

Methodology

Because public data on the transactions between produce shippers and retailers are scarce, to better understand current transactions we collected information through personal interviews. Since our interviews were limited in number, our findings should be interpreted with caution. In particular, the quantitative results presented should be viewed as indicative of industry practices rather than a precise accounting. Nevertheless, the information from these interviews is an important first step in understanding these recent changes.

The interviews covered objective questions (How many buyers do you have?) and subjective questions (Do you think this type of fee is beneficial, neutral, or harmful?). It was not possible to verify responses to objective questions or to provide analysis to corroborate responses to subjective questions. We have no reason to believe there is any bias in the results and, in general, shipper, wholesaler, and retailer responses were consistent with each other. However, responses regarding the value of fees and services may not be as precise as desired since most shippers did not have comprehensive record systems in place to track these data completely.

Characteristics of the produce industry vary by crop, so the study targeted a small number of fresh produce products: California grapes, oranges, and tomatoes; Florida grapefruit and tomatoes; and California/Arizona lettuce and bagged salads. The diversity among these various products required some variation in the interviews, but the general lines of inquiry were the same. Although the main focus is on commodities as opposed to value-added fresh produce, we included bagged salads because fresh-cut produce is gaining in importance. In 1997, fresh-cut produce was estimated to account for 15 percent of fresh produce sales (McLaughlin et al., 2000). Fresh-cut produce has similar characteristics to manufactured food products (such as a stable, weekly supply throughout the year), and can be similarly marketed. In contrast, fresh commodities have traditionally been marketed differently because they are relatively undifferentiated products with seasonal variation in supply and quality.

The selected products represent large shares of U.S. fruit and vegetable consumption. Lettuce and tomatoes have the second and third highest per capita consumption of all fresh vegetables, after potatoes. For noncitrus fruit, grapes have the third highest per capita fresh consumption behind bananas and apples. Oranges and grapefruit top the list of fresh citrus con-

sumption. Per capita consumption increased during the 1990's for all these products except for lettuce, which remained constant, and grapefruit, which declined (table 1). Consumption of leaf and romaine lettuce has increased at the expense of head lettuce. Per capita consumption of bagged salads increased from 0.9 pound in 1994 to 2.0 pounds in 1999, according to limited data available from IRI for retail purchases. Industry experts suggest that an additional 50 percent of fresh-cut salad sales move through foodservice channels, so consumption may be double this amount.

California and Florida account for a large share of U.S.-grown fresh produce and are the largest producers of the commodities considered here. Almost every lettuce producer operates in both California and Arizona. All the California/Arizona lettuce and bagged salad shippers were interviewed in their California offices. Industries and regions were also selected to facilitate the interview process. Table 2 shows production trends over the last decade for the selected commodities.

This study focuses on shippers, the marketing entity. Growers that are not vertically integrated into shipping do not tend to market directly to commercial buyers. However, shippers are usually also growers. Although public data on shippers are generally not available, the integrated grower-shipper is the standard for many produce commodities. Of the 57 interviewed shippers, 52 were grower-shippers.

In the interviews, we asked questions regarding the marketing season that most closely matched calendar years 1999 and 1994. The most recent seasons, by commodity, were as follows: grapes—May 1999 to January 2000, oranges—November 1997 to December

Table 1—U.S. per capita consumption of selected fresh produce items, 1990-99

Product	1990	1994	1999
	<i>Pounds</i>		
Grapes	7.9	7.3	8.2
Oranges ¹	12.4	13.1	14.9
Grapefruit ²	6.6	6.1	5.9
Tomatoes	15.5	16.4	17.8
Lettuce/bagged salads ³	31.6	31.0	31.6

¹1998 since 1999 was affected by a freeze.

²1989 since 1990 was affected by a freeze.

³Use of head, romaine, and leaf lettuces either as commodity lettuce or bagged salads.

Sources: *Vegetables and Specialties Situation and Outlook Report*, VGS-281, July 2000; and *Fruit and Tree Nuts Situation and Outlook Report*, FTS-290, Oct. 2000, Economic Research Service, USDA.

Table 2—Production trends for selected fresh produce products, 1990-99

Product	1990	1994	1999
	<i>1,000 tons</i>		
California table grapes	645	602	757
California oranges ¹	2,677	2,385	2,513
Florida grapefruit ²	1,016	956	773
California tomatoes	485	550	550
Florida tomatoes ³	809	850	750
California/Arizona lettuce/bagged salads ⁴	3,976	4,164	4,540

¹ Seasons are 1989/90, 1993/94, and 1999/2000.

² Seasons are 1988/89, 1993/94, and 1999/2000.

³ Due to the effects of a freeze on the 1989/90 season, 1991 was used.

⁴ Head, romaine, and leaf lettuce. ERS estimate for 1990.

Sources: *Vegetables and Specialties Situation and Outlook Report*, VGS-281, July 2000; and *Fruit and Tree Nuts Situation and Outlook Report*, FTS-290, Oct. 2000, Economic Research Service, USDA.

1998, grapefruit—August 1998 to June 1999, California tomatoes—May 1999 to December 1999, Florida tomatoes—October 1998 to July 1999, and lettuce and bagged salads—January 1999 to December 1999. For oranges, the interviews focused on 1997/98 because 1998/99 was an abnormal season due to a severe freeze. Interviews began in December 1999 and continued through April 2000.

Proportional random sampling was used, with medium and large firms given more weight in the sample selection process than small. This was both because small shippers were found to sell very little to retailers (the focus of the study) and because the goal was to gain the most information possible on the trade practices being employed by the firms accounting for a substantial share of industry sales. For many produce commodities, numerous small firms account for a small percentage of total sales, so unstratified sampling would likely have led to the inclusion of a higher number of very small firms, making the samples much less representative of the commodity volume for each product. Public lists of shippers by commodity and size are nearly nonexistent, so we consulted with producer and shipper organizations for assistance. Where production was geographically dispersed within a State, we also sampled across production regions. We selected specific firms to interview and asked if they would be willing to voluntarily participate in the study. Most firms were willing and provided us with detailed information on their firm and their trade practices.

Because the number of shipper interviews is small—in no case more than nine for each commodity and region—it would be difficult to provide quantitative

results with reliable statistical inference. Hence, results must be interpreted with caution. The interviewed firms, however, often represented a large proportion of volume shipped, in part because some produce industries have consolidated at the shipper level. In only one case do interview results obviously contradict public data, and this is noted in the text.

The nine grape shippers interviewed accounted for approximately 19 percent of California grape production (table 3). Unlike California orange and tomato marketing, grape marketing is very fragmented with a total of 149 shippers selling grapes in 1999. While the interviewed grape shippers represented a small share of California production, they seemed quite representative of broader forces occurring in the industry. Contraseasonal importing is common in the California grape industry, and several of the shippers were large and handled sizable total volumes when imported product was included.

The 9 California orange shippers interviewed represented an estimated 38 percent of the California orange volume sold by a total of 39 shippers operating in California in the 1999/00 season (table 3). The 8 Florida grapefruit shippers interviewed represented 54 percent of the volume sold; 110 firms were certified to ship fresh grapefruit in Florida during the 1998/99 season.

Eight of 25 total California tomato shippers were interviewed, capturing about 56 percent of 1999 California tomato production. This information was supplemented by interviewing two California repackers, due to the importance of repackers in fresh tomato marketing. Data on the number of Florida tomato shippers in 1999 were not available, but in 2000, there were approximately 65. Six were interviewed and they accounted for 32 percent of the State production. By concentrating on California and Florida tomato shippers, we focus on field-grown tomatoes for the most part. The bulk of the small but rapidly growing greenhouse tomato industry is located in other States.

We interviewed eight firms that sold exclusively or primarily commodity lettuce and other commodity vegetables. Three of these lettuce firms also sold a few fresh-cut products. We interviewed seven bagged salad shippers that were exclusively engaged in bagged salad sales or offered an extensive line of bagged salads and other fresh-cut products such as cut and bagged stir-fry vegetables. Many of these firms also sold commodity (bulk, unprocessed) lettuce.

Table 3—Number of firms interviewed; share of shippers and State production

Type of firm	Firms interviewed	Shippers in State	Share of 1999 State production ¹
	--Number--		Percent
Shippers			
California fresh grape shippers	9	149	19
California orange shippers	9	39	38
Florida grapefruit shippers	8	110	54
California tomato shippers	8	25	56
California tomato repackers	2	n.a.	n.a.
Florida tomato shippers	6	65	32
California/Arizona lettuce shippers	8	n.a.	n.a.
California/Arizona bagged salad shippers ²	7	54	n.a.
Retailers and wholesalers			
National retailers	8	n.a.	n.a.
Regional retailers	6	n.a.	n.a.
Wholesalers	3	n.a.	n.a.

n.a. = Not available or not applicable.

¹ Imports and production from other States handled by these shippers were excluded in determining the sample share of State production.

² Number of firms selling bagged salads nationally to mainstream supermarkets is used as a proxy for the number of California/Arizona shippers.

Sources: Economic Research Service, Produce Marketing Study interviews, 1999-2000; National Agricultural Statistics Service; Agricultural Marketing Service, USDA; commodity commissions; and Information Resources, Inc.

Lettuce/bagged salad shippers are diversified, selling a broad range of vegetables, mainly leafy green vegetables. The average lettuce/bagged salad firm sold 33 products (table 4). No other type of shipper considered in this report sold as many different products, and interviewed shippers often had a difficult time breaking out numbers for just lettuce or bagged salads. Data reported here, therefore, refer mainly to lettuce and bagged salads but may also encompass other leafy green vegetables.

To complement the shipper interviews and better capture the shipper/retailer relationship, we also interviewed a limited number of retailers and wholesalers for their perspective. We sampled across regions and included a mix of retailer and wholesaler types and sizes. Participants included eight national chains (three headquarter and five division offices), six midsize regional chains, and three large general-line wholesalers. For simplicity, we refer to these as the retail interviews although wholesalers are included. The retail interviews asked about the same seven products as in the shipper interviews.

Table 4—Number of products sold by interviewed shippers¹

Shipper type	1994	1999
	Number	
Grape	15	23
Orange	15	16
Grapefruit	n.a.	n.a.
California tomato	13	15
Florida tomato	n.a.	n.a.
Lettuce	n.a.	29
Bagged salad ²	n.a.	33

n.a. = Not available.

¹ For commodities, a product is a type of fruit or vegetable, such as bunched spinach or tangerines (regardless of variety). For fresh-cut, a product could be a minimally processed item, such as cello spinach or hearts of romaine, or more processed items, such as salad blends or a spinach salad kit.

² Bagged salad firms consist of those exclusively selling bagged salads and commodity lettuce firms that offer a broad line of salad and/or other fresh-cut products.

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