño as measured by Scoville heat units. It has a distinctive flavor reminiscent of tropical fruit tones.

Sales of some chile peppers were discontinued. Most notably, poblano, serrano, and red cherry. Twenty-seven percent of respondents indicated discontinued sales of those and other varieties. Ten percent ceased the sale of poblano mainly

Table 1. Actual and desired demands for the top seven chile pepper varieties.

Chile pepper varieties	Fastest sellers (% respondents)	Actual quantities (lb/wk)	Desired quantities (lb/wk)
Jalapeño	89	12241	12346
Serrano	41	10622	10551
Anaheim	28	2235	2389
Poblano	21	1786	1786
Habanero	17	616	616
Hungarian wax	17	601	601
Cubanelle	16	338	393

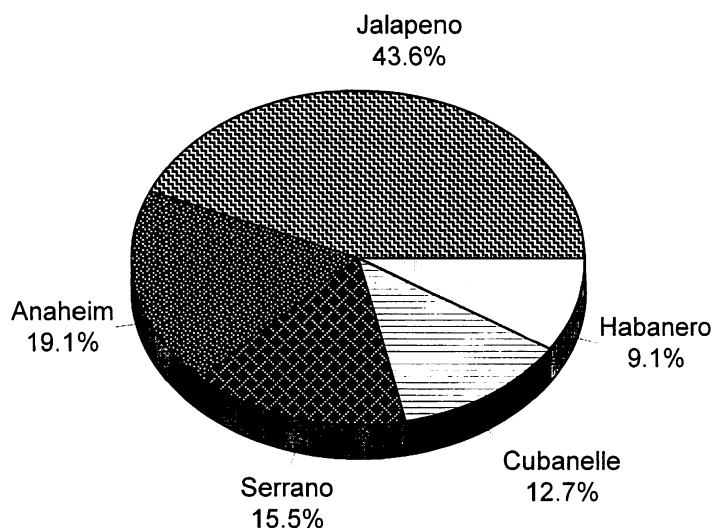


Figure 2. Chile pepper cultivars preferred in a single tray-pack combination.

because of short shelf-life. Seven percent indicated discontinued sales each of serrano and red cherry varieties.

Combination pack is already used for a variety of fresh produce, most notable the mixing of leafy vegetables for salad. In south Florida, habanero and Hungarian wax chile peppers are sometimes found singularly in small packs and not in combination with other varieties. Marketing chile peppers in combination pack may provide an additional marketing tool.

Buyers indicated jalapeño, Anaheim, serrano, Cubanelle and habanero as the best potentials for combination packs. They were preferred by 43.6, 19.1, 15.5, 12.7, and 9.1% of respondents, respectively (Fig. 2). Combinations of green/red, green/yellow and green/orange were preferred by 17, 14.5 and 3.5%, respectively, of those responding.

When asked to make marketing suggestion only 7% thought combination packs would improve sales. Recipe display was thought to be the most useful marketing tool (17%), followed by the use of a "heat meter" to determine "hotness" (14%).

Hispanic customers were most targeted (59%) for chile pepper sales by respondents (Table 2). Thirty-one percent of respondents targeted Asian customers, while African and Caribbean customers were the deliberate focus of 24% of respondents.

The demand for chile pepper is still increasing. Nationally, jalapeño is the best-selling variety sold by 89% of respondents. Habanero is the most highly priced of all chile pepper varieties sold. However, buyers gave no indication for a surge in the supply of fresh chile peppers. Immediate increased demand for fresh chile peppers may be closely tied to ethnic groups, particularly Hispanic, Asian, African, and Caribbean

Table 2. Customers targeted by ethnicity for fresh chile pepper purchase.

Target ethnicity	Percent
Hispanic	59
Asian	31
African/Caribbean	24
East Indian	17
American born	14

Total exceeds 100% - most buyers target more than one ethnic group.

groups. However, American born consumers will continue to contribute toward long term market potential. Increased demand will have to be accompanied by innovative marketing techniques, such as combination packs, recipe enclosures, and general consumer education. Florida growers should consider the production of habanero and Hungarian wax to meet potential market demand from May through July and become more involved in the retail display of their products.

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PERFORMANCE OF BELL PEPPER VARIETIES OVER SEVEN SEQUENTIAL PLANTINGS IN SOUTHEAST FLORIDA, 1996-97¹

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Abstract. Beginning in September 1996, seven plantings of from 17 to 23 bell pepper varieties were made at approximately monthly intervals during the 1996-97 growing season. The plantings were located at seven different farms in the Palm Beach County production area. The peppers were grown from transplants under full bed plastic mulch culture using subsurface seepage irrigation. Green peppers were evaluated from two to three blocks and an additional block was reserved for the evaluation of colored fruit (mature pepper). Peppers were evaluated for yield and average fruit size. Randomly selected fruits were also evaluated for length and width, lobe number, and bluntness at the blossom end. Mature (colored) fruits were counted, weighed, and evaluated for deformities, etc. Incidence of bacterial spot was low and plants were not rated for the disease.

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Introduction

The value of fresh market green bell peppers was \$185.7 million for the 1995-96 season (Fla. Agric. Stat. Serv., 1997). During that season 19.0 million 28-lb bushels were harvested from 20,300 acres for an average yield of 937 bushels per acre. The average price per bushel was \$9.76. Pepper production is concentrated in south Florida with 28% (5,600 acres) being produced in Eastern Palm Beach County.

Bacterial spot, caused by *Xanthomonas compestris* pv. *vesicatoria*, is one of the most widespread and serious diseases affecting production of pepper in Florida (Pohronezny et al., 1993). Pepper varieties with resistance to races 1, 2, and 3 of the pathogen are now commercially available and seed companies continue to develop new cultivars with resistance to this disease (Shuler, 1994, 1995, 1996). A series of variety demonstrations were conducted to compare yield potential and plant and fruit characteristics of bell pepper varieties grown sequentially throughout the 1996-97 season (Shuler, 1997).

Materials and Methods

All varieties used were resistant to bacterial spot races 1, 2, and 3 except PR 93-2-1 (resistant to race 2 only) and Hybrid 860 (no resistance). Varieties were replicated in a randomized complete block design with either two or three replications for evaluation of green peppers (immature) and one block for evaluation of colored (mature) peppers. Blocks were single raised beds which had been fumigated with methyl bromide and covered with polyethylene mulch. Transplants were set two rows per bed in rows 18 inches apart. Subsurface seepage irrigation was used. Color of plastic used, bed spacing, within-row plant spacing, plant population, and staking and tying varied with the grower (Table 1). Diseases and insects were managed by the growers.