Shipper/Retailer Transactions

This section reports on the findings from the shipper and retailer interviews. The interview questionnaire and responses to questions varied by firm, commodity, and geographic region, so not all information is available for all firms. Also, depending on how the interview questions were asked, we sometimes have information for lettuce/bagged salad shippers combined and sometimes for predominantly lettuce shippers versus predominantly bagged salad shippers.

Marketing Channels

Produce shippers have a wide range of potential buyers, including conventional retailers, mass merchandisers, wholesalers, distributors, repackers, and foodservice buyers; products may also be sold in export channels (see box, "Produce Marketing Channels"). Brokers may assist in arranging transactions between any type of buyer or seller. Marketing channels used by shippers are not identical to marketing channels serving the final user. Because wholesalers, repackers, distributors, and brokers are intermediaries, shipper marketing channels do not necessarily reflect the product's final destination. For example, fresh produce sold through wholesale channels or with the assistance of brokers could be destined for either retail or foodservice users. Hence, the shipper volumes reported here as direct sales to retailers, mass merchandisers, and foodservice buyers underestimate the total shares ultimately being sold to final users of these types. For the entire fresh produce industry in 1997, ERS reports that around 50 percent of final sales were through foodservice outlets (both commercial and noncommercial), 48 percent through retailers, and 2 percent to consumers via farmers' markets or roadside stands (Kaufman et al., 2000b). However, another estimate indicates somewhat different results: 56 percent of fresh produce was sold through retail channels in 1999, while foodservice accounted for 43 percent of total sales, and direct farmer-to-consumer sales were 1 percent of the total (Cook, 2000).

In this section, we examine the share of total sales through various marketing channels for each product sample. The results presented in table 5 reflect the percent of total sales of the selected products marketed through each channel, aggregated across all firms. For example, total grape sales in 1994 amounted to $210.5 million for the firms sampled, of which 58 percent was marketed directly to grocery retailers. In 1999, the

Produce Marketing Channels

Grocery retail channels are defined to include integrated wholesaler-retailers, consisting of the buying operations of corporate chains such as Kroger or Safeway, voluntary chains such as Super-Valu and Fleming, and retail cooperatives like Associated Grocers and Certified Grocers of California. Voluntary chains consist of sponsoring wholesalers who supply independent retailers or small chains and, in some cases, their own stores. Retail cooperatives are essentially member-owned wholesalers, since they consist of groups of retailers who jointly own a central buying and warehousing facility.

Mass merchandisers are supercenters (large general merchandise discount stores with grocery departments) and club stores (membership wholesale clubs). The supercenter format is led by Wal-Mart, with estimated 1999 grocery-equivalent supercenter sales of $15.7 billion and total supercenter sales of $39.1 billion, 56 percent of the total national supercenter industry sales ($69.8 billion). National club store sales totaled $60.7 billion in 1999, divided between Costco (49.3-percent market share), Sam's Club (also owned by Wal-Mart and with a 43-percent market share), and BJ's holding a 6.7-percent market share (The Food Institute, 1999).

Produce wholesalers include those operating in terminal markets, distributors, and tomato repackers. These intermediaries serve retailers, mass merchandisers, and foodservice buyers.

Foodservice buyers sell to restaurants, hospitals, schools, hotels, etc. Commodities going to foodservice destinations can be sold directly to the final user or sold via wholesalers or brokers.

Brokers are agents that negotiate transactions between buyers and sellers without taking title to the merchandise or physically handling the product. In this study, brokers were considered as a separate marketing channel when shippers were unaware of the final destination of the product. In cases where the sale involved a broker and the shipper knew the type of buyer, sales were reported in the channel corresponding to the final buyer type.

Export marketing channels were classified as a single buyer type, regardless of how the shipper exported. Shippers may export directly to importers in other countries or via U.S. wholesalers and brokers, with or without the direct assistance of freight forwarders.

share of total grape sales sold directly to retailers was lower at 55 percent. However, since the combined grape sales volume for the sample firms was higher in 1999 at $255.3 million, the absolute volume being marketed directly to retailers was still $18.3 million more in 1999 than in 1994, despite representing a declining share.

Indeed, while the retail share was essentially either stable or declining for all products, total sales through all channels increased for all products except grapefruit. Hence, the actual value of sales marketed directly to retailers increased over the 5-year period for all commodities except grapefruit and Florida tomatoes. In the case of grapefruit, the declining share moving through retail channels could not be offset by rising total sales since sales declined from $215.9 to $199.5 million between 1994 and 1999. For Florida tomatoes, while total tomato sales of the firms sampled grew from $103.6 to $121.4 million, the share sold directly to retailers declined dramatically from 23 to 3 percent.

Regardless of how marketing channel shares changed over the period in question, direct grocery retail sales still remain the most important domestic marketing channel for sales of all the products studied except California and Florida tomatoes, with the 1999 share ranging from 3 percent for Florida tomatoes to 61 percent for lettuce/bagged salads (table 5).

Several factors likely cause lettuce/bagged salads to have the highest share of product going directly to the retail channel. The lettuce/bagged salad industry is year-round rather than seasonal and has large shippers capable of meeting retailer needs. Bagged salad firms maintain large marketing staffs and have the infrastructure to market directly to retailers. Shippers that sell both bagged salads and commodity lettuce may be more likely to sell lettuce to the same retailers who are buying bagged salads. The high perishability of bagged salads also causes shippers to prefer direct sales in order to maintain the cold chain. This reduces the risk of deviating from ideal temperature control and degrading the quality of the product.

California and Florida tomatoes stand in contrast to the case of lettuce/bagged salads. Unlike most vegetables, tomatoes continue to ripen after they leave the shipper. Shippers generally sell tomatoes to repackers near final consumers, who then generate a uniform pack and sell to retailers, mass merchandisers, foodservice buyers, or other intermediaries. As a result, the dominant marketing channel for both California and Florida tomatoes is

Table 5—Changing use of marketing channels, 1994-99[1]

Product (number of shippers reporting)	Year	Grocery retailers	Mass merchandisers	Wholesalers and distributors	Brokers	Food-service buyers	Exports	Other	Value of sales
				--Percent of total value of sales--					*Million dollars*
Grapes (9)	1994	58	2	15	8	2	10	5	210.5
	1999	55	8	17	7	2	9	2	255.3
Oranges (9)[2]	1994	45	3	16	10	1	25	0	183.1
	1998	44	9	14	6	2	25	0	228.9
Grapefruit (8)[3]	1994	41	0	12	6	2	39	0	215.9
	1999	37	8	11	4	2	38	0	199.5
California tomatoes (10)[4]	1994	26	2	40	21	6	3	2	222.3
	1999	25	2	37	17	15	2	2	235.9
Florida tomatoes (6)	1994	23	0	57	3	4	13	0	103.6
	1999	3	3	67	4	13	10	0	121.4
Lettuce/bagged salads (10)	1994	60	1	16	4	17	2	0	n.a.
	1999	61	3	8	3	23	2	0	n.a.

n.a. = Not available.
[1] Results are based on a limited number of observations and must be interpreted with caution.
[2] Because of a severe freeze in 1999, we base our analysis on the 1998 crop year.
[3] Grapefruit exports reported by this sample of shippers do not reflect the Florida industry trend of increasing volume. The Florida Department of Citrus reports that 54 percent of fresh Florida grapefruit was exported in the 1994/95 season and 59 percent in the 1998/99 season.
[4] Information on 2 repackers is included to provide a more accurate view of how tomatoes are marketed.

Source: Economic Research Service, Produce Marketing Study interviews, 1999-2000, USDA.

the wholesaler/distributor category, which includes repackers (see box, "California and Florida Tomatoes," for more information on marketing).

While the share of Florida tomatoes going to retail was expected to decline, the specific magnitude of the decline may be an artifact of the small sample size. However, there are clearly several factors contributing to the declining trend in retail share experienced by tomatoes. These include the growth of product forms such as greenhouse and vine-ripe tomatoes competing with the market leader, the mature green tomato. During the summer/fall 1999 period, mature green tomatoes accounted for only 31 percent of the total volume of tomatoes sold in a national sample of retail stores (California Tomato Commission, 1999). This loss in competitiveness for mature green tomatoes in the retail market has obliged shippers to move even greater volume through wholesaler/repacker channels and directly to foodservice where buyers value the slicing characteristics of mature green tomatoes. If greenhouse tomato production were more common in California and Florida, the results would show higher retail shares for tomatoes, since greenhouse tomatoes are often sold directly to retailers and mass merchandisers.

Another factor affecting the share sold to retailers is the growth in competition from mass merchandisers. The share of shipper sales to mass merchandisers, although starting from a small base, was up across all commodities (the growth of California tomatoes was less than 1 percentage point), with the largest gains in grapes, oranges, and grapefruit. The competitive effects of mass merchandisers on conventional retailers are evident in that the share of direct sales to conventional retailers was stable or declining in the face of the growth in direct sales to mass merchandisers, consistent with broad food industry trends. Combining mass merchandisers (also retailers) with conventional grocery retailers, the "retail" share of sales increased for every crop considered except California and Florida tomatoes. This broader definition captures the evolving structure of the U.S. food marketplace in which a new type of retailer is playing a greater relative role. Shippers are likely to continue to shift sales away from conventional retailers to mass merchandisers given the higher growth rate of the latter.

For some shippers, a declining share of produce sales to conventional retailers may reflect the relative competitiveness of shippers in retail channels. Some shippers, especially smaller ones, may find it difficult to deal with retailers' large buying requirements and may switch their emphasis to wholesalers or specialty food channels. Several small and medium-sized lettuce shippers mentioned they made a strategic decision to pursue more foodservice business. On the other hand, some shippers, usually larger and extended-season shippers, increased their share of sales to retailers over the last 5 years.

With the exception of tomatoes, shippers used wholesalers and distributors for only 8-17 percent of sales in 1999. The share of sales to wholesalers is higher for California and Florida tomatoes, 37 and 67 percent, since repackers are included in the wholesaler category. Except for Florida tomato and lettuce/bagged salad shippers, the change in share sold to wholesalers from 1994 to 1999 was minor (table 5).

Shippers' use of brokers in 1999 ranged from 3 percent for lettuce/bagged salads to 17 percent for California tomatoes (table 5). Broker use depends in part on the buying practices of grocery retailers since some designate brokers to arrange purchases of certain commodities. Shippers report that where use of brokers has increased, there may be direct cost implications since they, and not the buyer, may be required to pay the brokerage fee. The use of brokers declined from 1994 to 1999 for all products but Florida tomatoes—up less than 1 percentage point.

In another part of the interview, shippers were asked about the reasons behind the changes in broker use and the impact on their businesses. Shippers reported increases, decreases, and no change for use of brokers; both increases and decreases were attributed to retail consolidation. Those shippers that experienced a decrease in the use of brokers generally thought this trend had a beneficial or neutral impact on their business; those that experienced an increase in use were unhappy with the trend.

Given U.S. eating habits, it should be no surprise that the share of sales going directly to foodservice increased for every crop (increases for grapes and grapefruit were less than 1 percentage point). Tomatoes and lettuce/bagged salads have the highest share of sales to foodservice buyers (table 5). Foodservice offers a stable demand for these crops—many hamburgers require a slice of tomato and a leaf of lettuce every week of the year. While the foodservice industry is consolidating, it is still fragmented with much of the fresh produce procured via wholesalers and with the assistance of brokers. Hence, much of the volume moving through wholesale and broker channels may be destined for foodservice users.

California and Florida Tomatoes

The structure of tomato marketing is unique in produce. Tomatoes change color and continue to mature after harvest; consequently, the marketing process is more complicated than for other fresh vegetables. Tomatoes harvested at the mature green stage, the dominant domestic tomato product, are treated with ethylene gas to finish ripening. Some tomatoes, especially greenhouse products, are sold directly to retailers by shippers; however, many tomatoes are shipped from their production regions to repackers or wholesalers to be resorted and repacked at that stage for uniform color and then sold to retailers and foodservice buyers.

California and Florida are the primary sources of fresh domestic tomatoes consumed in the United States. The California marketing season runs from May to December, complementing the Florida season that supplies the market from October through July. The Florida tomato industry is the only source of domestically produced field-grown tomatoes during the winter. In 1999, California produced 31 percent of total U.S. tomato production, up from 28 percent in 1991. In 1999, Florida accounted for 42 percent of domestic production compared with 48 percent in 1991. Two major trends affect tomato markets in both States: a shift in consumer preference away from mature green tomatoes toward other types of tomatoes, and increased foreign competition.

In recent years, the California fresh-market tomato industry has experienced growing production volumes overall. The product mix has changed as the share of mature green tomatoes has decreased in favor of vine-ripe, roma, and small but growing volumes of specialty tomatoes such as orange and yellow, heirloom, grape, and other types of cherry tomatoes. Greenhouse tomatoes are generally not produced in California. Changing consumer preferences for tomatoes have had significant impacts on buyer type. The retail market share for the dominant mature green industry has declined, forcing producers to rely more on the foodservice market, which values the firmness of a mature green tomato for slicing.

The Florida industry, producing almost exclusively mature green tomatoes, has confronted the same changing consumer preferences as its California counterpart. The varieties developed for the Florida climate are apparently better harvested and handled as mature greens rather than vine ripes. For Florida, mature green tomatoes made up 91 percent of the sales of the interviewed firms in 1999, essentially the same as in 1994. Although small amounts of roma, vine-ripe, cherry, grape, and greenhouse tomatoes are grown, there has not been much change in their shares.

In addition to changing consumer preferences, increased foreign competition has had significant impacts on domestic fresh tomato markets. Competition with winter imports from Mexico is one of the most critical factors affecting Florida tomato production. Tomato exports from Sinaloa, Mexico, directly compete with South Florida, where harvested tomato acreage declined 22 percent between 1993/94 (prior to the implementation of NAFTA) and 1998/99. Mexican shippers in Sinaloa produce mainly extended-shelf-life tomatoes that are harvested as vine-ripe tomatoes and are popular with retailers, helping them to gain market share relative to Florida over the last decade. The industry also faces growing competition from domestic and foreign greenhouse tomato production. Canada has gained increased market share and provides the primary source of imports during the California season as well. During California's season, approximately 31 additional States produce tomatoes. In addition to domestic sources, California competes with vine-ripe tomatoes from Baja California, Mexico.

The California tomato shipping industry is concentrated, with only 25 shippers in 1999 and 23 in 2000. Although precise figures on the number of growers and shippers over time are hard to obtain, official statistics are available for the years in which referenda were held on either continuance of the State marketing order or its replacement with a marketing commission. In 1986, there were 48 handlers compared to 31 in 1996. Although the number of shippers is declining, the number of growers actually increased from 209 in 1986 to 284 in 1996, the last year for which a grower count is available. Shipper concentration is estimated to have increased over the last 5 years as firm numbers have continued to decline. The estimated share of total California tomato volume handled by the top four shippers was 36 percent in 1994 compared with an estimated 43 percent in 1999. The share of the top eight shippers was 62 percent in 1994 versus 70 percent in 1999. Hence, the industry has become more concentrated at the shipper level. The industry in Florida had 65 registered handlers of tomatoes in 2000 compared with 59 in 1997/98. However, volume shipped remains concentrated among handlers, with the top 5 accounting for approximately 45 percent of volume, the top 10 accounting for about 70 percent, and the top 20 accounting for approximately 90 percent of the volume. These concentration ratios have changed only marginally over the last 3 years.

Except for citrus, export markets accounted for 10 percent or less of sales in 1999. The share of orange sales going to export markets remained relatively constant at about 25 percent. For the interviewed firms, the share of grapefruit going to export markets was also relatively constant, at 38 percent in 1999 compared with 39 percent in 1994 (table 5). This is a case where the experience of the firms in the sample is not consistent with broader industry experience. The Florida Department of Citrus (1999) reported that 54 percent of fresh Florida grapefruit was exported in the 1994/95 season and 59 percent in the 1998/99 season. On the other hand, grapefruit is the only case where the value of sales for the interviewed firms was less in 1999 than 1994, and this is consistent with Florida statistics (see box, “Florida Grapefruit”).

Retailers also reported changes in the use of different market channels. In the retail interviews, 88 percent of the 17 respondents said they had increased direct purchases from shippers, 71 percent had reduced purchases from produce wholesalers, 71 percent had reduced purchases from distributors or brokers, and 59 percent had reduced produce purchases from terminal wholesale markets. There were no significant differences by size of retailer. Reasons for more direct purchases from shippers included better quality control, better inventory management on the part of shippers, and lower product cost.

Number of Regular Customers

The average number of regular buyers in 1999 ranged from 78 for the grapefruit shippers to 367 for the lettuce/bagged salad shippers (table 6). To identify trends with shippers’ ongoing customer bases, in most cases we asked shippers to define regular buyers as those with at least $15,000 in annual purchases. This threshold was selected after interviews with shippers showed it to be a common internal measure for identifying regular customers. Findings on both the number of regular buyers and changes in the concentration of sales are for the shippers’ total sales (for example, all sales of grape shippers, not just their grape sales) and reflect changes in sales to all buyer types, not just retailers.

If retailers consolidate, overall there should be fewer buyers, all else being equal. But other factors beside retail consolidation affect the number of buyers per shipper. Some firms never sold much to retailers because of technical issues in postharvest handling of their key commodities, as in the case of tomato shippers, so were affected less by retail consolidation. Many firms reported that while the total number of customers had not changed much in the last 5 years, they had different types of customers, which had altered their ways of doing business. Both foodservice buyers and mass merchandisers have provided other outlets for shippers. Smaller shippers, unable to supply the volume requirements of large retail buyers, have pursued various niche markets. Specialized retail outlets such as organic and health food stores are also important buyers. Some firms may have had a change in the number of buyers due to a decision to abandon a product line. Consolidation within the shipping industry could also increase the average number of buyers per shipper. For example, products with more consolidated shipper structures, such as bagged salads, tend to have more buyers, as fewer firms are supplying most of the potential buyers.

Table 6—Number of buyers in 1999 and changes in number of buyers between 1994 and 1999[1]

Item	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce/ bagged salads
				Number		
Average number of regular buyers in 1999	171	198	78	118	84	367
				Percent		
Average change for individual shippers in number of regular buyers between 1994 and 1999	7	-12	9	-4	-9	n.a.
				Number		
Firms with increase, no change, or decrease in number of regular buyers between 1994 and 1999[2]	4,1,4	2,1,5	5,1,2	2,3,5	3,0,3	4,3,7

n.a. = Not available.
[1] Results are based on a limited number of observations and must be interpreted with caution.
[2] Number of firms reporting an increase, followed by the number reporting no change and a decrease.

Source: Economic Research Service, Produce Marketing Study interviews, 1999-2000, USDA.

Florida Grapefruit

Florida grows about 80 percent of U.S. grapefruit production. California, Texas, and Arizona also produce grapefruit. In the grapefruit industry, the most important factors in recent years have been declining domestic demand for fresh grapefruit and oversupply with low grower prices in the 1990's.

Grapefruit are sold in both the fresh and processed (primarily juice) market. On average, from the 1993/94 marketing season (August-June) to 1998/99, 42 percent of Florida grapefruit production went into the fresh market each year. Both white and red (or colored) grapefruit are produced in seedy and seedless varieties, although seedy fruit, which is almost exclusively used for processing, accounts for a much smaller, and declining, portion of the commercial market. Seedless varieties can be sold in the fresh or processing market. Red varieties have accounted for an increasing share of Florida production in the 1990's. Red seedless grapefruit primarily enters the domestic fresh market, although an increasing amount of colored grapefruit has been processed. Fresh white grapefruit is most popular in export markets. White grapefruit is also used in the juice industry.

There were 110 certified grapefruit shippers registered in Florida in 1998/99. The top four packinghouses accounted for 23 percent of volume sold in 1999/2000, compared with 16 percent in 1994/95. Similarly, the top 10 and top 20 packinghouses shipped 44 and 69 percent of the volume in 1999/2000, compared to 34 and 58 percent in the earlier period. These numbers likely underestimate concentration at the shipper level as sales organizations typically market for a number of packing houses.

Grapefruit has undergone periods of overproduction mixed with periodic freezes, resulting in severe supply disruptions. Like all tree fruit industries, the costs associated with exiting production limits season-to-season ability to adjust production levels. Permanent exit entails, at minimum, the cost of tree removal. There are also sunk costs at the packing/processing levels that contribute to continuing problems of excess capacity within the industry. Therefore, even if supply and demand signals are efficiently passed through the market, there are still significant lags in the industry's ability to respond.

Over time in Florida, growers have moved south to locations less vulnerable to freezing. Freezes during the 1980's destroyed almost all the citrus in the northern areas. The need to extend the supply season has also favored increased production in southern areas. The warmer weather of the southern Florida regions allows grapefruit to mature faster and thus supply the early season market.

Availability of other high-quality fruit alternatives has reduced grapefruit consumption. Domestic per capita consumption of fresh grapefruit fell 5 percent between the 1980's and the 1990's. Total domestic shipments of fresh grapefruit have declined in the face of a strong domestic economy, increased population, and expansion of overall fruit consumption. Demand for grapefruit juice has also been relatively flat, although not-from-concentrate alternatives have been well received by consumers. Since juice markets provide both a residual demand and a more storable alternative for fresh grapefruit, juice price affects price in the fresh market. When juice stocks are high, as they were in the 1996/97 season, both markets are affected.

Partially as a consequence of the stagnant domestic demand, the U.S. grapefruit industry has pursued export sales. Approximately 68 percent of Florida fresh grapefruit were exported in 1999/2000. The Japanese beef and citrus phytosanitary agreement, signed in 1989, opened a significant new market for U.S. grapefruit exports. In 1999/2000, 32 percent of all Florida fresh grapefruit sales were exports to Japan. Demand in this market is primarily for high quality white grapefruit, a product that does not sell well in domestic markets, although sales of red grapefruit to Japan have increased in recent years. Along with increased exports to international markets has come increased exposure to global economic conditions. As the Asian economies declined in the 1990's, grapefruit sales also significantly contracted. Following the economic recovery, sales to these markets have begun to rebound. The European Union is another important market for U.S. grapefruit, but sales have declined the last three seasons. The drop illustrates, at least partially, another risk faced by U.S. exporters; the U.S. dollar strengthened against most European currencies making U.S. grapefruit more expensive relative to other suppliers.

Imported grapefruit and grapefruit products have also penetrated the U.S. market. Imports as a percentage of domestic consumption were close to zero until the late 1980's but have ranged from 2 to 5 percent annually since the 1989 freeze. The desire of U.S. shippers to provide a year-round supply of product to their buyers has provided an entry for imported grapefruit as shippers seek complementary production areas to fill their off-season needs.

Due to all these factors, the average change in number of buyers of all types across all firms selling a particular crop between 1994 and 1999 was fairly small, ranging from 9 to -12 percent (table 6). For lettuce/bagged salad firms, only information on the direction of change in the number of regular buyers was available. Overall, no obvious trend was observed; with approximately equal numbers of shippers reporting increases and decreases.

While the relative stability in the overall number of buyers does not suggest any clear increase in bargaining power of buyers, the share of shipper sales to their largest buyers shows how important a few accounts can be. In 1999, the share of sales to the top four buyers ranged from 22 percent (of total firm sales, not just sales of the targeted crop) for lettuce shippers to 45 percent for Florida tomatoes. The Florida tomato industry sells little to final users, relying instead on sales to a small number of repackers. With an average of 367 buyers for lettuce/bagged salad shippers, the top 4 accounts are less important than for other products. The share of sales going to the top 4 and top 10 buyers increased slightly for all commodities from 1994 to 1999, except for the top 10 buyers of Florida grapefruit (table 7). The decrease in buyer concentration for grapefruit may be due to the small sample size.

Change in Retail Accounts

When asked about changes in the number of retail accounts specifically, most shippers reported a decline and indicated they believed that this was due to retail consolidation. A decline in the number of retail accounts was generally viewed as negative. Some shippers, however, selling to fewer but larger retail accounts felt this generated internal operating efficiencies by reducing transaction costs. Each product had at least one firm that thought retail accounts had not declined, with California tomato and lettuce/bagged salad shippers most likely to feel that way.

We questioned shippers on the impact of retail consolidation. Most thought their negotiating strength relative to retailers had decreased due to retail consolidation and that this was harmful. Individual crop experiences varied, with grapefruit shippers reporting there had been no change in their negotiating strength. Tomato shippers in both California and Florida were less certain the change was due to retail consolidation, perhaps indicating that their negotiating strength had declined as consumer preferences have shifted from the still dominant mature green to other types of tomatoes.

Overall, shippers indicated that over the last 5 years they were more fearful of losing business if they did not comply with buyer requests, that this change was due to retail consolidation, and the impact on their firms was harmful. Tomato shippers were less concerned, possibly because many of them deal with repackers, not retailers. In a similar vein, we asked if shippers were more or less willing to use the provisions of USDA's Perishable Agricultural Commodities Act (PACA) to settle disputes with buyers. The majority of shippers said there was no change, but there were large numbers reporting both increases and decreases. Shippers less willing to use PACA attributed this harmful trend to retail consolidation and, by implication, the fear of losing business. Shippers reporting increased willingness to use PACA viewed this trend as beneficial, but not necessarily due to retail consolidation.

The majority of shippers said that volume requirements of retail buyers had increased and that it was due to retail consolidation. Almost all grape and orange shippers reported that volume requirements

Table 7—Share of total shipper sales going to top 4 and top 10 buyers, 1994 and 1999[1]

Item and year	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce	Bagged salads
				Percent of total sales[2]			
Top four buyers:							
1994	29	28	26	26	34	21	n.a.
1999	31	34	29	28	45	22	n.a.
Top 10 buyers:							
1994	47	46	54	45	48	37	n.a.
1999	49	52	51	48	59	39	n.a.

n.a. = Not available.
[1] Results are based on a limited number of observations and must be interpreted with caution.
[2] Sales of all products sold by shippers, not just the targeted product.

Source: Economic Research Service, Produce Marketing Study interviews, 1999-2000, USDA.

had increased, although more grape shippers thought this development was beneficial, perhaps because some of the shippers were large enough to fulfill large volume requirements. About half of the lettuce/bagged salad shippers reported no change in buyer requirements, and the rest reported increases.

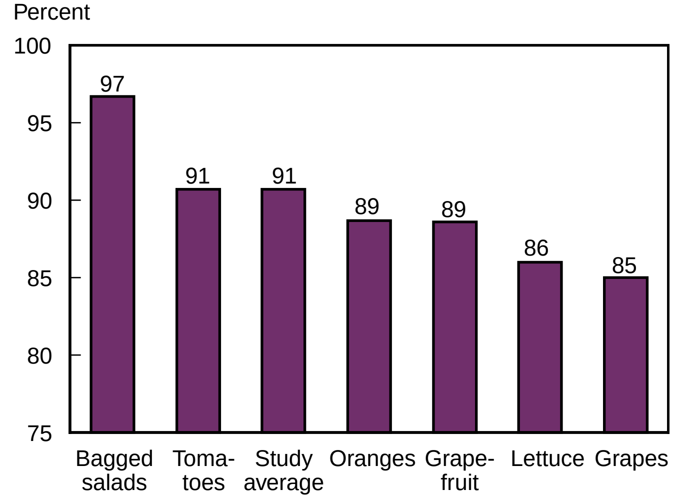
Retailer Views on Changing Number of Suppliers

Retailers reported a mix of experiences with the number of suppliers over 1994-99. Overall, 39 percent of retailers said the number of regular suppliers remained unchanged, 32 percent saw a decrease, and 29 percent reported an increase. Large national chains were more likely to report a decrease in number of suppliers than regional chains or wholesalers. Only for lettuce did more than half (53 percent) of all the retailers and wholesalers report decreasing their number of regular suppliers. Across all seven products, most firms (60 percent) were working with suppliers of approximately the same size in 1999 as 1994, while over one-third felt that the size of their suppliers was larger in 1999.

Retail buyers are much more concentrated in the share of total purchases from their top four suppliers than shippers are in sales to their top four buyers. Across the produce categories studied, retailers reported that 91 percent of their purchases came from their top four suppliers (fig. 2). Purchases were most concentrated for the regional chains interviewed (95 percent) and least concentrated for wholesalers (74 percent). By product category, concentration was highest for bagged salads (97 percent) and lowest for grapes (85 percent). In the case of bagged salads, many retailers typically carry only two or three different brand lines, one of which is often private label.

Shippers are concerned about how retail consolidation affects their relationship with retail buyers. We use the number of buyers employed per retail firm as one indication of how that relationship is changing. Retailers reported employing an average of 10 produce buyers. About half of the buyers are located in divisional/regional offices, with the other half divided between corporate headquarters and field offices. While consolidating retailers often cite the potential for lowering procurement, marketing, and distribution costs, many recently merged chains are still in the process of integrating their buying operations. Indeed, over the last 5 years, retailers reported that the number of their buyers remained fairly constant at the corporate and division levels, although 18 percent reported a decline in field buyers. As retailers fully integrate their acquired chains and implement new procurement models designed to streamline the supply chain, the buying practices of retailers may become more centralized than they have to date. Looking to the future, a majority of retailers (59 percent) believe that the number of produce buyers they are currently using will remain the same in 2002, 17 percent predicted an increase, and 24 percent a decrease.

Figure 2
Share of product purchased by retailers from their top four suppliers in 1999



Source: Economic Research Service, Produce Marketing Study interviews, 1999-2000, USDA.

Sales and Marketing Arrangements

Traditionally, the fresh produce industry has concentrated on daily sales. Variations in demand and supply, both in season and out, generate price volatility and quality variation for perishable products. Given these basic conditions, the flexibility of daily sales made sense. The challenge of managing price risk meant that when longer term arrangements were made, both sellers and buyers were unwilling to go much beyond advance pricing, fixing price ceilings a few weeks in advance for produce featured in advertisements, commonly referred to as lid prices. Typically, while advance-pricing agreements specify a price ceiling for a certain future period for an estimated volume, they do not involve a formal purchase commitment.

Today, the volume requirements of very large produce buyers create growing interest in more sophisticated coordination mechanisms. Fresh produce sales of each of the top five U.S. retailers and mass merchandisers are in the multi-billion-dollar range; relying on daily sales runs the risk of not being able to procure the volumes, sizes, varieties, quality, and consistency levels necessary. Furthermore, branded, fresh-cut products such as bagged salads require consistent, reliable, year-round availability and quality that makes longer term arrangements more desirable for both shippers and retailers.

The use of advance pricing arrangements for promotions has been increasing and it appears that the number of weeks in advance for which prices are fixed has grown as well. The majority of shippers indicated an increase in lead time for lid prices, and they viewed this as a harmful trend due to retail consolidation. Shippers in this sample reported 3-week advance pricing arrangements as common (compared with 1-2 weeks in the early 1980's) and many reported lead times of a month or more as no longer uncommon.

Shippers have always asserted that this type of forward selling arrangement is loosely implemented and functions mainly to protect retailers from price spikes when a product is being sold at an advertised sale price. These advance arrangements are not forward retail purchases, which entail a commitment to purchase. If the market price declines below the negotiated lid price, shippers are generally obliged to lower prices to the current f.o.b. price since retailers usually have the option to obtain supplies elsewhere. Shippers commonly consider lid prices to be an unequal arrangement, reducing their ability to capture potential market highs. Still, they also help to ensure a home for the product and shippers report increasing use of advance pricing as retail interest apparently grows.

The use of contracts is becoming more common as well. We define contracts broadly to include preferred supplier relationships/deals, partnerships, or programs between buyers and sellers. Specifically, contracts include both written and verbal negotiated sales arrangements that cover multiple sales transactions or ongoing relationships. The point of distinction (relative to daily sales) is ongoing sales and marketing agreements with buyers versus single shipments, even if price is not fixed.

Daily sales remain the leading sales and marketing arrangement across all the products considered, with the exception of bagged salads. Data on sales mechanisms for bagged salads are incomplete and not reported here. For all marketing channels and products, except lettuce and bagged salads, daily sales accounted for 58 percent of total sales in 1999, compared with 72 percent in 1994 (table 8). As noted earlier, percentages are based on the total value of sales in each category, not the percentage of sales of each firm in each category. Hence, these results reflect how the actual dollar sales volumes captured by each commodity sample were sold. Advance pricing increased from 19 to 24 percent of the total value of sales over the same 5-year period. Short-term contracts (less than 1 year) increased from 7 to 11 percent of sales, and annual or multiyear contracts increased from 2 to 7 percent in 1999. However, these trends varied greatly across marketing channels. Data for lettuce sales mechanisms were only available for 1999 and indicate a higher reliance on daily sales (66 percent) than for the other commodities. Lettuce also had double the

Table 8—Sales mechanisms for each marketing channel, 1994 and 1999[1]

Product and marketing channel	Type of sales mechanism: Daily sales	Advance sales	Short-term contract	Long-term contract
	Percent of sales via each sales mechanism			
Grapes, oranges, grapefruit, and California and Florida tomatoes		1994		
All	72	19	7	2
Retail	57	30	12	1
Mass merchandise	20	19	48	13
Wholesale	90	7	1	2
Broker	92	8	0	0
Foodservice	74	6	20	0
		1999		
All	58	24	11	7
Retail	43	42	11	4
Mass merchandise	7	23	41	29
Wholesale	87	8	3	2
Broker	90	10	0	0
Foodservice	39	3	28	30
Lettuce[2]		1999		
All	66	20	0	14
Retail	76	11	0	13
Mass merchandise	0	0	0	100
Wholesale	98	2	0	0
Broker	n.a.	n.a.	n.a.	n.a.
Foodservice	12	79	0	9

n.a. = Not available.
[1] Results are based on a limited number of observations and must be interpreted with caution.
[2] Similar data on lettuce were not available for 1994. Data on bagged salads were unavailable for both years.

Source: Economic Research Service, Produce Marketing Study interviews, 1999-2000, USDA.

percentage of sales moving via long-term contracts (14 percent), probably due to their frequent association with bagged salad sales under contract.

Retail Marketing Channels

For shippers' sales specifically to retail marketing channels, daily sales accounted for 43 percent of sales of grapes, oranges, grapefruit, and tomatoes in 1999, and advance pricing accounted for most of the rest (42 percent). (In comparison, 76 percent of lettuce sales to retailers were via daily sales in 1999 and only 11 percent via advance pricing). Over 1994-99, there was a shift away from daily sales to more advance pricing. Sales under short-term contracts dropped slightly. Shipper sales to retailers under longer term contract arrangements grew from 1 percent of their sales to 4 percent, well behind contracts with mass merchandisers, but indicating greater application of supply chain management practices than 5 years before (table 8).

Interviews with bagged salad shippers indicated that annual or multiyear contracts are the most common type of marketing arrangement for retail sales. In 1994, bagged salads were still a new product in many retail markets. As bagged salads gained acceptance and sales skyrocketed, bagged salad firms began to compete more intensely for market share in particular metropolitan areas. Since retailers typically carry only two or three different brands of bagged salads, long-term contracts assure the shipper of continuous sales.

Retailers were also asked how their sales arrangements with suppliers had changed since 1994 and their answers tally with those of shippers. Forty-seven percent said use of daily sales remained unchanged, while about one-quarter had decreased their use of daily sales. Hence, practices appear to be changing at different rates across retail firms. Almost two-thirds (65 percent) responded that the use of both advanced pricing and seasonal (short-term) contracts had increased. Nearly half said they increased their use of annual contracts, while one-third used more multiyear contracts. Retailer responses include information on bagged salads, which was unavailable from shipper interviews.

Mass Merchandise Marketing Channels

Mass merchandisers have become important outlets for the fresh produce industry, especially in the last 5 years. As newcomers, mass merchandisers are implementing unconventional procurement models, the best developed of which is the automatic inventory replenishment model. This model electronically integrates prequalified preferred suppliers with the mass merchandiser's internal inventory and sales records, enabling the supplier to automatically replenish inventory based on product movement and pre-established order triggers. Preferred suppliers are responsible for one or more distribution centers of the buyer, depending on their volume capabilities and performance, and the buyer usually has a limited number of preferred suppliers per commodity. This contracting model, by definition, allows flexible volumes, but arrangements for handling price and duration of the relationship may vary, depending on the commodity and season.

In contrast to retail channels, sales of our sample to mass merchandisers were generally not via daily sales. In 1999, only 7 percent of volume sold through the mass merchandising channel was as daily sales (excluding lettuce and bagged salads). Mass merchandisers have been experimenting for some time with more closely coordinated procurement approaches and they are clearly evolving toward longer term arrangements. In 1999, mass merchandisers purchased 29 percent of the sample commodities under annual preferred supplier deals or contracts, compared with 13 percent in 1994 (table 8). Furthermore, mass merchandisers purchased lettuce exclusively via annual contracts, according to the shippers interviewed. While mass merchandisers were by far the heaviest users of short-term contracts in 1999, at 41 percent of purchases, this was down from 48 percent in 1994 as they shifted more volume to annual contracts or advance pricing. Advance pricing accounted for 23 percent of sales in 1999, up from 19 percent in 1994.

Wholesale, Broker, and Foodservice Marketing Channels

In 1999, wholesalers and brokers used daily sales much more than other buyers, at 87 and 90 percent of sales, for sample commodities other than lettuce and bagged salads (table 8). For lettuce, 98 percent of sales to wholesalers were via daily sales. Information on the sales mechanisms used for lettuce sales to brokers is not available.

Sales mechanisms for foodservice firms depend on the commodity. For grapes, oranges, and grapefruit, almost all sales were via daily sales and advance pricing. California tomato shippers used long-term contracts for 56 percent of sales. Florida tomato shippers favored short-term contracts. Foodservice buyers

California Fresh Grapes

In 1999, the California grape industry produced 98 percent of the U.S. fresh domestically produced grape supply. California grape production and shipments have trended upward since 1990, from 645,000 tons to 757,000 tons in 1999. The grape season starts in the Coachella Valley in May, moving up the Central Valley with shipments extending into January, including sales of grapes from storage. Grapes destined for the fresh market are produced differently from other grapes, but many grape varieties can be used in several different products, such as raisins, wine, or juice, most notably the ubiquitous Thompson Seedless grape.

Grape imports increased 37 percent between 1989 and 1999, and are now equal to one-half of domestic production. While imports are sizable, traditionally most of the imports have entered during the off-season and helped to extend supply on a year-round basis, rather than competing with most of California's production. Imports seemed to be stabilizing in recent years, up only 6.6 percent between 1997 and 1999. In 2000, however, volumes from Chile increased substantially for the first time in several years. In addition, small, but rapidly increasing volumes are now being imported from other South American countries. Mexico's role as a spring competitor has grown during the 1990's with imports in 2000 reaching 90,689 metric tons; however, imports were well below the 1998 peak of 101,044 metric tons. Mexico's shipments overlap almost entirely with the Coachella Valley, although production in the Arvin area of the southern Central Valley can also be affected.

When imports are important for an industry, shippers often try to control or coordinate the situation by importing product themselves to sell along with their own supply. For example, some California grape shippers import grapes from Mexico, Chile, and a few other countries to provide a year-round supply. In 1999, five of the nine interviewed firms imported grapes, up from three in 1994. Imports are frequently acquired via vertically integrated or coordinated relationships such as joint ventures and strategic alliances, but in many cases the shipper simply acts as a sales agent. The importing strategy may require more marketing sophistication and acceptance of risk than just selling domestic product, with the latter depending on how involved the shipper becomes in financing the foreign production. The growth in imports handled by shippers facilitates meeting buyer demand for year-round availability of product, and shippers' benefit during the domestic season by maintaining their marketing presence with buyers on a consistent basis throughout the year.

California grape shippers, except those located in the Coachella Valley, have fared quite well in recent years. California grape producers and shippers have traditionally benefited from almost nonexistent competition from other domestic sources, the entrance of imports primarily during the off-season, and a single major source of import supply, Chile, with an organized approach to marketing and promotion in the U.S. market. Chilean producers and exporters generally spend over $3 million annually to fund a generic promotion program for Chilean winter fruit. This helps maintain consumer demand and retail shelf space for grapes year-round, assuring a smoother transition to the California shipping season. However, as more imports arrive from new (Argentina and South Africa) or expanding (Sonora, Mexico) production regions and for extended periods, they overlap more with early season California production without contributing to a consumption promotion program. Furthermore, U.S. per-capita consumption is no longer growing at the rapid rate of the late 1970's through the 1980's; per capita consumption in 1989 of 7.9 pounds was close to the 1999 level of 8.2 pounds. Expanding plantings of California fresh-market grapes may exert additional pressure on the California grape industry.

With one of the most fragmented shipper structures of California fresh produce commodities, the grape industry will also increasingly grapple with market structure issues. No shipper has more than an estimated 6-percent share of total California volume. Many shippers, considered large by grape industry standards, are in the 1- to 2-percent-range of total volume. There were an estimated 149 California grape shippers in 1999. The number of growers, including grower-shippers, has declined over time, from an estimated peak of 1,049 in 1985 to 729 in 1995 to just over 600 currently. Much of the decline clearly occurred prior to the recent increase in retail consolidation.

To mitigate this fragmentation, the grape industry has been implementing strategic alliances and joint ventures that allow for either the consolidation of volumes between formerly competing shippers, or the extension of shipping seasons via alliances with off-shore exporters. Four grape firms out of 9 interviewed reported having made alliances of this type in the last 5 years, half in response to retailer consolidation, and half due to other factors such as growing buyer demand for year-round supply.

greatly increased their use of both short-term and longer term contracting under direct arrangements with shippers, with both mechanisms combined amounting to 58 percent of the sales to this channel in 1999, compared with 20 percent in 1994. This likely reflects the importance of tomatoes as a menu item for many foodservice users, hence, the need to ensure stable supply and predictable pricing. Lettuce was sold to foodservice mainly via advance sales (table 8).