

Evolving Marketing Channels Reveal Dynamic U.S. Produce Industry

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Sales of fresh fruits and vegetables to U.S. consumers through supermarkets and other retail stores, through meals and snacks eaten in foodservice establishments, and through direct sales by farmers were \$70.8 billion in 1997, up from \$34.6 billion a decade earlier. Supermarket produce departments have expanded dramatically, increasing from an average of 173 items in 1987 to 335 in 1997. Many of these items—prepackaged salads, cilantro, and bok choy—reflect consumers' demand for added convenience, variety, and ethnic items.

Growing consumer demand for fresh fruits and vegetables and the changing structure of produce wholesalers and retailers have affected how produce travels from the farmer to the consumer. Both wholesalers and retailers have significantly consolidated as they have attempted to take advantage of economies of size in procurement and information technologies (see "Grocery Retailers Demonstrate Urge To Merge" elsewhere in this issue). More produce is being shipped directly from grower/shippers to large retailers that operate

their own distribution centers, while less produce is shipped to wholesalers at central produce markets (terminal markets) in major cities. Within retailing, the amount of produce sold through discount mass merchandisers, such as Wal-Mart supercenters, has increased from almost nothing in 1987 to \$1.3 billion in 1997.

Produce sales are also shifting from retail stores to foodservice operators. During the past decade, retail stores' share of total produce sales to consumers fell from 63.6 percent in 1987 to 48.4 percent in 1997 (fig. 1). The share of produce

sales to consumers accounted for by the foodservice sector, in contrast, rose from 34.7 percent to 50.0 percent. The share of consumer sales through direct markets remained nearly constant at about 1.6 percent.

Health Concerns and Convenience Boost Consumption

Several factors account for the dramatic rise in consumption of fresh fruits and vegetables. Federal agencies, private health organizations, and produce companies have



Packaged salads—washed, precut, and ready to eat—answer consumers' cry for convenience and have helped boost fresh produce sales.

Credit: Ken Hammond, USDA.

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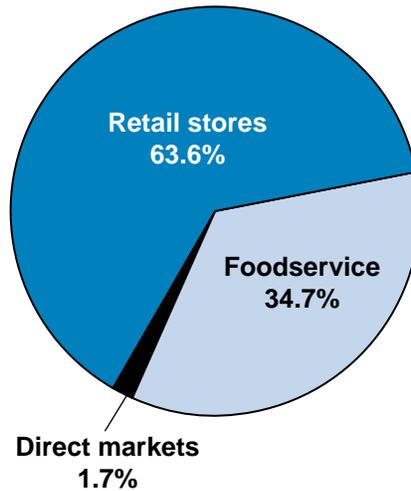
encouraged Americans to increase consumption of fruits and vegetables. For example, the Food Guide Pyramid, nutritional recommendations developed by the U.S. Departments of Agriculture and Health and Human Services, advises Americans to eat five to nine servings of fruits and vegetables per day. Campaigns like the Produce for Better Health Foundation's 5-A-Day program also seek to inform consumers of produce's health benefits. Improved quality, increased variety, and year-round availability have also boosted consumption of fresh fruits and vegetables.

Another factor contributing to rising consumption of fresh fruits and vegetables is the produce industry's effective response to consumers' and foodservice managers' demand for convenience. Packaged and pre-cut vegetables and fruits are occupying more shelf space in the produce department as they continue to gain acceptance by consumers. Supermarket executives reported that packaged salads accounted for 9.7 percent of total produce department sales in 1997, up from 4.1 percent in 1994, and no reported sales in 1987. Fresh-cut produce (such as peeled baby carrots and cut melon) is growing rapidly and accounted for 5.2 percent of produce department sales in 1997.

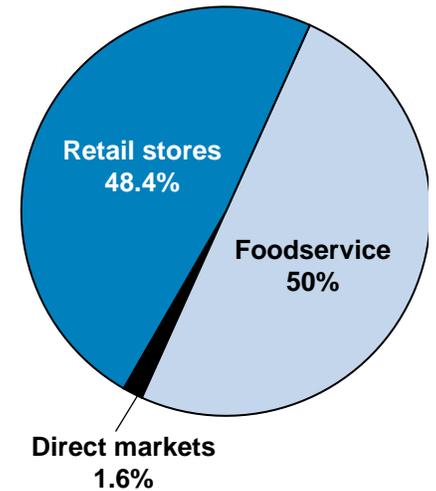
Restaurants, fast food outlets, and other foodservice operators are seeking to reduce labor costs associated with food preparation by increasing their purchases of prepared, trimmed, and cut produce that is ready to use. Many of these new value-added products for retail and foodservice markets have been introduced since 1987.

Consumption of fresh fruits and vegetables has increased by 12.3 percent over the period 1987-97 to 318.8 pounds per capita (table 1). Americans also consumed an additional 391.9 pounds per capita of canned and frozen fruits and vegetables. Consumption of fresh fruit

Figure 1
Retail Stores Had the Largest Share of Produce Sales to Consumers in 1987...



...But, Foodservice Had the Largest Share in 1997



Source: Figure 2.

Table 1
Per Capita Consumption of Fresh Fruits and Vegetables Increased 12.3 Percent Between 1987 and 1997

Product	1987	1997	Percentage change
	Pounds per person		
Total fresh fruits and vegetables	284.0	318.8	12.3
Fresh fruits	121.6	133.2	9.5
Fresh vegetables	162.4	185.6	14.3

Source: U.S. Department of Agriculture, Economic Research Service, *Fruit and Tree Nuts Situation and Outlook Yearbook*, 1999, and *Vegetables and Specialties Situation and Outlook Yearbook*, 1999.

increased from 121.6 pounds in 1987 to 133.2 pounds in 1997. The fresh fruits with the highest consumption in both 1987 and 1997 were bananas, apples, and watermelons. Per capita consumption estimates can overstate actual consumption because they include spoilage and waste accumulated through the marketing system and in the home.

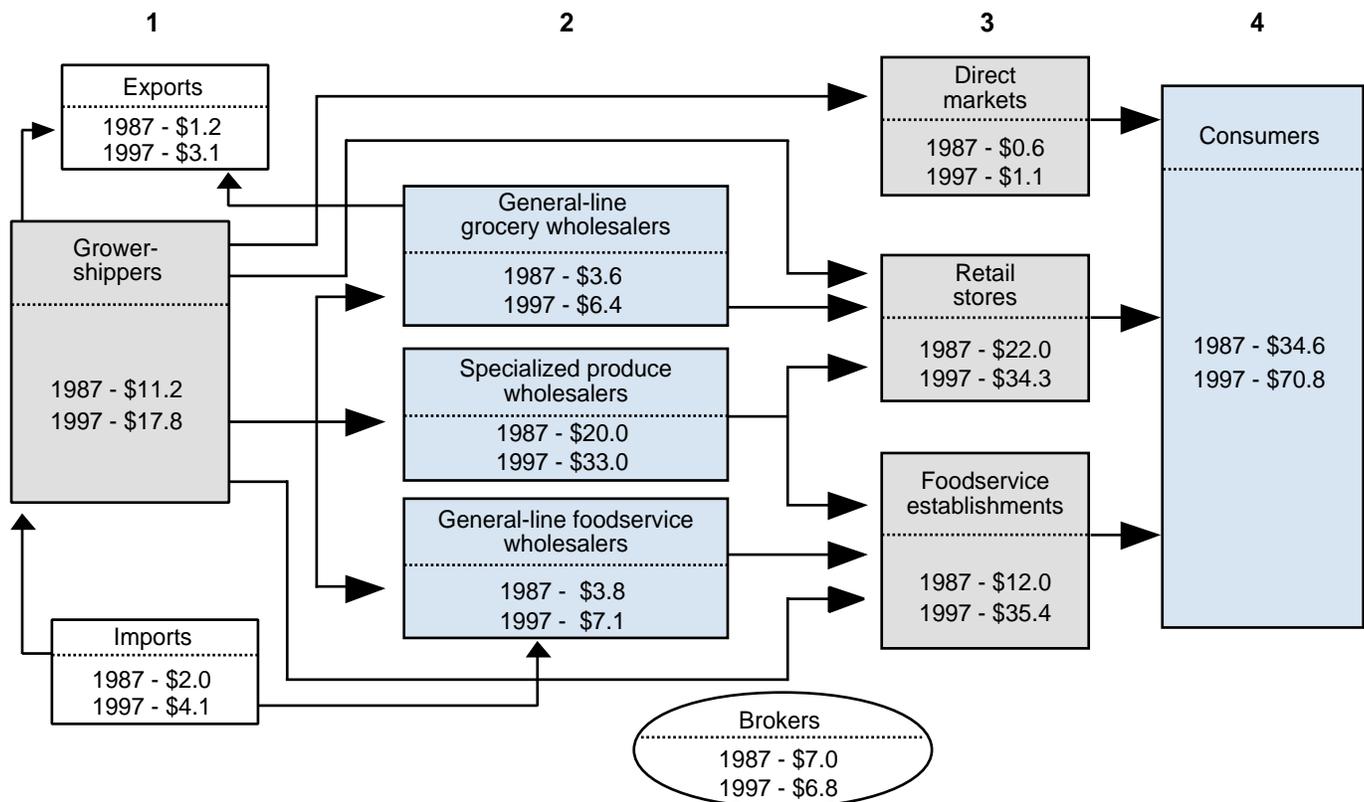
Per capita consumption of fresh vegetables rose even more significantly, from 162.4 pounds in 1987 to 185.6 pounds in 1997. The three

most highly consumed fresh vegetables in 1987 were potatoes, lettuce, and tomatoes, while in 1997, onions beat out tomatoes.

Along with the increases in fresh fruit and vegetable consumption in the last 10 years, the diversity of produce items has expanded. With the introduction of fresh-cut carrots, per capita consumption of fresh-market carrots increased from 8.3 pounds in 1987 to 14.4 pounds in 1997. Traditional varieties of some commodities have lost market share to specialty varieties. For example,

Figure 2

Fresh Fruits and Vegetables Move Through Four Primary Marketing Channels



Note: All values are in billion dollars.

Sources: Census of Wholesale Trade; Census of Retail Trade *Blue Book*, 1997; McLaughlin and others, 1998.

per capita consumption of iceberg lettuce fell by 1.4 pounds between 1987 and 1997, while per capita consumption of romaine and leaf lettuces increased 3.6 pounds during the same period.

New Data Reveal Changes in Produce Marketing

A number of different, often competing, industries form the produce distribution system that procures, packs, ships, warehouses, facilitates transactions between buyers and sellers, and distributes produce to local retailers and foodservice operators.

Produce moves through four primary marketing channels on its way from the grower-shipper to final consumer—grower-shippers, wholesalers, retailers, and consumers (fig. 2). (Grower-shippers own the packing sheds that assemble, wash, and pack produce. A grower-shipper may handle produce bought from other growers, along with his or her own crops.) In addition to these four major channels, produce also moves through export and import channels and through direct markets that include farm stands, farmers' markets, and mail order companies (see box). Not all fresh fruits and vegetables move through each channel. For example, some imported fruits and vegetables are shipped directly to wholesalers,

bypassing U.S. grower-shippers altogether.

Grower-Shippers Harvest, Package, and Ship Produce

After harvesting, fresh produce moves through various handling and packing activities performed either by a produce shipper or by the grower. For example, bulk lettuce is often washed and packaged in the field. These handling and packing costs are added to the growing cost to derive the total value of fresh produce at the grower-shipper level.

To arrive at a total value for the U.S. market, we must account for imports and exports. The value of imports of fresh fruits and vegetables equaled \$4.1 billion in 1997, a 105-percent increase over 1987's total of \$2.0 billion. Both grower-shippers and merchant wholesalers import produce for domestic use. Researchers at Cornell University estimate that, in 1997, \$2.6 billion worth of produce was imported by grower-shippers and \$1.5 billion worth was imported directly by wholesalers.

Exports by both grower-shippers and merchant wholesalers were valued at \$3.1 billion in 1997, up 158 percent over 1987. The net value of produce imports minus exports in 1997 by grower-shippers was approximately \$1.0 billion, which, when added to domestic production of \$16.8 billion, gives a total value of \$17.8 billion for fresh fruits and vegetables entering the U.S. distribution system from growers and shippers. A decade earlier, this total was about \$11.2 billion.

Wholesalers Deliver Produce to Individual Stores and Restaurants

Grower-shippers serve a number of domestic produce customers, including wholesalers, self-distributing retailers, foodservice firms, and direct markets. Wholesalers serve as the next vertical stage in produce distribution, purchasing about 35 percent of total grower-shippers' volume. Wholesale produce sales in 1997 reached an estimated \$53.3 billion, an increase of 54.7 percent over 1987 sales.

There are two basic types of wholesalers—merchant wholesalers and brokers. The majority of wholesalers are merchant wholesalers who take title to the product that they handle. Brokers do not take ownership of the produce but rather



Growing consumer demand for fresh fruits and vegetables is reflected in U.S. retail stores. Supermarket produce departments stocked an average of 335 items in 1997, up dramatically from the 173 items in 1987.

Credit: Ken Hammond, USDA.

serve as an intermediary on behalf of either a grower-shipper attempting to sell produce or a wholesale or retail buyer of produce. Merchant wholesalers had estimated sales of \$46.5 billion in 1997, an increase of 69.5 percent, while broker sales amounted to an estimated \$6.8 billion, a 2.9-percent decrease since 1987. Although wholesale brokers still serve an important role in the produce market channels, they have declined in number, and their share of total wholesaler channel sales has declined as well, as larger grower-shippers deal more directly with larger retail buyers.

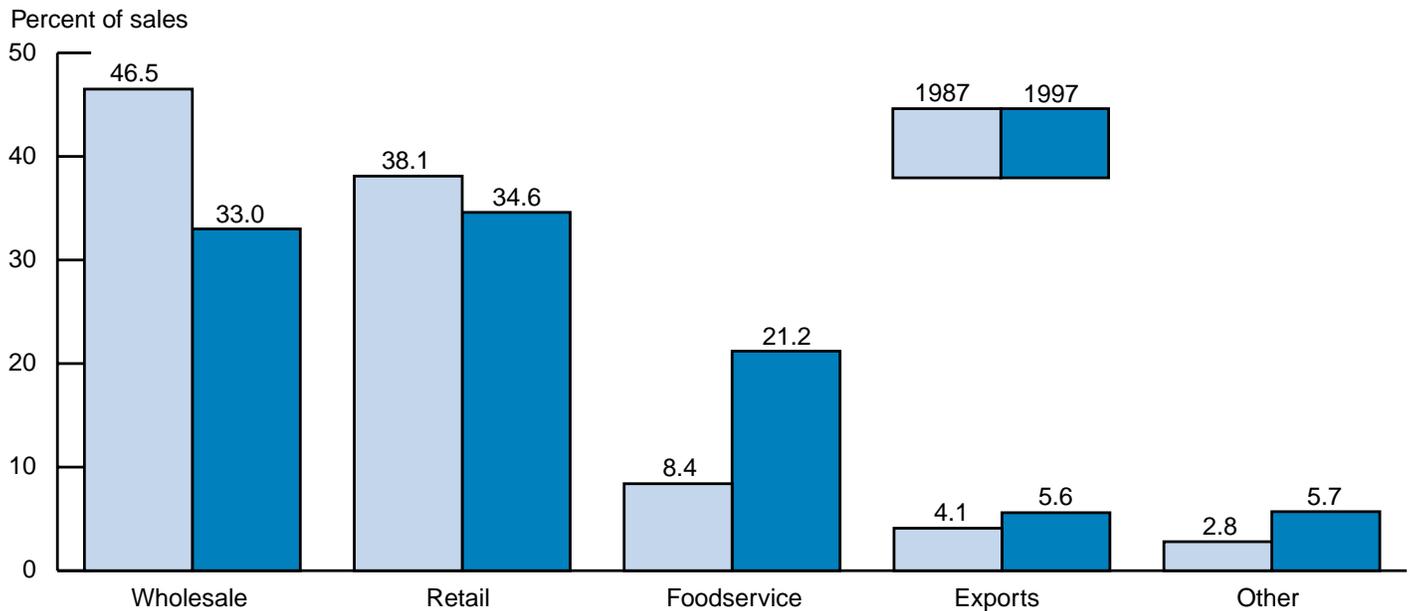
Merchant wholesalers consist of general-line grocery wholesalers, general-line foodservice wholesalers, and specialized fresh fruit and vegetable wholesalers. General-line grocery wholesalers procure grocery products, both food and nonfood, for individual stores or smaller retail chains that are too small to own and operate produce-buying offices, warehouses, and trucking fleets. General-line foodservice wholesalers serve foodservice establishments such as restaurants,

hospitals, schools, and hotels and handle products specifically for foodservice use. Some of the largest foodservice wholesalers, Sysco and Alliant for example, carry a broad range of products including paper

Growers Also Sell Directly to Consumers

A minor but increasingly important share of fresh produce sales is transacted directly between the producer and consumer. Farm stands and stores, pick-your-own operations, roadside stands, farmers' markets, and mail order sales are ways growers market their produce directly to consumers. Direct sales benefit many smaller growers that are located near population centers. These direct sales are usually on a cash basis and are, therefore, extremely difficult to estimate. Using surveys conducted by Ed McLaughlin and Debra Perosio of Cornell University, we estimate that sales through direct marketing channels reached \$1.1 billion in 1997, compared with \$0.6 billion in 1987.

Figure 3

Share of Wholesalers' Produce Sales to Wholesalers and Retailers Declined in 1997

Source: Census of Wholesale Trade, 1987 and 1997.

supplies and equipment. Foodservice wholesalers handle a growing share of the produce flowing through the system and are an integral part of the produce marketing channel.

In addition to general-line grocery and foodservice wholesalers, specialized produce wholesalers procure and deliver fresh fruits and vegetables to retail stores and foodservice operators. They are often based at produce terminal markets located near large population centers. Specialized produce wholesalers handle the largest share of produce moving through merchant wholesalers.

Wholesalers' Customers Vary

Wholesalers serve a variety of produce customers. However, as produce markets and market channels have evolved, the relative

importance of those customers has changed in the decade since 1987. Foodservice customers and exporters gained in importance, while the share of sales to other wholesalers and to retailers declined (fig. 3).

In 1987, 38.1 percent of all wholesaler produce sales went to retail stores. By 1997, the share of their sales to retailers had actually declined to 34.6 percent. This decline in retailers' share of wholesalers' produce sales reflects the growing importance of large supermarket firms that purchase produce directly from grower-shippers. Retail store executives have reported that an increasing portion of their produce will be purchased in this manner. They predict that by 2004, 51 percent of their purchases will be directly from grower-shippers, up from 41 percent in 1997.

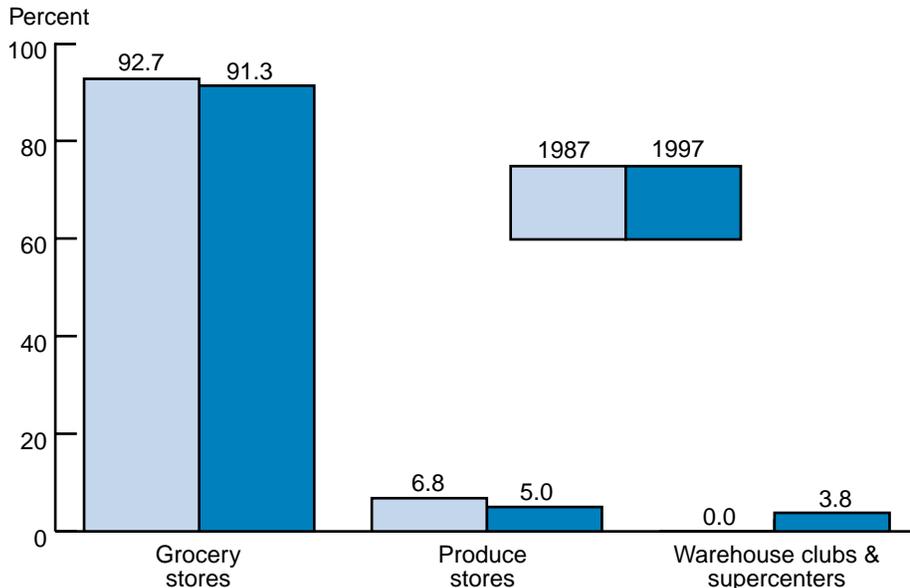
Conversely, the proportion of wholesaler sales to foodservice customers has increased substantially

from 8.4 percent of total wholesaler produce sales in 1987 to 21.2 percent in 1997, as foodservice accounts for a larger share of the consumer's food dollar. What has offset this large increase in sales to the foodservice trade was a decrease in the proportion of sales to other wholesalers. In 1987, wholesalers sold 46.5 percent of their produce to other wholesalers, whereas by 1997, that number is estimated to have dropped to 33.0 percent.

The share of produce sales going to the export market also increased from 4.1 percent in 1987 to 5.6 percent in 1997. The increase in export and import activity has provided additional marketing opportunities for the wholesaler. It is still difficult for food retailing chains to buy produce directly from overseas growers. Therefore, a substantial portion of imports and exports enter and exit the system at the wholesaler

Figure 4

Grocery Stores Accounted for the Largest Share of Produce Sales by Retailers in 1987 and 1997



Source: Census of Wholesale Trade, 1987 and 1997.

level. According to some of the larger wholesalers, imports account for about one-third of their inventory at any one time.

Retailers Acquire More Produce Directly From Grower-Shippers

Retail food stores provide the overwhelming majority of produce purchased for at-home consumption. The 1987 Census of Retail Trade reported \$22.0 billion worth of produce was sold through food stores in 1987. By 1992, produce sales through food stores had increased to \$26.3 billion, an increase of 20 percent. The Census of Retail Trade defines food stores to include supermarkets and general-line grocery stores, convenience stores, delicatessens, and smaller food stores that specialize in products such as fruits and vegetables, meat, retail bakeries, candy, and

dairy. While the number of these small specialty shops is extensive, they account for only 5.3 percent of produce consumed in the United States.

In the early 1990's, another retail phenomenon started emerging. Alternative retail outlets, other than grocery stores, started selling significant amounts of food to consumers. Some of these nontraditional outlets included mass merchandisers, such as Wal-Mart and Kmart, which started opening supercenter stores that housed clothing, small appliances, and other mass-merchandise and supermarket goods, including food, under one roof. In addition, warehouse club stores, such as Sam's and Costco, provided consumers with bare bones store services, but with tremendously discounted prices on goods. In 1992, these mass merchandisers and warehouse stores contributed an estimated \$0.8 billion in produce sales.

By 1997, food stores still retained the majority of food, and produce, sales. Mass merchandisers, however,

were increasing their food sales exponentially and were opening supercenter stores at a rapid rate. When combined with warehouse club sales, nontraditional stores accounted for \$1.3 billion worth of produce sales in 1997. Produce sales from food stores were estimated at \$33.0 billion in 1997.

The importance of the emerging, nontraditional retail food outlets is better viewed by looking at each outlet's share of total sales (fig. 4). In 1987, when wholesale club stores were just emerging, they carried no produce or other perishables and focused on providing discounted prices on bulk, dry groceries. National mass merchandisers had not yet built their supercenter formats. Supermarkets and other general-line grocery stores dominated food sales and sold approximately 92.7 percent of all produce sold through retail outlets. The remaining produce retail sales were through fruit and vegetable specialty stores (6.8 percent) and other specialty food stores (0.5 percent).

By 1997, however, warehouse clubs had added perishables, including produce, to their mix of products. Warehouse club stores sold 1.7 percent of all produce sold through retail stores in 1997, while mass merchandisers accounted for 2.1 percent.

Although sales of traditional food stores grew as well, nontraditional stores' sales grew faster, increasing the proportion of sales through mass merchandisers and wholesale clubs to 3.8 percent. Food stores sold 96.2 percent of retail produce sales in 1997, down from 100 percent in 1987.

Foodservice Accounts for Growing Share of Produce Sales

Foodservice establishments are another important outlet for pro-

duce sales to consumers. Consumers purchased an estimated \$35.4 billion worth of fresh fruits and vegetables from fast food restaurants, white tablecloth dining, college cafeterias, and other foodservice establishments in 1997. The foodservice industry is highly fragmented with operations ranging from individual restaurants to fast food chains to hospital cafeterias. Because of this tremendous diversity, it is extremely difficult to use averages to describe the industry. In light of the increase in away-from-home eating, however, it is important to provide an estimate of the sales of produce through this channel.

When produce is purchased from foodservice, it is almost always purchased as part of a complete meal, already transformed substantially from individual commodities to a cut, primped, and prepared dish. In addition, typical margins added to food costs are much higher than in foodstores, due to the larger services component of the meal.

Placing a value on that portion of the meal or dish derived from produce is therefore extremely difficult. R. Brian How of Cornell University estimated foodservice sales of fresh fruits and vegetables in 1987 to be \$12.0 billion. In 1997, Ed McLaugh-

lin and others at Cornell reported that 11 percent of food costs for the foodservice industry was for produce. Applying this 11 percent to total foodservice sales results in approximately \$35.4 billion in produce sales in 1997, an increase of 195 percent since 1987.

As packaging technology (and thus shelf-life) improves, more produce will be washed, peeled, pre-cut, and packaged for greater convenience and ease of use. Supermarket and supercenter produce departments will continue to get larger—both in terms of total store space share and number of items stocked. Supercenters will continue their rapid growth—nearly 300 additional supercenters have entered the market since 1997. Still, the share of produce sold through the foodservice sector will likely increase as more meals and snacks are consumed away from home.

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