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*U.S. Fresh Fruit and Vegetable Marketing:
Emerging Trade Practices, Trends,
and Issues.*

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Abstract

In the past year, trade practices between fresh produce shippers and food retailers gained national attention. Shippers are concerned that recent retail consolidation has led to market power and the growing incidence of fees and services. Retailers argue that these new trade practices reflect their costs of doing business and the demands of consumers. Trade practices include fees such as volume discounts and slotting fees, as well as services like automatic inventory replenishment, special packaging, and requirements for third-party food safety certification. Trade practices also refer to the overall structure of a transaction—for example, long-term relationships or contracts versus daily sales with no continuing commitment. This study compares trade practices in 1999 with those prevalent in 1994, placing them in the broader context of the evolving shipper/retailer relationship. Most shippers and retailers reported that the incidence and magnitude of fees and services associated with transactions has increased over the last 5 years. Fees paid to retailers are usually around 1-2 percent of sales for most of the commodities we examined, but 1-8 percent for bagged salads. Information on the incidence and magnitude of these new practices is scarce. To augment information that is publicly available, we interviewed a limited number of shippers, retailers, and wholesalers about their firms and trade practices. We received a high level of voluntary cooperation from the interviewed firms.

Keywords: Produce, fresh fruit and vegetables, fresh-cut produce, trade practices, fees and services, slotting fees, retail consolidation, produce shipper consolidation.

Note: Use of brand or firm names in this publication does not imply endorsement by the U.S. Department of Agriculture.

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Preface

This is the second in a series of three reports assessing the changing nature of the produce shipper/retailer relationship and the implications for competitive behavior. Such an assessment requires an objective understanding of the increasingly complex relationships among buyers and sellers along the marketing chain. The Economic Research Service (ERS) is working with industry experts to undertake descriptive and analytical research studies. This project has three major objectives:

- ❖ Develop a comprehensive overview of the produce industry from shipper to retailer, including consumption and retail sales trends, markets and marketing channels, and the changing structure of produce buyers.
- ❖ Identify and characterize the types of trade practices used in the produce industry, including fees and services provided by shippers, contracts, and other marketing strategies.
- ❖ Empirically analyze shipper/retailer price margin behavior to investigate whether retail market power can be detected.

The first objective was addressed in *Understanding the Dynamics of Produce Markets: Consumption and Consolidation Grow*, published by ERS in August 2000. This report addresses the second objective. The third objective will be addressed in a forthcoming ERS report. Taken together, these reports will inform industry participants, researchers, and policymakers about the forces affecting competition and change in the produce industry.

Mark Denbaly and Barry Krissoff
ERS Produce Marketing Study Co-Directors

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Executive Summary

In the past year, trade practices between fresh produce shippers and food retailers gained national attention. The Federal Trade Commission and the U.S. Senate Committee on Small Business conducted hearings in which industry leaders, government officials, and academics offered their perspectives on how both the recent wave of supermarket mergers and the growth of new trade practices have affected various industries, including the produce industry (U.S. Senate, 1999; U.S. Senate, 2000; Federal Trade Commission, 2000). Shippers are concerned that recent retail consolidation has led to market power and the growing incidence of fees and services. Retailers argue that these new trade practices reflect their costs of doing business and the demands of consumers.

Trade practices is a broad term that refers to the way shippers and retailers do business, including fees such as volume discounts and slotting fees, as well as services like automatic inventory replenishment, special packaging, and requirements for third-party food safety certification. Trade practices also refer to the overall structure of a transaction—for example, long-term relationships or contracts versus daily sales with no continuing commitment.

This study compares trade practices in 1999 with those prevalent in 1994, placing them in the broader context of the evolving shipper/retailer relationship. Information on the incidence and magnitude of these new practices and how they affect shippers, retailers, and consumers is limited. Public information about produce shippers and the nature of their transactions with retailers is scarce as well, in part because the data are proprietary. To augment information that is publicly available, we interviewed a limited number of produce shippers, retailers, and wholesalers about their firms and trade practices. We received a high level of voluntary cooperation from the interviewed firms.

The Interviews

For shipper interviews, we generally spoke with owners and/or senior sales and produce managers, and they often consulted their financial and accounting departments to provide us information. We did not directly review sales accounts from firms' records to confirm the information provided. The interviews focused on seven products: California grapes, oranges, and tomatoes; Florida grapefruit and tomatoes; and California/Arizona lettuce and bagged salads. We interviewed no more than 9 shippers per commodity in any geographical region, 57 in all. For some commodities, the supply side is rather consolidated, meaning that the seemingly small sample accounts for a relatively large share of total sales.

To complement the shipper interviews and provide a stronger view of the shipper/retailer relationship, we interviewed a limited number of retailers and wholesalers for their perspective. We selected firms across regions and included a mix of retailer and wholesaler types and sizes. The sample included eight national chains (three headquarter and five division offices), six midsize regional chains, and three large general-line wholesalers. The retail interviews asked about the same seven products as the shipper 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 the recent changes in produce marketing.

Study Highlights

- ❖ *Retail Concentration.* The 4 largest retailers' share of grocery store sales rose from 17 percent in 1987 to 27 percent in 1999, and the 20 largest from 37 to 52 percent. Shippers are concerned about the accelerated pace of consolidation in part because market structure is still very fragmented at the shipper level for many commodities, implying low countervailing power relative to the fewer, larger buyers.
- ❖ *Shipper Concentration.* While shipper consolidation is occurring, it varies significantly across commodities. For example, in 1999 there were 149 California grape shippers with none estimated to account for over 6 percent of total industry sales. At the other extreme, there were only 25 California tomato shippers. While there were 54 bagged salad firms selling to retailers, the top 2 firms accounted for 76 percent of total fresh-cut salad sales in supermarkets. Hence, for a few fresh produce items, concentration of sales at the shipper level has surpassed that of retailers, even though the sales of these firms may still be small relative to those of the large retail chains.
- ❖ *Many Factors Affect the Shipper/Retailer Relationship.* Retail consolidation is not the only factor affecting the shipper/retailer relationship. Changes in consumer preferences for variety, convenience, and food safety; changes in technology; and changes in shipper consolidation have all played a part in the evolution of the two industries and their interactions.
- ❖ *Number of Buyers.* Despite perceptions to the contrary, when shippers reviewed their records, many found relatively small changes in the number of regular customers when considering *all buyer types*. While some shippers reported a decrease in the total number of customers, roughly as many reported an increase. Most shippers believed that the number of *retail customers* had declined, and the majority viewed this as harmful. Other shippers were selling to fewer but larger retail accounts and felt this reduced their transaction costs. With declining retail customers, most shippers thought they had less negotiating power and were more fearful of losing accounts if they did not comply with buyer requests. Some shippers were replacing retail accounts with other types of buyers, sometimes due to declining competitiveness in serving the needs of large retailers. In any case, many shippers are adjusting their marketing strategies to sell to other types of buyers.
- ❖ *Marketing Channels.* The share of sales to conventional retailers was either stable or declining for all products. Regardless of how marketing channel shares changed over the 1994-99 period, direct grocery retail sales remain the most important marketing channel for sales of all the products studied except California and Florida tomatoes. An important factor affecting the share of produce sold to grocery 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 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.

- ❖ *Retail Buying - Corporate, Division, and Field Buyers.* 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.
- ❖ *Importance of Largest Buyers and Suppliers.* While the total number of buyers of all types may not have changed much for most shippers over the last 5 years, the importance of the largest buyers has increased, but only slightly. The share of the top four buyers of total shipper sales ranges from 22 to 45 percent of sales, depending on the product. The largest increase in this share was for Florida tomato shippers, from 34 percent in 1994 to 45 percent in 1999. For their part, retail buyers report more concentrated purchases, with their top four suppliers providing from 85 to 97 percent of total purchases, depending on the product.
- ❖ *Daily and Advance Sales.* Traditionally, the fresh produce industry has concentrated on daily sales. For commodities (grapes, oranges, grapefruit, and tomatoes), daily sales remain the most important sales mechanism across all types of buyers, but the share declined from 72 percent in 1994 to 58 percent in 1999. The use of advance pricing arrangements for promotions increased from 19 to 24 percent over the same time period and it appears that the number of weeks in advance for which prices are fixed has grown as well.
- ❖ *Use of Contracts.* The use of contracts is also becoming more common. The point of distinction (relative to daily sales) is ongoing sales and marketing agreements with buyers versus single shipments. In 1999, short-term contracts accounted for 11 percent of total commodity sales (grapes, oranges, grapefruit, and tomatoes), and long-term (annual or multiyear) contracts 7 percent. Lettuce sales mechanisms in 1999 were similar to other commodities except all contracts were long term. Bagged salad shippers indicated that annual or multiyear contracts are the standard for retail sales.
- ❖ *Fees and Services.* Most shippers and retailers reported that the incidence and magnitude of fees and services associated with transactions had increased over the last 5 years; a few tomato shippers reported no change. Data were collected from commodity shippers on actual fees paid to the top five retailer and mass merchandiser accounts. They were usually around 1-2 percent of sales for most commodities. Bagged salad firms reported a range of fees paid of 1-8 percent for all retail accounts. Fees paid to all retailer and mass merchandiser accounts averaged \$5,200 and \$8,700 per million dollars of sales, respectively, for the interviewed grape and orange shippers, compared with \$10,100 for the grapefruit shippers and only \$1,300 for California tomato shippers. Fees can make the difference between profit and loss, especially for commodity shippers who act as price takers and are therefore less able to pass costs along to customers. Services per million dollars of sales were less than fees for all the commodity samples, averaging from \$1,200 for grapes to \$4,400 for grapefruit. However,

many firms did not keep close track of the cost of fees and, in particular, services.

- ❖ *Types of Fees.* Overall, 48 percent of the types of fees requested were new in the last 5 years. The most frequently paid type of fee is the volume discount, a trade practice that has been used for years, although shippers agree that the incidence and magnitude of this fee has increased. Shippers generally viewed this fee as having a negative or neutral impact on their business. Still, volume incentives have the potential to promote a more stable relationship between suppliers and retailers; as the retailer buys more units from the supplier, costs per unit decline, providing an incentive for the retailer to buy larger quantities (over the season) from a particular supplier. Shippers may also gain efficiencies in marketing by increasing the size of accounts.
- ❖ *Slotting Fees and Fresh-Cut Produce.* While slotting fees (defined, in this case, as an upfront fee to gain retail shelf space for a new or existing product) have long been used in the grocery store outside of fresh produce, they recently entered the fresh produce department with the advent of fresh-cut fruits and vegetables. Slotting fees are now common for fresh-cut produce and may be either requested by retailers or offered by shippers. Most bagged salad shippers reported that it was shippers, not retailers, who first introduced slotting fees to this industry in an attempt to buy market share from their competition, and that the fees began prior to the last wave of retail consolidation. None of the bagged salad shippers revealed the exact size of the slotting fees requested or paid by their firm or for individual accounts, but several talked about the general use of slotting fees in the bagged salad industry. Slotting fees were reported to range from \$10,000-\$20,000 for small retail accounts to \$500,000 for a division of a multiregional chain, and up to \$2 million to acquire the entire business of a large multiregional chain.
- ❖ *Slotting Fees and Commodities.* In contrast to fresh-cut shippers, none of the commodity shippers reported paying slotting fees as defined above. However, a few were asked to pay, and some lost accounts when they failed to comply. Shippers do not always distinguish between slotting fees and other fees such as a fixed, upfront promotional allowance.
- ❖ *Types of Services.* Service requests are also increasing, with 77 percent of requests reported as new in the last 5 years. Shippers tended to believe they receive more benefits from providing services than from paying fees. According to shippers, the most common service requested is third-party food safety certification, with one-third viewing it as harmful and the remainder feeling that the impact of providing this service is beneficial or neutral.
- ❖ *Adverse Effect on Smaller Shippers.* Fees and services can more adversely affect smaller shippers if they are fixed and equal in cost across all shippers. While fees are generally per-unit costs, services are mainly fixed costs and so may be more difficult for small shippers to implement since they are spreading the costs across fewer units. If requests for fixed fees and services grow, smaller shippers may need to seek alternative buyer types. Preliminary canvassing of shippers for this study indicated that smaller shippers were already selling very little to retail buyers. Aside from the issue of fees and services, small shippers are generally unlikely to provide adequate volume to supply large retailer needs.

Public Policy Issues

Part of the interest in this study stems from concern of produce shippers, growers, and their associations regarding how pervasive fees and services have become and whether the requests for fees and services represent market power on the part of retailers. The Federal Trade Commission (FTC) and the Department of Justice are the Federal agencies that determine whether a pricing strategy violates antitrust legislation, or, in other words, is anticompetitive. FTC decisions are based on both legal and economic precepts. USDA's Economic Research Service contributes to the policy debate through analyses—such as this study—that explore produce marketing in detail.

Another important policy issue is the effect of changing trade practices on USDA's produce price reporting activities. USDA's Agricultural Marketing Service (AMS) collects free-on-board (f.o.b.) shipping-point prices based on daily sales for major fresh fruits and vegetables, and daily spot prices in terminal wholesale markets for nearly 300 products. As shippers reduce their reliance on daily sales and move more to contracts, f.o.b. shipping-point prices will still represent daily prices but they may gradually become less representative of prices for commodities being sold under other sales mechanisms. However, contracts may rely on formula pricing derived from Market News prices. Many transactions are more complex than ever before, with price just one of several important parameters describing the sale. Transactions may specify quality characteristics; payment of off-invoice fees such as promotional fees, rebates, or other discounts; volume commitments; or the provision of special services. The proprietary nature of many transactions makes the price discovery process more complex. This poses new challenges for data collection but AMS' Market News Branch reviews its strategies on an ongoing basis to adapt to new market conditions. Also, as shippers and buyers use more direct sales, bypassing wholesale markets, spot prices there become less robust and offer less information to industry players concerned about understanding price trends. It is important to note, however, that wholesale market prices should continue to play a particularly important role in price discovery for many minor products, which do not generally have shipping-point price reports.

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Introduction

In the past year, trade practices between produce shippers and retailers gained national attention. The Federal Trade Commission and the U.S. Senate Committee on Small Business conducted hearings in which industry leaders, government officials, and academics offered their perspectives on how both the recent wave of supermarket mergers and the growth of new trade practices have affected various industries, including the produce industry (U.S. Senate, 1999; U.S. Senate, 2000; Federal Trade Commission, 2000). Shippers are concerned that recent retail consolidation has led to market power and the growing incidence of fees and services. Retailers argue that these new trade practices reflect their costs of doing business and the demands of consumers.

Trade practices is a broad term that refers to the way shippers and retailers do business, including fees such as volume discounts and slotting fees, as well as services like automatic inventory replenishment, special packaging, and third-party food safety certification. Trade practices also include the overall structure of a transaction—for example, long-term relationships or contracts versus daily sales with no continuing commitment. Information on the incidence and magnitude of these trade practices, old or new, and how they affect shippers, retailers, and consumers is limited (McLaughlin, 1999). Public information about produce shippers and the nature of their transactions with retailers is scarce, in part because the data are proprietary.

Years ago, the typical produce transaction was characterized by many shippers selling to many buyers in terminal wholesale markets—the classic case of a perfectly competitive market with many independent transactions at the observable spot market price. Today, a large share of fresh produce is sold directly by shippers to retailers, bypassing intermediaries and terminal wholesale markets. In the shipper/retailer

transaction, price may be just one component of a more complicated sales arrangement that might also specify quality characteristics; payment of off-invoice fees such as promotional fees, rebates, or other discounts; volume commitments; or provision of third-party food safety certification. Public data covering all aspects of such transactions are not available. USDA's Agricultural Marketing Service (AMS) provides f.o.b. shipping-point prices, based on daily sales. While some limited information on extra fees such as palletizing and precooling are included in the f.o.b. price, many other characteristics of transactions are not captured. AMS also provides terminal-market wholesale prices, but as such transactions are an increasingly small portion of produce sales for mainstream commodities, they may not represent the price of a commodity being sold through the more dominant marketing channel—directly from shippers to final buyers.

This study describes trade practices and places them in the broader context of the shipper/retailer relationship. It also provides an explanation of the forces behind the changing dynamics of the \$71-billion-plus fresh produce marketing system. Because of the scarce public data, we conducted personal interviews with a total of 74 shippers, retailers, and wholesalers. We received a high level of voluntary cooperation from these firms. However, we did not directly review firms' records to confirm the information provided. While results must be interpreted with caution because of the relatively small number of interviews, they are, nevertheless, an important first step in understanding these recent changes.

The shipper/retailer (both conventional retailers and mass merchandisers) interaction is the focus of this study. Shippers may market only their own production, only that of other growers, or a combination of both. Most shippers are vertically integrated grower-shippers, marketing what they produce as well as the output of affiliated growers. Although we target shipper sales to retailers and mass merchandisers, we also

look at other buyers including wholesalers, foodservice buyers, and brokers. We examine two main aspects of the shipper business relationship with buyers and how they have changed over the last 5 years:

- ❖ The type, number, and size of shippers' regular buyers, and the nature of sales and marketing arrangements. Analysis highlights changes occurring in marketing channels and sales arrangements under the conditions of a consolidating retail marketplace.
- ❖ Specific trade practices, namely, the types of fees and services that shippers are being asked to provide or are offering to retailers and mass merchandisers, the prevalence of these trade practices, the incidence of compliance, and the consequences of noncompliance.

This report begins with background on the economic factors affecting the business relationship between shippers and retailers, then turns to the interview methodology employed to gain information on trade practices. Since many of the trade practices vary across individual produce sectors, we selected seven products for analysis: California grapes, oranges, and

tomatoes; Florida grapefruit and tomatoes; and California/Arizona lettuce and bagged salads. Next, based on the indepth personal interviews, we present a detailed description of the shipper/retailer business relationship and trade practices for the selected commodities. Overviews of the structure of the selected produce sectors are included throughout the text. A glossary appears at the end of the report.

An understanding of both the retail and shipping industries provides important context for shipper/retailer transactions. For an overview of the retail sector and changes in marketing channels for the entire produce industry, we refer the reader to the first publication in this series, *Understanding the Dynamics of Produce Markets: Consumption and Consolidation Grow* (Kaufman et al., 2000b). Retail consolidation has prompted concerns about whether retail buyers are exerting market power in their relationship with produce shippers, specifically, reducing prices to shippers below competitive levels. The third report in this series will address the question of whether market power can be observed from an analysis of the relationship between f.o.b. shipping-point and retail prices.

Factors Affecting the Shipper/Retailer Relationship

Many factors underlie the recent changes in the shipper/retailer relationship, including changes in consumer demand, technological innovation, and the consolidation of the retail industry itself. Americans have become more health-conscious, and are consuming 49 pounds more fresh fruits and vegetables per capita in 1999 than in 1986. As consumption has increased, so has the demand for variety and convenience. The typical grocery store carried 345 produce items in 1998, compared with 173 in 1987 (Litwak, 1988 and 1998).

These new items are both exotic imports as well as variations on standard products. For example, in addition to traditional mature green and vine-ripe tomatoes, product differentiation has generated a wide array of new tomato products: extended-shelf-life, grape, yellow, and red baby pear tomatoes, as well as cluster, greenhouse, organic, and heirloom varieties. Variety is also evident in the year-round availability of items once thought seasonal, with U.S. consumers willing to pay the higher price for imported out-of-season fresh products. Given the product diversity and seasonality of production of some crops (grapes and tomatoes, for example), retailers have increasingly sought to reduce costs by dealing with suppliers that can provide broader product lines year-round or over extended seasons. This trend pressures U.S. shippers to coordinate with shippers in other countries and to diversify their product lines to meet retailers' more complicated needs. However, providing a broader product line on a year-round basis can be risky and costly, given the high capital requirements involved in the production and distribution of many fresh produce items. Large firms may more easily find funds to support these activities, which favors consolidation and greater vertical and horizontal coordination in the produce shipping industry (Wilson et al., 1997).

Consumer habits are also affecting shippers. Many shippers find their share of sales to foodservice buyers increasing as consumers eat more food away from home. In 1999, 48 percent of total spending on food went to the foodservice sector, up from 44 percent in 1992 and 40 percent in 1982 (Kaufman et al., 2000a). This change in consumer habits also affects retailers who are faced with a declining share of consumer food spending. Many are introducing more ready-to-eat meals, commonly referred to as retail Home-Meal-Replacement or Meal Solutions.

As Americans spend less time preparing the meals they eat at home, the convenience of fresh-cut produce has become more important. Bagged salads (washed, cut, and ready-to-eat salads) are now a major sector of the produce industry. New developments in packaging technologies have spurred the growth of a wide array of fresh-cut products, still primarily on the vegetable rather than the fruit side of the industry. Marketing fresh-cut produce differs from bulk commodities in that they are usually either branded or private-label products, which need dedicated shelf space year round. In 1997, 19 percent of retail produce sales were branded products, compared with only 7 percent in 1987 (Kaufman et al., 2000b).

Growth of the fresh-cut industry may also have structural impacts. Bagged salads require substantial capital investments in plants and machinery, in excess of \$20 million for a processing plant. This creates a significant barrier to entry, particularly when the fixed assets have relatively limited use outside of processing salad ingredients. Research and development to produce sophisticated films to manage product transpiration/respiration rates and extend shelf life is also costly.

As a result of the high costs of entry and other factors, the number of firms in the bagged salad industry is relatively small. For 1999, Information Resources, Inc. (IRI) scanner data show that 54 firms sold to mainstream supermarkets (these firms may also sell to other types of buyers as well) and that the two largest firms accounted for 76 percent of fresh-cut salad sales. However, there are still other fresh-cut processors serving foodservice and other local and regional processors producing more perishable fresh-cut produce—such as fruit and limited-shelf-life vegetables like chopped tomatoes and onions—for nearby markets. More stringent food safety standards may contribute to further consolidation in the fresh-cut processing industry.

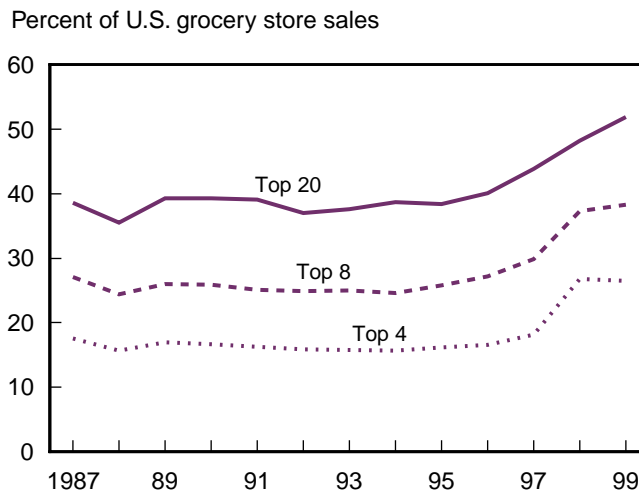
Increased coordination between shipper and buyer becomes critical as shippers develop more specialized or differentiated products for particular buyers. For example, a retailer may want products tested for food safety by specific companies, a particular brand of bagged salad, or an unusual domestic or imported product. The growing use of shipper/retailer contracts is one way to achieve vertical coordination. Use of contracts can also have structural impacts, as shippers often need to have a large supply to guarantee volume commitments (Carman et al., 1997).

New technology is transforming the shipper/retailer relationship as well. Information technologies have dramatically changed the amount and timeliness of information available. With the advent of standardized price look-up (PLU) codes on variable-weight products, retail sales data are now available, allowing for the implementation of category management programs in the produce department. With more accurate tracking of sales and profit margins, shippers and retailers can work together to improve category profitability by designing effective sales, product mix, and pricing strategies, potentially benefiting preferred suppliers as well as the retailer. Investing in the human resources and technology necessary to analyze category information, however, may be difficult for smaller shippers to finance. As a result, grower/shipper mandated marketing programs, such as the California Tomato Commission, are developing category management programs with selected retailers, enabling shippers of all sizes to share in the benefits.

Improvements in transportation and technologies that prolong the life of fresh produce have also boosted trade (Carman et al., 1997). Globalization of the produce market can introduce both new competition and new opportunities. While freer international trade has facilitated shippers' efforts to provide a year-round supply to their buyers, sudden influxes of imports during competing seasons can force adjustment on U.S. growers and shippers. For example, the recent growth of clementine imports during the winter has placed new competitive pressure on California orange growers and shippers. Still, in a consumer-driven system, imports will likely continue to grow in response to consumer demand. To be competitive, more shippers are expected to position themselves to participate in this growing trade.

Retail consolidation at the national level has altered the shipper/retailer relationship. A recent wave of food retail consolidation has seen the sales shares of the largest 4, 8, and 20 U.S. retailers' rise sharply. The top 20 retailers consist exclusively of retail chains, with the number of grocery stores per chain ranging from 57 to over 2,200. In 1999, the 4 largest food retailers' share of grocery store sales was 27 percent, up from 18 percent in 1987; the 8 largest retailers' share was 38 percent, up from 27 percent; and the 20 largest retailers' share was 52 percent, up from 39 percent (fig. 1). While food retailers have been consolidating, so have other produce buyers such as wholesalers that sell to retail buyers.

Figure 1
Grocery sales of the largest four, eight, and twenty food retailers, 1987-99



Sources: Census of Retail Trade, Census Bureau, 1987 and 1992; and company annual reports.

Grocery-oriented wholesalers undertook 32 mergers and acquisitions in 1999 and a cumulative total of 105 since 1997. Foodservice wholesalers completed 31 mergers and acquisitions in 1999. Still, foodservice wholesalers remain relatively fragmented. In 1998, the 4 largest foodservice wholesalers accounted for 21 percent of the \$147 billion in total foodservice wholesale industry sales, followed by the top 8 and 20 firms with 25- and 27-percent shares (Tanyeri, 1999). Ongoing consolidation in the general-line, produce (specialized), and foodservice wholesaling industries will continue to contribute to a more consolidated marketplace, even though consolidation at the wholesale level still lags behind retail.

Retail consolidation has influenced the way firms deal with produce shippers. Retailers often cite the potential for lowering procurement, marketing, and distribution costs as motivating mergers and acquisitions. By purchasing more volume directly from larger shippers, retailers hope to gain greater efficiency in procurement by eliminating intermediaries and lowering the per-unit cost of goods. Large retailers also desire large volumes of consistent product to provide uniformity across all their stores, which may be more easily supplied by larger shippers. In return for consistent supply, retailers are able to offer shippers preferential procurement agreements such as partnering, long-term agreements, and other strategic alliances that can be mutually beneficial. Large retail-

ers can also achieve marketing efficiencies, such as lower costs for advertising.

Consolidating retailers have also cited potential cost savings through streamlining of product distribution functions. Large retailers typically are self-distributing; they perform wholesaling activities such as purchasing goods from suppliers, arranging for shipment to distribution warehouses, and replenishing store-level inventory. Supply-chain management practices such as continuous inventory replenishment are becoming more common. Under this system, shippers have access to retail sales data and are responsible for providing the correct amount of produce to each distribution center served, on a just-in-time basis, potentially reducing the size and cost of retail distribution centers. It also allows retailers to streamline and downsize their produce buying offices. However, to date, mainly mass merchandisers rather than conventional grocery retail chains have implemented automatic inventory replenishment systems in fresh produce. The future impact of consolidation on shippers depends in large part on the types of procurement models eventually adopted

by the consolidating firms and whether they turn to more closely coordinated supply chain models.

In general, shippers have also been consolidating, although there is considerable variation among different sectors. For example, of 149 California fresh grape shippers, none are estimated to account for over 6 percent of total industry sales. In contrast, there were only 25 California tomato shippers in 1999 and 23 in 2000. Although there were 54 bagged salad firms in 1999 selling to mainstream supermarkets, the top two accounted for 76 percent of total fresh-cut salad sales. Hence, for a few fresh produce items, consolidation at the shipper level has surpassed retail consolidation, even though the sales of these firms may still be small relative to those of the large retail chains. Shipper consolidation is motivated by many of the industry trends discussed above. Larger firms are more able to provide the services requested by consolidating retailers, and they may also develop some countervailing power in their relationships with retailers. More shipper consolidation is expected in the future (Eldredge, 2000).

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.

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, 1994-99¹

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--									<i>Million dollars</i>
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 1999¹

Item	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce/bagged salads
				<i>Number</i>		
Average number of regular buyers in 1999	171	198	78	118	84	367
				<i>Percent</i>		
Average change for individual shippers in number of regular buyers between 1994 and 1999	7	-12	9	-4	-9	n.a.
				<i>Number</i>		
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 1999¹

Item and year	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce	Bagged salads
	<i>Percent of total sales²</i>						
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

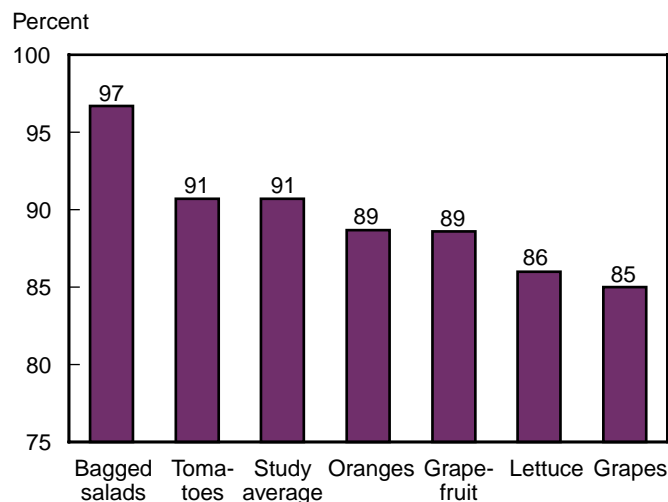
Retailers reported a mix of experiences with the number of suppliers over 1994-99. Overall, 39 percent of retailers said the number of regular suppliers remained unchanged, 32 percent saw a decrease, and 29 percent reported an increase. Large national chains were more likely to report a decrease in number 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 cor-

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.

porate 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.

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 prod-

ucts, 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 1999¹

Product and marketing channel	Type of sales mechanism			
	Daily sales	Advance sales	Short-term contract	Long-term contract
<i>Percent of sales via each sales mechanism</i>				
1994				
Grapes, oranges, grapefruit, and California and Florida tomatoes				
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 replen-

ishment 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 food-service users, hence, the need to ensure stable supply and predictable pricing. Lettuce was sold to foodservice mainly via advance sales (table 8).

Contracts

Both buyers and sellers face risks when forward contracting in markets with volatile prices. The fresh produce industry has begun to experiment with contracting provisions that meet both buyer and seller needs. This process appears to be led by mass merchandisers rather than conventional retailers, although foodservice users are also becoming more involved.

Given the growth in contracts and its implications for the coordination of supply and demand, contracts were explored in more detail. For the most part, the percentage of sales under contract with any given buyer is quite low. Short- and long-term contracts together averaged 18 percent of total sales in 1999 for grapes, oranges, grapefruit, and tomatoes, and 14 percent for lettuce (table 8). While contracts for most fresh produce items are relatively new, a broad range of shippers already use them. When we asked firms detailed questions about contracts with all types of buyers, 44 percent of grape shippers, 89 percent of orange shippers, 50 percent of grapefruit shippers, 80 percent of California tomato shippers, 33 percent of Florida tomato shippers, and 88 percent of lettuce shippers reported having at least one contract. California tomato repackers use contracts for a much larger percentage of their sales than tomato shippers, since they are the final service providers to large foodservice and retail buyers. Data are not available for bagged salads, but industry experts estimate that about 95 percent of the volume sold to retail is under contract.

Shippers have many reasons for contracting (table 9). Across all commodities (excluding lettuce and bagged salads, which had inadequate data), shippers reported three main factors influencing their decision to enter into retail contracts: to ensure the market or sale, to maintain future relationships with buyers, and to achieve stable prices. While some shippers actively seek contract business with their customers, most providing contracts indicated that it was in response to buyer requests.

Designing efficient contracts from the standpoint of both buyers and sellers is a challenge for perishable crops where prices may fluctuate significantly due to exogenous supply and demand shocks, beyond more predictable seasonal factors. If a product is in short supply, buyers will be protected from high prices via contracts but shippers will lose the opportunity to benefit from high spot market prices. With large supply, shippers may benefit from either a higher contract price or greater assurance that they will sell their produce, even at the prevailing market price, while buyers risk overpaying relative to competitors not using contracts. Fluctuations in volume, as well as price, pose problems for both shippers and retailers. Shippers must have a sufficiently large supply to be able to commit a particular volume to a buyer. Buyers may want to limit their risk exposure, reluctant to be locked in to purchasing from a supplier who may experience inconsistencies in quality, sizing, and volume.

Shippers may be further constrained in their decisions regarding contracting by their relationships with the

Table 9—Importance of various factors in shippers' decisions to use contracts¹

Item	Average degree of importance (1 = not important, 5 = very important)						
	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce/ bagged salads	All products
Assured market or sale	4.4	4.4	4.2	4.5	4.0	n.a.	4.3
Maintenance of future relationship with buyers	4.2	4.5	4.2	4.5	4.0	n.a.	4.3
Price stability	3.6	3.8	4.4	3.5	4.5	n.a.	3.8
Pressure from retailers and their repackers	2.8	2.9	4.0	3.2	2.5	n.a.	3.1
Superior price	3.4	3.0	3.4	2.8	1.5	n.a.	3.0
Incentives provided by retailers	2.6	2.1	2.6	2.3	1.0	n.a.	2.3
Reduction in cost of sales and marketing	3.0	1.6	2.6	2.5	1.0	n.a.	2.2
Reduction in cost of distribution	3.0	1.4	2.8	2.0	1.0	n.a.	2.0
Pressure from growers	2.6	1.6	2.2	1.7	3.0	n.a.	2.0
Prior experience with foodservice contracts	1.8	1.1	1.0	3.0	3.5	n.a.	1.8

n.a. = Not available.

¹ Results are based on a limited number of observations and must be interpreted with caution.

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

growers for whom they market. Product is usually marketed by shippers on a fixed fee per box or commission basis rather than purchased outright from growers. During periods of high prices, growers may expect the market price rather than a lower contract price, making some shippers reluctant to contract for volume provided by their affiliated growers as opposed to their own production.

Since the fresh produce industry has tended in recent years toward excess supply more than excess demand, the incentives to contract would seem to be higher for shippers than for buyers. But since shippers may make their entire annual profit during brief periods of short supply when price spikes occur, many have been reluctant to forward contract. Since buyers most often initiate contracts, this implies that there are other benefits accruing to buyers such as reduced transaction costs or increased reliability of supplies.

For all contract types with any type of buyer, numerous options for managing price and volume are possible. Shippers were asked to describe the provisions of the most commonly used contract types. Hence, the information provided could apply to more than one contract of the same type, and some shippers described more than one type of contract. Price may be fixed, allowed to fluctuate with the f.o.b. price within a price band (with or without adjustments when the market price is outside the band), or—in the case of some inventory replenishment contracts—flexible. Table 10 provides information on grapes, oranges, grapefruit, and California and Florida tomatoes; lettuce and bagged salad contracts are discussed below. As shippers and retailers gain experience, the characteristics of contracts will continue to evolve.

The *fixed price and fixed volume* option was used in 14 percent of the contract types reported by shippers. Many may consider this least flexible option too risky. Most common in our interviews (29 percent) were *fixed price contracts with minimum volumes*. Indeed, shippers report that when forward contracting, the most important consideration is to establish a minimum volume. Otherwise, if prices are lower than the specified contract price, buyers will simply purchase on the spot market from other shippers. Most of the contracts discussed in the interviews had at least a minimum volume provision (if not a fixed volume or volume range provision), and even automatic inventory replenishment plans entail a commitment of sorts. Shippers used *fixed price with a volume range* for 23

Table 10—Characteristics of contracts for grape, orange, grapefruit, California tomato, and Florida tomato shippers, 1999¹

Contract characteristics and type	Percent of contract types ²
Type of price and quantity provision used in contract	
Fixed price/minimum volume	29
Fixed price/volume range	23
F.o.b. pricing with price band/minimum volume	17
Fixed price/minimum volume	14
Flexible price/inventory replenishment	11
Fixed price/inventory replenishment	3
None	3
Fees and services specified in contract	
Special packs	54
Special promotion programs	37
None	23
Category management	17
Third-party food safety certification	14
Electronic data interchange	11
Automatic inventory replenishment	11
Additional service personnel	6
Other	3
Form of contract	
Verbal	37
Written	63
Buyer commitments held up over the life of the contract	
Yes	83
No	17

¹ Results are based on a limited number of observations and must be interpreted with caution.

² Since provisions can vary from contract to contract, shippers were asked about the general types of contracts they have and the characteristics of those contracts.

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

percent of contract types. Orange and grapefruit shippers frequently used this type of contract. Once the greatest freeze risk passes, the supply of citrus for the upcoming season is known, since the fruit is stored on the tree and harvested as needed, which reduces risk.

California tomato shippers and repackers often used *f.o.b. price bands with minimum volumes* (17 percent of contract types overall). Price may be fixed within a band but more typically is simply the f.o.b. shipping price reported by Market News. The use of price bands may be due to the importance of joint-venture sourcing with growers for California tomato shippers and the resulting grower pressure to take advantage of price spikes. This way, once the price band is exceeded, if the minimum volume has been met, the shipper is free to charge the market price.

Clearly, price volatility in the produce industry continues to pose challenges in designing contracts beneficial to both buyers and sellers. Any of the above types of contracts may be designed with supplementary adjustment mechanisms. For example, when the f.o.b. price exceeds the high price in a contract by a predetermined amount, the high price may ratchet up a specified amount, but less than the market price. Hence, if market prices exceed the price band, shippers are still able to return a price to growers more reflective of the f.o.b. spot market. Likewise, when f.o.b. prices go below the minimum contract price, the price may adjust downward by a specified amount, allowing retailers to source at more competitive prices. The buyer might otherwise tend not to meet the minimum volume commitment, forcing the shipper to find another buyer in a depressed marketplace.

Automatic inventory replenishment was used in 11 percent of the contract types with a flexible price and in 3 percent with a fixed price (table 10). Only for 3 percent of the contract types were there no price or volume provisions, meaning that the contract type merely reflected an ongoing preferred supplier relationship, specifying other arrangements such as packaging or other services.

As discussed earlier, contracts are a means for firms to better coordinate supply and demand, particularly for differentiated products. Many contract types include services that help tailor the product to retailer needs, such as provision of special packs (54 percent) and promotion programs (37 percent). That said, 23 percent of contract types specified no fees and services.

Contracts can still be informal unwritten deals consummated with a handshake. Nevertheless, in 1999, 63 per-

cent of contract types were written (table 10). As noted earlier, shippers commonly report that buyers do not always honor advance pricing, manifested as lid prices for advertisements. The types of contracts reported here are different because they reflect ongoing relationships and advance buying arrangements rather than just one-time advance prices without buying commitments. Shippers viewed these contracting arrangements favorably, reporting that 83 percent of contract types had held up over time (table 10). Orange shippers reported most of the failed contracts, perhaps the result of the freeze in the 1998/99 season that reduced total orange production by 48 percent from the previous season.

Use of contracts will likely continue, especially as larger buyers begin to adopt supply chain management practices that focus more on year-end rather than weekly results, as well as focusing more on net rather than gross returns. The shippers interviewed for this study were largely satisfied with the results of contracts. Actions required to meet contract requirements—most frequently assigning employees to the contract account and requiring employees to work overtime—appear to be manageable (table 11). Buying produce from others due to a production shortfall did not seem to be a serious problem. Grape and California tomato shippers mentioned the need to develop global sourcing to meet year-round or extended-season contract commitments.

Lettuce firms also used a range of contract types. Several shippers indicated that their contracts with retail buyers had fixed prices with volume ranges. Other shippers used f.o.b. pricing within a specified price band with price adjustments. A few other firms mentioned that they used a variety of contract types. Sometimes the type of contract depended on buyer

Table 11—Actions to meet contract requirements, 1999¹

Item	Average of frequency of actions (1 = never, 5 = often)						
	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce/ bagged salads	All products
Assign employees to account	3.8	2.4	4.0	3.3	1.5	n.a.	3.1
Require employees to work overtime	2.8	2.9	3.2	3.2	1.5	n.a.	2.9
Buy produce from others	2.8	2.5	3.0	2.8	1.5	n.a.	2.7
Form joint ventures or strategic alliances	3.2	1.5	2.5	3.2	3.0	n.a.	2.5
Acquire additional transport and/or storage	3.0	2.0	2.8	2.8	1.5	n.a.	2.5
Redirect shipments from other customers	2.0	1.9	2.3	2.8	3.0	n.a.	2.3
Develop global sourcing opportunities	3.3	1.1	2.0	3.3	n.a.	n.a.	2.1

n.a. = Not available.

¹ Results are based on a limited number of observations and must be interpreted with caution.

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

preferences and sometimes the shipper only offered certain types of contracts to their best customers.

Provisions for advertisement promotions are sometimes included in lettuce contracts. Lower prices are specified, and sometimes a higher volume commitment. Lettuce contracts were both verbal and written and usually negotiated on an annual basis. A few firms used shorter contracts—for 3, 6, and 9 months—while one had a multiyear contract. Only a few lettuce firms indicated having contracts with foodservice buyers,

although several mentioned the stable, ongoing relationships they had with many foodservice buyers. Foodservice contract provisions ranged from the flexible, with price and quantity determined on a weekly basis, to a fixed price with a specified volume. Instead of a set duration, contract terms were often renegotiated only when necessary. Bagged salad contracts are written and specific about price, quantity, advertisement periods, fees, and services. They are usually annual or multiyear contracts.

Fees and Services

All but five of the interviewed firms reported that fee and service requests from grocery retailers and mass merchandisers had increased; none reported a decrease. The five exceptions were California and Florida tomato shippers, who felt that requests were unchanged. Responses from the retailer interviews confirm the increase in fees and services. We asked shippers to describe their experiences with a list of possible fees and services. For each type of fee or service, we know if a shipper paid a fee or provided the service or had received a request to do so, but not to how many accounts it applied. Generally, firms reported that multiple buyers requested a particular type of fee or service.

Not all fees and services were necessarily viewed as harmful. Some were thought to enhance product movement or to provide competitive advantages to the shipper. In general, fees were viewed as more harmful than services, which likely explains the higher shipper compliance rate with services. Specifically, 17 percent of the types of fees requested were viewed as beneficial, 21 percent were viewed as neutral, and 62 percent were considered to be harmful. In contrast, 44 percent of the types of services requested were considered beneficial, 27 percent neutral, and 29 percent harmful.

Fees

On average, 3.7 different types of fees had been requested by retailers and mass merchandisers or offered by shippers in 1999 (table 12). As price takers,

individual commodity shippers may not be able to pass fees along to buyers. As a result, with the exception of fresh-cut produce, shippers generally paid fees only when required to do so by their retail customers rather than using them proactively to capture greater market share from competitors.

Florida and California tomatoes had the least number of fee requests or offers (2.5 and 2.3) and grapefruit shippers the most, 5.4 (table 12). However, if the lettuce and bagged salad data are separated, bagged salad shippers experienced 5.8 types of fees. The relatively high incidence of fees for grapefruit shippers is puzzling. One explanation is that theirs is the only considered commodity with declining per capita consumption; retailers may request more fees to mitigate low grapefruit demand relative to supply.

Nearly half of all fee requests were reported to be new within the last 5 years. For lettuce/bagged salad shippers, however, fees appear more longstanding with only 30 percent reported to be new (table 12).

We asked how shippers dealt with requests for different fee types and the consequences of their actions. In the interviews, we provided four options for each type of fee request: the shipper complied with a request, did not comply but suffered no adverse consequences, did not comply and lost the account, or negotiated an alternative (see appendix). If a firm reported that they complied with a request for a particular type of fee, we do not know if they complied with a request for just one account or for more than one. For example, if all firms complied with a fee request for at least one

Table 12—Average number of fee types reported per shipper and dispositive of requests by product type, in 1999¹

Item	Grapes	Oranges	Grapefruit	California tomatoes	Florida tomatoes	Lettuce/bagged salads	All products
<i>Number per firm</i>							
Average number of fee types requested by or offered to retailers and mass merchandisers ²	3.2	4.3	5.4	2.3	2.5	4.7	3.7
<i>Percent of requests³</i>							
Average share of new fee types among requested fee types ⁴	52	59	49	61	47	30	48
Average share of requested fee types complied with	69	51	45	36	29	79	58
Average share of requests resulting in accounts lost when not complied with	33	47	47	15	100	63	41

¹ Results are based on a limited number of observations and must be interpreted with caution. The nine types of fees considered are listed in the box, "Fees."

² Shippers were asked if they paid a type of fee to any of their retail accounts. Thus, these results indicate the number of fee types paid to at least one retail account.

³ Includes fees offered by shippers.

⁴ New since 1994.

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

account, we would show 100 percent compliance but this does not mean that all firms complied with requests for 100 percent of their accounts.

Also, when firms have more than one account for any particular type of fee, they could report more than one option for dealing with requests. A firm with fee requests for more than one account could possibly report more than one outcome and perhaps all four; we do not have a one-to-one mapping of accounts and fee request disposition. As a result, the sum of the four responses does not necessarily equal 100 percent (although firms often reported the most common way they handled fee requests). For example, in table 12, for those grape firms receiving requests for the nine types of fees considered, 69 percent of requests were complied with for at least one account. Another 33 percent of requests had at least one account where the shipper did not comply with the fee and lost the account.

On average, shippers complied with 58 percent of the types of requests they received. Here, the differences among products were striking. Florida tomato shippers complied with only 29 percent of the types of fee requests they received, compared with 79 percent for lettuce/bagged salad shippers.

For 41 percent of the requests, shippers did not comply and lost business for at least one account. California tomato shippers appeared to suffer these consequences much less; only 15 percent of fee type

requests not complied with resulted in lost accounts (table 12). In general, many California commodity firms indicated that although they didn't always lose an account when unwilling to comply with a special fee request, they often noted a decline in purchases from the firm in question. These firms expressed concern since they felt unable to fully measure the opportunity cost of noncompliance. In other words, it is difficult to know what would have happened with sales to an account if fees had been paid.

Volume incentives (see box, "Fees") are the most commonly provided type of fee with the highest cost to shippers. While some fees are new within the last 5 years, volume incentives have been used for years, although perhaps not at current levels. Volume incentives were requested of 73 percent of the firms interviewed, with only 18 percent of the requests reported as new (table 13).

Volume incentives are typically implemented as graduated incentives, with the discount per carton increasing when certain volume goals are met. When retailers respect these graduated volume scales, some shippers view their implementation as beneficial. In other cases, shippers report that retailers take the deeper discounts regardless of whether the volume goals are met. When billing and payment discrepancies of this type occur, some shippers are unwilling to engage in disputes for fear of losing a retail customer. More shippers consid-

Table 13—Fees requested by retailers and mass merchandisers, by type, 1999¹

Fee type	Average share of firms		Average share of requests ³		
	Providing fee ²	With a fee request ³	New ⁴	Complied with ⁵	Lost account for noncompliance ⁵
	Percent				
Volume incentives/discounts	40	73	18	68	33
Promotional allowances or cooperative advertisements	34	62	41	67	50
Other rebates	29	58	38	61	64
Free-product discounts	28	42	26	78	25
E-commerce fees	12	24	92	62	0
Buy-back unsold products or failure fees	11	22	42	58	25
Retail capital improvement fees	9	40	64	27	23
Pay-to-stay fees	8	27	93	33	63
Slotting fees	6	24	92	31	57

¹ Results are based on a limited number of observations and must be interpreted with caution.

² Shippers were asked if they provided a type of fee to any of their retail accounts. Thus, these results indicate the share of firms paying fees to at least one retail account.

³ Includes fees requested, whether complied with or not, and fees offered by shippers to at least one account.

⁴ New since 1994.

⁵ For any fee type requested, a shipper may comply with a request, not comply and suffer no adverse consequences, not comply and lose an account, or negotiate an alternative. A shipper may have more than one account and more than one response for the same type of fee, so the four alternatives (even though we only report two) do not necessarily sum to 100 percent.

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

ered volume discounts as harmful or neutral rather than beneficial.

Still, volume incentives have the potential to promote more stable relationships between suppliers and retailers; as the retailer buys more units from the supplier, costs per unit decline, providing an incentive for the retailer to buy larger quantities (over the season) from a particular supplier. Shippers may also gain efficiencies in marketing by increasing the size of accounts.

Promotional fees or cooperative advertisements are the second most frequently requested fee, with 62 percent of shippers having either received requests or offered this fee (table 13). If there is a performance commitment on the part of the buyer to promote the product, shippers may gain—for example, if an advertisement for a product stimulates demand. However, many shippers question the return received from promotional allowances since it is often unclear to them how retailers are spending monies allocated to promotion and whether consumer demand is indeed enhanced. Demand for fresh produce is generally relatively inelastic within certain price ranges. Hence, within these ranges, lower prices may not stimulate greater product movement, discouraging retailers from reducing retail prices in accordance with f.o.b. price reductions. When this occurs, promotional allowances may provide a benefit to the retailers' bottom line without stimulating additional shipper sales.

Other rebates are simply a reduction in price with no benefit to shippers unless such a payment is critical to retaining an important buyer. Other rebates seem to have been present for a while as only 38 percent of the requests for other rebates were new. The compliance rate is relatively high at 61 percent, which may be related to the fact that 64 percent of the requests not complied with resulted in lost accounts—the highest level of any fee or service considered (table 13).

Twenty eight percent of shippers paid **free-product discounts** and they generally viewed this fee as reasonable. Shippers are used to this fee—only 26 percent reported that it was new in the last 5 years—and the compliance level was the highest of all the fees, 78 percent. Even for those that did not comply with this fee, just 25 percent lost accounts, a low rate for fees in general. These free product discounts are generally paid when retailers are opening new stores or warehouses.

E-commerce fees are charged by e-commerce firms to sell products using their electronic exchanges. These

Fees

Volume incentives. With this type of fee, shippers and buyers agree that a per-unit rebate will be paid once a certain volume level is attained. Volume incentives are usually structured with graduated scales, increasing as certain target volumes are reached. This is a retroactive payment after sales for the season or a specified period are over.

Promotional allowances or cooperative advertisements. This is a fee that shippers pay to retailers to advertise their products. This may be a fixed, upfront fee or structured as a per carton allowance. There may or may not be a performance commitment associated with these fees.

Other rebates. This is a per-unit price reduction without any performance commitment, such as those associated with volume incentives.

Free product discounts. When a shipper offers a new product, a retailer may request a certain number of free boxes, usually a specific number per store. Conversely, when retailers open new stores, they may request free product from their suppliers.

E-commerce fees. Fees charged by new e-commerce firms to sell products using their electronic exchanges.

Buy-back unsold product or failure fees. Retailers may charge suppliers fixed fees when products fail or force shippers to take back product rejected at the distribution center level. A few shippers offer to buy back products that do not sell.

Capital improvement fees. Retailers request that shippers help pay for capital improvements, such as purchasing new refrigerated display equipment or new warehouse construction.

Pay-to-stay fees. These are upfront fees paid for an existing product to retain shelf space.

Slotting fees/listing fees/warehouse fees. Traditionally, slotting fees have been used to guarantee shelf space for new products. A slotting fee may be a one-time or an annual fee. Listing or warehouse fees are similar.

fees are new and only 24 percent of shippers had received a request, with 62 percent of requests complied with, and no one losing business by not complying. E-commerce fees may become significant if more

buyers incorporate e-commerce into their procurement systems. These fees were originally expected to amount to 1-2 percent of each invoice and many shippers indicate that their profit margins are insufficient to support this level of new expense. The e-commerce firms appear to be rapidly evolving toward fixed monthly fees as a more appropriate business model. Still, many shippers are concerned about paying any new fee to market to existing customers.

Although only 22 percent of firms reported a request for *buy-back unsold product or failure fees*, they had a relatively high rate of compliance, 58 percent, largely due to a perceived lack of an alternative. Shippers may be asked to take product back upon arrival at a distribution center, even paying the return freight. While some requests are for product rejected as sub-standard, shippers also accuse retailers of rejecting product without Federal or State inspections in periods of abundant supply. This practice was viewed as very harmful to shippers, but few firms reported lost accounts due to noncompliance, largely due to the negotiation of alternatives such as invoice adjustments.

One of the fee types considered most onerous by shippers is a request by retailers for their suppliers to contribute to the cost of *capital improvements*, such as the construction of distribution centers or refrigerated display equipment. Forty percent of the firms in our study reported having received this type of request, although the compliance rate was the lowest of the fees considered, likely because 100 percent of the requests were viewed as harmful. Some firms reported that even though they did not agree to comply, deductions were still made from their invoices for charges of this type. While at least three cases of requests to contribute to the construction of new distribution centers have been documented nationally, they appear to be relatively isolated occurrences compared with requests for sharing the cost of new equipment. However, requests to contribute to the cost of any type of capital improvement are included in these responses.

Fresh produce shippers are particularly concerned about *pay-to-stay fees* and *slotting fees*. Slotting fees are fixed, upfront fees to retailers to guarantee shelf space for new products. Pay-to-stay fees are similar fees for existing products. Economists distinguish between these two types of fees (see box, "Economics of Slotting and Pay-to-Stay Fees"), but in practice they are often used interchangeably. We frequently consider

the two fees together and call them slotting fees to simplify the discussion. Slotting fees first appeared in the nonproduce section of the grocery store beginning in 1984 (Sullivan, 1997) and have only recently become an issue for produce shippers. The emergence of slotting fees in fresh-cut produce has led to shipper concern that they will soon become standard for commodities as well.

A key finding of this study is that this does not appear to be the case, at least so far. Only two grape, three orange, three grapefruit, one California tomato, one Florida tomato, and three lettuce shippers reported that slotting fees had been requested for either a new or existing product. Requests were new within the last 5 years, except for one grapefruit firm. Shippers do not always distinguish between slotting fees and other fixed, upfront fees. In one case, a buyer required a shipper to pay a fixed, upfront promotional fee in order to gain their business and the shipper classified this as a slotting fee. One lettuce firm reported paying a slotting fee once, although it is not clear whether that was for lettuce or a fresh-cut product, but then decided not to pay again and lost the account. Several firms did lose accounts by not paying requested slotting fees—one of the orange shippers and all three of the lettuce firms. One grape shipper received a request for a \$15,000 slotting fee, but successfully negotiated an alternative without losing the account. In the end, none of the commodity shippers interviewed were actually paying slotting fees.

Slotting fees are common for bagged salads and other fresh-cut branded products. Most lettuce/bagged salad shippers said that shippers initiated slotting fees in the mid-1990's in an effort to win new retail accounts and gain market share (see box, "Emergence of Slotting Fees in the Bagged Salad Industry"). A few bagged salad shippers said that retailers initiated slotting fees. When retailers were asked the same question, responses were mixed. About half said retailers had initiated slotting fees, while half said shippers had. Retailers agreed that slotting fees are used to obtain or increase shelf space. All bagged salad shippers received requests from retailers to pay slotting fees. Most paid slotting fees, either in response to retailer requests or to remain competitive with other shippers. Two firms did not comply; one was able to make an alternative arrangement, while the other, for whom bagged salads were a minor part of the business, lost the account.

Lettuce/Bagged Salads

Nearly all of the lettuce consumed in the United States is produced domestically. The vast majority of domestic production is situated in just two States: California and Arizona. Harvested area of head, leaf, and romaine lettuce in California and Arizona averaged 195,988, 41,538, and 29,213 acres, respectively, during 1992-99 and accounted for over 94 percent of U.S. acreage on average (USDA, NASS).

A relatively small number of shippers coordinate the growing, processing, and transport of lettuce. Nearly all the major shippers have headquarters and year-round sales offices in the Salinas, California, area. Domestic production throughout the year is facilitated by precise sequencing of production within and across major producing areas (Wilson et al., 1997). A typical sequence of production for iceberg lettuce begins in the Salinas Valley from April through October. Huron, California, briefly provides production while the industry shifts from Salinas to the desert areas of Yuma, Arizona, where production continues from November through March. Huron provides another brief production bridge between the desert and the Salinas Valley in March and April. Leaf lettuces may follow a slightly different sequence of growing regions, which could include the Santa Maria, Coachella, and Imperial valleys in California. Regardless of the geographic sequence, grower-shippers need to control the sequence of production to assure that no gaps occur in their year-round supply. Control can be achieved by many methods ranging from outright ownership, to handshake agreements, leasing, and contracts with various risk positions. While coordinating year-round production, harvesting, processing, and shipping across these domestic regions is a formidable task, it likely involves lower transaction costs than coordinating tomato shipments from Mexico or grape shipments from Chile.

Most shippers of iceberg, leaf, and romaine lettuce are diversified leafy-green vegetable shippers with large product lines including broccoli, cauliflower, celery, and many other products. Most of these Salinas-based shippers carry wide product lines as a way to offer their customers one-stop shopping. Some of these same shippers also focus on specialty items that have thinner markets. Several of the interviewed firms had expanded into the production and/or marketing of organic produce.

Many lettuce shippers engage in some degree of processing. Industry participants refer to processed products as fresh-cut or value-added items. Adding value may require relatively little processing, as is the case with

leaf lettuces inserted into sleeves. Slightly more processing is required for items such as broccoli florets. But the level of investment and degree of sophisticated technology required for producing bagged salads is an order of magnitude greater than for other value-added products. Fresh-cut products like bagged salads require substantial capital investments in plants and machinery, in excess of \$20 million for central or regional processing plants. The plastic films used in manufacturing bags must be designed for specific respiration rates of the processed vegetables inside the bag. Investment in research and development for new films continues constantly. Exact-ing logistics are followed to maintain the cold chain of the bagged products, because deviations from the ideal temperature could degrade product quality.

Commodities are undifferentiated products like unwrapped iceberg lettuce that may or may not be branded. These products have a price look-up (PLU) code but seldom have a universal product code (UPC) bar code. Value-added items like hearts of romaine are more likely to be branded, carry a UPC code, and are more convenient for final consumers than commodities. Fresh-cut items such as bagged salads may even include salad dressing and croutons. These items are usually branded, whether as a private label or that of a particular salad firm, and all salads are scanned at retail checkout.

Largely because of the barriers to entry in the bagged salad market, only five firms have effectively vied for major shares of the national retail market (table A). Competition for regional and national market shares has been intense, resulting in even larger market shares for the top two firms. From 1994 to 1999, the top two firms increased their joint market share from two-thirds to three-quarters of national mainstream supermarket sales. Some of the remaining three firms among the top five apparently shifted from branded products to private label. The number of competitors outside the top 5 firms shrank from 58 to 48 over the same period, while their joint market share also shrank from 6 to less than 3 percent of total dollar sales.

Table A—National market shares of fresh-cut salad sales in mainstream supermarkets

Firms/brands	1994	1999
	<i>Percent</i>	
Top two firms	66.1	75.5
Top five firms	91.2	87.6
Private-label brands	2.4	9.7
All other firms	6.4	2.7

Source: Information Resources, Inc.

Economics of Slotting and Pay-to-Stay Fees

Since slotting and pay-to-stay fees first appeared in the nonproduce section of the grocery store beginning in 1984, the economics literature on these fees is new and focuses on manufactured products and retailers.

Slotting Fees: In the narrowest definition, a slotting fee is a lump sum payment made by a supplier to a retailer for introducing a new product to the supermarket shelf. The standard set of assumptions used when analyzing slotting fees is that there is a limited supply of shelf space coupled with new product introductions. There is uncertainty about consumer acceptance of a new product, making the risk of new product failure unknown. Most researchers assume that manufacturers, as product innovators, have better information about product quality and consumer acceptance. Manufacturers may transmit information about product quality (or consumer acceptance of the new product) to retailers by offering to pay a slotting fee (Lariviere and Padmanabhan, 1997). Alternatively, retailers may request slotting fees from manufacturers, under the assumption that manufacturers of high-quality products (those that consumers are likely to accept) are more likely to pay slotting fees than are manufacturers of low-quality products (Chu, 1992). Some researchers argue that slotting fees might be the result of retailer market power, and can reduce consumer welfare by reducing output, increasing prices, or reducing product innovation (see the surveys by Bloom et al., 2000, and Richards and Patterson, 2000).

Others argue that consumers benefit because slotting fees make it possible for new products to enter the market (Sullivan, 1997). The net benefit of the two (possibly) competing effects is difficult to predict, and would be specific to each particular situation. The overall welfare effect of slotting fees is largely an empirical question, which has not yet been addressed by researchers.

Pay-to-Stay Fees: Pay-to-stay fees are fixed payments manufacturers make to retailers for keeping their product on the shelf. Like slotting fees, pay-to-stay fees may result from retailer market power. Unlike slotting fees, pay-to-stay fees do not transmit quality information, since consumer acceptance of the product is already known. There are some alternative explanations for the pay-to-stay fee. First, retailing costs have been increasing, and the fee may be a way to allocate these costs between the supplier and retailer (Toto, 1990). An efficient allocation would spread the costs to the party that could most easily bear them; an efficient allocation is most likely when the parties have equal bargaining power. If one has a strategic advantage, however, the other might ultimately bear a greater cost (Gundlach, 2000). Second, the manufacturer might be paying the retailer to “not carry” a new, substitute product, another brand of a substitute product, or a private label product. Third, the fee might serve to place the product in a prime location, such as in an eye-level space on the shelf.

None of the bagged salad shippers would reveal the exact size of the slotting fees requested or paid by their firm, but several would talk about general use of slotting fees in the sector. For instance, shippers reported that slotting fees generally ranged from \$10,000-\$20,000 for small retail accounts to \$500,000 for a division of a multiregional chain, and up to \$2 million to acquire the entire business of a large multi-regional chain.

Shippers typically negotiate annual contracts with buyers for fresh-cut products. The contract often contains a package of fees and services including slotting fees, volume incentives, and promotional fees. A contract is designed to guarantee a certain percentage of profit to the shipper regardless of the particular provisions, and some shippers argue that the distinctions between different fees and services have blurred. A few firms offer various contract proposals to their clients and allow

each buyer to choose the preferred arrangement. Bagged salad shippers reported that the share of all fees ranged from 1 to 8 percent of sales.

Bagged salad firms were not clear what rights they obtained from paying fees. No firm mentioned slotting fees as a guarantee of a specified number of linear feet in refrigerated displays. A few mentioned using third-party or retailer scanner data to track sales. But it is not clear what happens when volume does not meet expectations. In a few cases, when one retail chain acquired another, previous slotting fee agreements were not honored.

Shippers selling private-label products, which are produced for a particular firm to sell as their house brand, do not pay slotting fees. Some bagged salad shippers have become much larger suppliers of private-label product as their branded market share has declined.

Emergence of Slotting Fees in the Bagged Salad Industry

The relationship between shippers and retailers has changed, but only part of this change is due to retail consolidation. Looking at the bagged salad industry and the emergence of slotting fees illustrates the complex interactions between several economic forces. In the early 1990's, three separate trends converged to produce the new bagged salad industry: the continuing interest of consumers for more convenient product forms, the evolution of new breathable films that preserve fresh-cut produce, and shippers' desire to add value to and differentiate their products. Unlike bulk fresh produce commodities such as lettuce or tomatoes, bagged salads are produced and marketed much like other manufactured grocery products, available every week of the year and requiring dedicated year-round shelf space.

Bagged salads achieved a rapid sales growth in the early and mid 1990's and new firms entered the industry. In 1994 and 1995, the growth in sales increased 49 and 32 percent over the previous year. Sales continued to grow in the late 1990's, although the rate of growth slowed to between 5 and 12 percent, and competition among shippers intensified. Slotting fees evolved in the mid-1990's within this highly competitive environment as part of a market share battle between competitors eager to protect their investment in costly salad processing plants.

Retailers typically sell two or three brands of bagged salads, with one being a private-label product. Many shippers want to capture the business of retailers. In

addition to gaining a retailer's business, shippers also want to place specific products in stores. According to IRI data for mainstream supermarkets, the number of lettuce-based bagged salad items increased from 202 in 1993 to 464 in 1999. As the new industry launched many new bagged salad products, retailers were also coping with a large increase in products in the rest of the produce department.

Retailers have used slotting fees in the remainder of the grocery store since about 1984, even before the recent increase in retail consolidation. As the bagged salad industry developed characteristics of manufactured food products, it would not have been surprising for retailers to request slotting fees for bagged salads. However, most shippers reported that it was bagged salad shippers who first offered slotting fees as a means to garner market share from their competitors. The number of bagged salad shippers (selling to mainstream supermarkets) has declined from a high of 63 in 1995 to 54 in 1999. The percent of sales in private-label bagged salads, where no slotting fees are used, has increased from 2 percent in 1993 to 10 percent in 1999. Now fees are both offered by shippers and requested by retailers. Since retailers already asked for slotting fees for other products before the recent retail consolidation, these fees in bagged salads may not necessarily be a function of market power alone, but rather a combination of product characteristics, interfirm rivalry in a capital-intensive sector, and the relative negotiating strength between buyer and seller.

Slotting fees paid by shippers for their branded fresh-cut products may have a negative indirect effect on commodity shippers. A few bagged salad shippers also carry a broad product line of commodity products. Some shippers claimed that when such a firm negotiates a contract with retailers for its fresh-cut products, it might also negotiate terms favoring its commodity products. Thus, some commodity-only shippers could risk losing business. One firm redirected its marketing from retail due to retailers' tendency to purchase from suppliers that offer both commodities and fresh-cut products.

Retailers Report on Their Requests for Fees

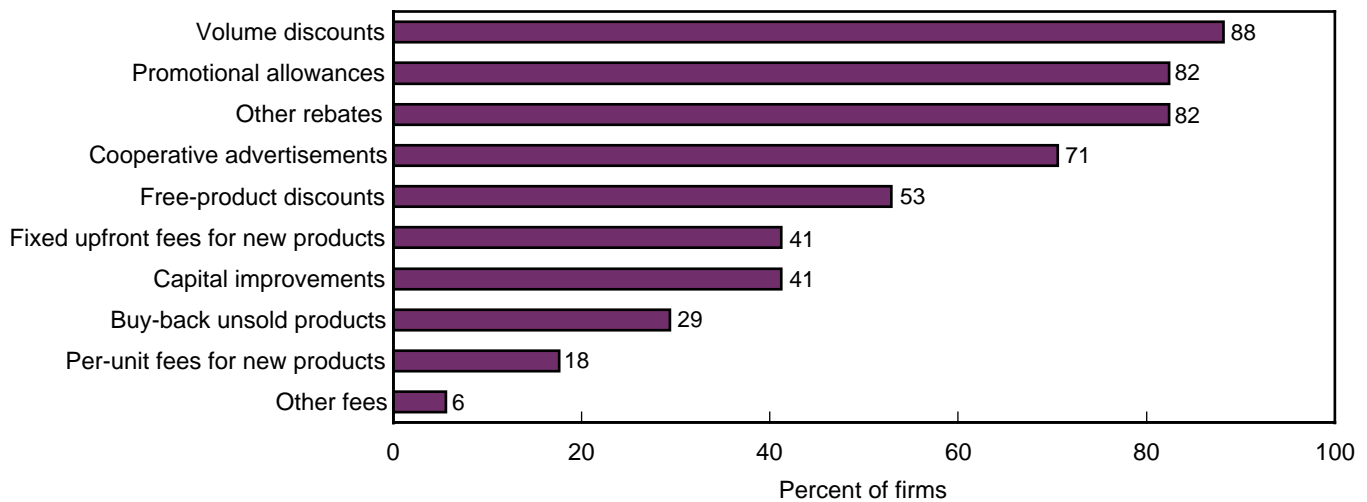
Eight out of ten retailers agreed that the level of financial support provided by suppliers has increased. Retailers were asked about how fees vary across suppliers; they reported that fees are highest for their pri-

mary suppliers for each type of product, higher for fresh-cut and branded products, and lower for smaller shippers who have limited marketing budgets. As with shippers, retailers reported that the most common types of fees received from suppliers are volume discounts, advertising allowances, and other rebates (fig. 3). Eighty-eight percent of retailers said they receive volume discounts, while 82 percent received advertising allowances and other rebates.

Slightly more than half of the respondents used advertising/promotional allowances more often in 1999 than they did 5 years earlier. With the increased ability to measure sales by item, retailers can better weigh the costs and benefits of having an advertised sale on a product, balancing the lower price and the cost of the promotion with expected incremental sales and the allowance received from shippers. Seventy-one percent of retailers received fees for cooperative advertise-

Figure 3

Share of retailers receiving various types of fees in 1999



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

ments and 53 percent received free-product discounts. Fewer retailers (29 percent) reported that suppliers bought back unsold product. Over 40 percent of retailers said they receive fees from suppliers for capital improvements such as the purchase of refrigerated equipment or construction of a new warehouse.

As noted above, slotting fees and pay-to-stay fees are less common in the produce department than for branded grocery products in other departments. Seven of the 17 retailers/wholesalers interviewed (41 percent) said they received fixed upfront fees for new products, and another 18 percent said they received a per-unit fee for new products. The firms requesting fees were a mix of national and regional retailers and wholesalers. Some of the remaining 10 firms may have received slotting fees, but chose not to respond to this question.

Retailers reported that slotting fees were found primarily in branded categories such as bagged salads, baby carrots, and dried fruits and nuts. Retailers agreed that competition among bagged salad suppliers for market share is intense and that upfront fees are a way for shippers to obtain or increase shelf space. Hence, retailers concur that despite the current high profile of slotting fees in the produce trade press, they are not prevalent beyond the fresh-cut category, where they may be supplier as well as retailer induced.

Retailers use different business models. Not all retailers request slotting fees or accept them, even for branded, fresh-cut products. Some retailers focus

on the efficiencies of handling relatively high-volume products, negotiating long-term agreements with suppliers, and then requiring these preferred suppliers to provide services such as automatic inventory replenishment, use of returnable containers, or other special packaging.

Services

Services requested by retailers, or offered by produce shippers, are on the rise. Retailers requested 4.1 types of services on average, slightly more than for fee requests (table 14). However, new service requests make up 77 percent of total requests, compared with 48 percent for fees. Several of these services, such as electronic data interchange (EDI) and category management, derive from relatively new information technology that provides both shipper and retailer with more timely market intelligence and means for information exchange, which could reduce costs and improve profits. However, some of these new technologies may impose substantive fixed costs, posing a competitive disadvantage to smaller shippers. Other new services such as third-party certification may be paid for on a per-unit basis, but also increase fixed costs by causing producers to change some of their operating systems in order to meet requirements.

Grapefruit shippers had the highest number of services requested or offered, with an average of 6.4 (table 14). Florida tomato shippers reported an average of only 2.7 services per firm, the lowest of the products consid-

ered. Across all products, 79 percent of the service requests were complied with, a much higher compliance rate than for fee requests. California and Florida tomato shippers were again the least likely to respond to the requests, lettuce/bagged salad shippers most likely. The high compliance rate for lettuce/bagged salad shippers has two components. First, some of the bagged salad firms offered services, such as EDI and category management, to their customers. Second, lettuce firms generally complied with the services requested by retailers, citing product quality and timely

services as a way to trump competition and to cement ongoing relationships. Lettuce/bagged salad shippers reported no accounts lost due to not complying or offering a service, and orange shippers were most likely to lose business.

The most frequently requested service was *third-party food safety certification* (see box, "Services"), with 80 percent of the firms having received this request (table 15). In 1999 and early 2000 when the interviews were conducted, third-party food safety certification was just

Table 14—Average number of service types reported per shipper and disposition of requests, by product type, in 1999¹

Item	Grapes	Oranges	Grapefruit	California	Florida	Lettuce/	All
				tomatoes	tomatoes	bagged salads	products
<i>Number per firm</i>							
Average number of service types requested by or offered to retailers and mass merchandisers ²	3.0	4.6	6.4	3.1	2.7	4.9	4.1
<i>Percent of requests³</i>							
Average share of new service types among requested service types ⁴	96	93	59	94	38	75	77
Average share of requested service types complied with	82	83	74	65	64	90	79
Average share of requests resulting in lost accounts when service not complied with	20	43	15	18	33	0	21

¹ Results are based on a limited number of observations and must be interpreted with caution. The eight types of services considered are listed in the box, "Services."

² Shippers were asked if they provided a type of service to any of their retail accounts. Thus, these results indicate the number of service types provided to at least one account.

³ Includes services offered by shippers.

⁴ New since 1994.

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

Table 15—Services requested by retailers and mass merchandisers, by type, 1999¹

Service type	Average share of firms		Average share of requests		
	Providing service ²	With a service request ³	New ⁴	Complied with ⁵	Lost account for noncompliance ⁵
	<i>Percent</i>				
Third-party food safety certification	47	80	72	71	0
Returnable containers/pallets	47	69	81	83	0
Special packs	45	65	80	83	33
Electronic data interchange or retail link program	34	56	90	73	25
Private labels	33	48	65	81	60
Automatic inventory replenishment program	25	35	90	84	33
Special merchandising displays	19	30	50	80	33
Category management services	19	28	80	80	0

¹ Results are based on a limited number of observations and must be interpreted with caution.

² Shippers were asked if they provided a type of service to any of their retail accounts. Thus, these results indicate the share of firms providing services to at least one retail account

³ Includes services requested, whether complied with or not, and services offered by shippers to at least one account.

⁴ New since 1994.

⁵ For any fee type requested, a shipper may comply with a request, not comply and suffer no adverse consequences, not comply and lose an account, or negotiate an alternative. A shipper may have more than one account and more than one response for the same type of fee, so the four alternatives (even though we only report two) do not necessarily sum to 100 percent.

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

Services

Provide third-party food safety certification. Suppliers are increasingly being asked to hire independent third-party firms to certify that their food safety control processes meet acceptable standards. Third-party food safety certifiers examine suppliers for compliance with both microbial quality control processes and pesticide application and residue regulations.

Use of returnable containers/pallets. These include recyclable plastic cartons (RPC's) and standardized pallets. They reduce solid waste and may help to streamline physical handling at the distribution center and store levels.

Develop special packs. Buyers often have needs for particular size, quality, and variety configurations, and suppliers may be asked to customize product offerings to meet these needs.

Electronic data interchange (EDI) or retail link programs. These electronic exchanges are bilateral between specific retailers and their preferred suppliers. They may be used only for invoicing or for electronic ordering and other procurement activities.

Provide private labels. The demand for customer-specific labels is growing, both among retailers and distributors. These help to differentiate firms relative to their competitors.

Automatic inventory replenishment. The supplier is electronically integrated into the buyer's inventory management system. The preferred supplier thereby has the responsibility, authority, and access to the data necessary to co-manage the inventory with the retailer, according to negotiated parameters. The supplier is responsible for maintaining appropriate inventory levels at identified distribution centers and for shipping product according to their agreement with the buyer, rather than waiting for product orders from the buyer.

Special merchandising displays. Special merchandising displays may enhance product sales. Suppliers may assist retailers in designing and putting in place displays aimed at stimulating consumer demand.

Category management. The process of making data-based decisions on shelf allocation, product mix, pricing, and merchandising strategies within a category of products, with the goal of improving category profitability. To conduct effective category management there must be access to accurate retail data at the product level. Retailers may conduct category management independently, in conjunction with their supplier partners, or with industry-wide representatives, such as commodity marketing commissions. More shippers are investing in the analytical and information management capabilities necessary to provide this sophisticated service to customers.

being implemented by many commodity shippers. As such, many firms were unable to estimate the ultimate cost. The recent rapid growth in the use of this certification is largely due to several national chains beginning to require this service of their fresh produce suppliers. While a 71-percent compliance rate was reported, only 37 percent of shippers viewed it as beneficial. Nevertheless, food safety certification services are likely to quickly become the norm as most shippers indicated that they would be implementing certification programs in response to changing buyer preferences.

Most, if not all, of the interviewed lettuce and bagged salad firms had requests from retailers for third-party food safety certification. A few of these shippers had been using third-party certification for a decade or more. Others had developed inhouse food safety programs. Some of those with their own programs view third-party certification as redundant and unnecessary, particularly when the standards and suggested certifiers differed among retailers. Only one of the firms

had not complied with the request for third-party certification. Opinions on the impact of third-party certification differed among shippers. Six lettuce/bagged salad shippers considered third-party food safety certification as beneficial and three considered it harmful.

The use of *returnable plastic containers (RPC's) and pallets* had the second highest request rate at 69 percent, as well as the second highest compliance rate of all service types at 83 percent. Most shippers consider the service to have either a neutral or beneficial impact. In the United States, the use of RPC's is most common with mass merchandisers, although they are commonly used in Europe. Their use is expected to increase, and some shippers felt that their ability to provide these services gave them a competitive advantage.

The issue of *special packs* can be controversial. Some firms provided special packs only when they were sufficiently compensated to avoid a net cost. In other cases, shippers felt pressured to provide costly packs

for which they felt they would be insufficiently rewarded, with a third losing accounts over their unwillingness to provide the service (table 15). One national chain recently adopted a standardized stackable box for most fresh produce to facilitate internal materials handling and reduce costs. This could have significant cost implications, especially for shippers packing in sheds (as opposed to packing in fields) because it can entail changing bandwidths and other costly adaptations. For large shippers, these costs could be hundreds of thousands of dollars. Furthermore, the standard carton proposed might not suit all crops from a postharvest handling perspective. Issues of this type are likely to become more contentious.

Electronic data interchange (EDI), or retail link program, is another service where the experience of commodity and fresh-cut firms differed. While EDI systems had been requested of 56 percent of the firms, most reported that even though they were set up to use it based on the requests of specific buyers, the buyers never successfully implemented the system. EDI is more important for lettuce/bagged salad firms; 92 percent of the firms had offered or had been asked to use EDI and 83 percent of the requests had been complied with. All bagged salad-only firms used EDI, with several indicating they offered EDI to their customers. The more commodity-oriented shippers waited for customers to ask for the service. Bagged salad shippers generally viewed the impact of EDI as either neutral or beneficial. For other commodities, a significant share of firms is EDI-ready if buyers do decide to incorporate it into their procurement practices.

The use of *private labels* appears to be on the rise, requested of 48 percent of shippers, with 65 percent of the requests reported to be new. Some firms might only supply an account or two with private labels while others relied more heavily on this marketing strategy. While 81 percent of the requests were complied with, 60 percent of the requests not complied with resulted in at least one lost account.

In general, shippers felt that the growing buyer interest in private labels was beneficial or had a neutral impact on their business, with only 25 percent describing the trend as harmful. Again, the impact varied across commodities, with 100 percent of grape shippers considering them to be beneficial and orange shippers more ambivalent. This could be due to the practice of some retail/mass merchandiser buyers designating buying brokers to handle their orange sourcing. In these

instances, the buying broker may sell its private label to the retailer and charge the shipper a per-box fee for the use of the private label. Shippers maintain that they are only selling through the buying broker because the buyer requires it and that they would otherwise sell directly to the retailer and avoid the private label “licensing” fee. As European chains increase their presence in the U.S. market and more buyers implement supply chain management, the use of private labels is likely to increase. The direct use of private labels by chains may not involve licensing fees.

More fresh-cut products are also showing up on store shelves with private labels. According to IRI data, supermarket sales of private-label bagged salads have risen from 2.4 percent of national bagged salad sales in 1994 to almost 10 percent in 1999. A couple of the bagged salad firms interviewed indicated a conscious shift from their own branded product to private label processing and sales—for both retail and foodservice. In metropolitan areas where incumbent bagged salad firms already enjoy relatively large retail market shares, a firm with a smaller market share may find that private labels are a lower cost alternative to introducing and promoting their own branded products. In addition, retail chains are usually more willing to devote some refrigerated shelf space to their own private label. One shipper expects that retail consolidation will contribute to further growth in private-label use as chains sell their private-label products in their acquired divisions.

Automatic inventory replenishment programs are relatively new; 90 percent of requests were new in the last 5 years, with only 35 percent of the firms having received requests to provide this service (table 15). The requests for automatic inventory replenishment reflect its use among mass merchandisers rather than conventional retail buyers. Shippers complied with 84 percent of requests, the highest compliance rate of any service type.

An automatic inventory replenishment program grants shippers direct access to current sales information. Usually, shippers can only monitor sales of their product after the fact with scanner data compiled and sold by national purveyors of data such as Willard Bishop’s Fresh Facts and IRI. Commodities have price look-up (PLU) codes, and most fresh-cut products and all bagged salads have universal product codes (UPC) that are scanned at retail. Three out of seven lettuce shippers and all bagged salad firms were requested to provide automatic inventory replenishment and all com-

California Oranges

The California orange industry is oriented toward the fresh market, in contrast to Florida, which produces almost entirely for the processed market. California production totaled 2,513,000 short tons for the 1999/2000 season (one year after the 1998/99 freeze season) compared to 2,677,000 in 1989/90, the season prior to another major freeze. The juice market provides a secondary market for the industry when there are production problems or low fresh-market prices. In 1997/98, 80 percent of production went to the fresh market. During the 1998/99-freeze season, only 57 percent of production went to the fresh market.

The California orange industry ships year round. Navels represent approximately two-thirds of California's orange volume and were traditionally shipped mainly from November to May, with Valencia oranges produced in the late spring through fall. However, grower efforts in the 1990's to target early and late markets mean that the navel season is increasingly encroaching on both ends of the Valencia season. For our sample, the share of navel and Valencia oranges remained virtually unchanged over the period studied with about 74 percent and 26 percent respectively. Many California orange shippers are diversified only within the citrus category. Still, the interviewed firms included some well-diversified shippers for which oranges were not the main product.

The California orange industry is affected by a market structure different from most other commodities, due to the Sunkist cooperative, which has held a 50-55 percent market share in recent years. Several other shippers participate in an information-sharing cooperative called the Central California Orange Growers Cooperative (CCOGC), currently consisting of eight shippers who each market independently. Sales of this group are equivalent to about 25-30 percent of California orange volume. CCOGC does not handle or market oranges, although it does establish a floor price for the volume sold by its shipper members. No sanctions are imposed, however, on its shipper members for sales under the minimum price. In addition to these two cooperatives, there are two large branded players and numerous other independents, with 39 shippers of all types in the 1999/2000 season.

Structural change at the retail level does not always imply consolidation at the shipper level. The orange industry is much less concentrated than it was in the 1960's when Sunkist accounted for almost 90 percent of the volume of California oranges marketed. Independent shippers have gradually made inroads into the California orange industry at the expense of the market leader,

with 39 shippers today up from 32 in 1990. Growth of independents may have accelerated since the demise of the orange marketing order in 1994.

While the number of orange handlers has increased, the number of California citrus growers declined from 7,452 in 1977 to 6,768 in 1987 and 4,842 in 1997, the last year in which a referendum was held for the Citrus Research Advisory Board. Some industry experts feel that there may be some double counting of growers in these numbers due to registrations by individual parcels rather than total grower operations, with the total possibly closer to 2,500.

Recent problems in the export market for California oranges, due both to the economic problems in Asia and growth in competing exporting regions, plus long-term stagnation in domestic per capita fresh orange consumption (14.7 lbs. per capita in 1976 compared with 14.9 in 1998 and 13.5 lbs. forecast for 1999/2000), have combined to create excess supply. Growers cite competition from more fruits being available year-round as one of the factors contributing to declining domestic per capita consumption. In addition, the need to peel and section oranges may make some consumers view them as less convenient fruit choices.

U.S. consumers have a preference for seedless navels over Valencias, yet in the past Valencias were the only option offered by the California industry during the summer, helping to ensure a market. As of the 2000 summer season, many retailers were choosing to source southern-hemisphere navels instead of switching from California navels to Valencias. This makes Valencias even more dependent on export markets than normal. The evident preference of many retailers for summer-season seedless varieties, now that this alternative is available, has caught the California industry by surprise. Navel oranges are also facing competition from winter imports of Spanish clementines and oranges. If imports continue at these levels in the future, it is likely that more orange shippers will market imports themselves, as in the case of grapes.

More than half of the interviewed orange shippers reported lower profits in the last 5 years. However, none of these firms reported strategic alliances, joint ventures, or mergers during the same period. Since the time of the interviews a key merger occurred and the trend towards consolidation now appears to be underway and is expected to continue as supply and demand adjust.

plied. Several of those firms did mention additional staff and equipment costs associated with inventory replenishment. On the other hand, firms generally viewed this service as beneficial since it enabled them to more fully participate with the buyer in managing the supply and marketing of their products.

Special merchandising displays are sometimes requested for promotions to enhance product sales. Only 30 percent of shippers had received requests for this service but compliance was high at 80 percent as firms tended to feel that it might stimulate sales. Still, this type of service is much more routinely provided by other types of food industry suppliers, compared with produce shippers. As more produce shippers become year-round, larger suppliers, the economic return on providing this type of service will increase and both retailers and shippers may be more interested in collaborating in this area.

About 28 percent of shippers received requests for assistance with **category management**, and 80 percent of the requests were complied with (table 15). No one reported losing business if they did not comply. This is a relatively new service, with 80 percent of the requests reported as new in the last 5 years. Commodity produce shippers have generally not been (directly) providing many of these marketing support services, commonly provided to customers by most food industry suppliers, since industry-level generic marketing and promotion programs support many fresh produce commodities. Until recently, category management in

fresh produce was hindered by the lack of standardized PLU codes. Category management services are now being offered more often, but still mainly at the generic rather than the shipper level, with the exception of branded products such as bagged salads. In contrast to the commodity shippers, not only did most of the bagged salad shippers offer category management to their customers, some firms specifically mentioned category management as a way to provide top-quality service to their customers.

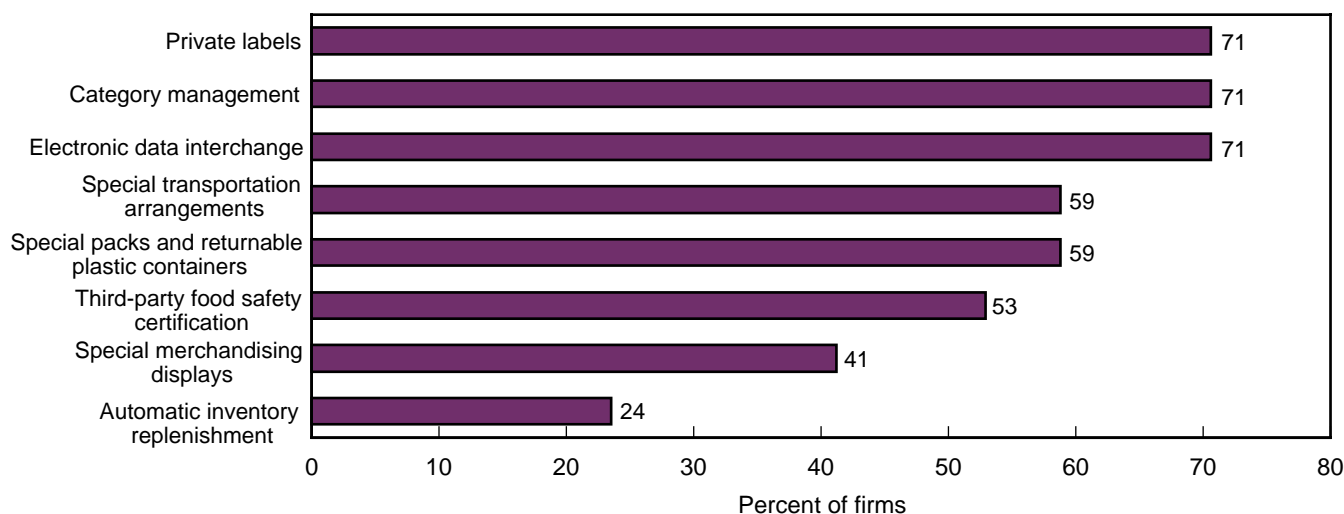
Retailers Report on Their Requests for Services

Nine out of ten retailers requested more services from their suppliers in 1999 than they did 5 years before. The primary benefit of these services, as viewed by retailers, was better distribution efficiencies and increased overall profits (by reducing the cost of goods sold).

Retailers requested, on average, 5.5 different types of services from suppliers. Almost three out of four retailers are asking suppliers for support in three areas: provision of private-label produce, category management, and EDI (fig. 4). Over half the respondents are requesting special transportation arrangements (such as discounts on transportation for large volume sales), new types of packaging, and third-party food safety certification. Shipper and retailer responses regarding the prevalence of different types of services is less consistent than for fees.

Figure 4

Share of retailers receiving various types of services in 1999



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

Impacts of Marketing Changes on the Produce Shipping Industry

Cost of Fees and Services

Information was collected on the cost of providing each of the fees and services discussed above to all accounts. While not all firms kept complete records on the cost of providing all fees and services, they attempted to estimate costs where complete data were unavailable. Estimates are likely to underestimate costs as shippers often noted that their accounting systems were better designed to fully account for costs back to the grower rather than forward in the marketing system. The average sales of the interviewed firms and the average cost of their fees and services are provided in table 16, by key commodity. Average firm-level sales varied from \$18.2 million for the grapefruit sample to \$28.4 million for grapes. The average cost of fees per shipper ranged from \$66,500 for California tomatoes to \$209,000 for grapefruit shippers. The pattern was different for services with grapefruit shippers paying the least at \$12,300 per shipper while orange shippers paid the most, averaging \$64,000. In all cases service costs were less than the cost of fees.

In order to provide a standard measure for comparing costs across the commodity samples, independent of the samples' sales volumes, the information is also presented on the basis of average costs per million dollars in sales. There is significant variation in the level of fees and services among the various commodities. For grape, orange, grapefruit, and California tomato shippers, total fees and services per million dollars in sales ranged from \$2,600 for California tomatoes to \$14,600 for grapefruit (table 16). Grape and orange shippers were in between, with grape shippers spend-

ing an average of \$6,400 per million dollars in sales to provide fees and services, compared with orange shippers spending an average of \$11,400. Services per million dollars of sales were less than fees for all the commodity samples, averaging from \$1,200 per million dollars in sales for grapes to \$4,400 for grapefruit.

Some of the differences between commodities may be related to costs excluded from these data. For example, grape, grapefruit, and California tomato shippers all have longstanding industrywide generic-promotion programs supported by assessments to growers and/or shippers. Since the marketing support services and promotional fees paid for by these assessments are not included, the costs shown in table 16 underestimate actual costs for these commodities. In contrast, California oranges have no generic promotion program, which may be one factor explaining the higher incidence of fee and service costs they experience relative to grapes and tomatoes.

Another measure of the incidence of fees was obtained by asking firms to provide actual sales volume and fees paid for each of their top five retail and mass merchandise accounts. For the top five retail and mass merchandise accounts, we asked whether the buyer was a major retailer (defined as the top 10 corporate buying chains), other retailer, or mass merchandiser. Fees varied by type of buyer—higher for major retailers than for the other retailers, with fees to mass merchandisers falling in between.

This measure yielded results consistent with those presented in table 16, with grapefruit shippers paying the most, followed in descending order by oranges, grapes, and tomatoes. Indeed, California and Florida tomato shippers have very few retail and mass merchandiser sales and no fees at all in their top five

Table 16—Average sales, fees, and cost of services per shipper, by crop, 1999¹

Product (number of shippers reporting)	Average sales	Average fees	Average service cost	Average fee and service cost	Average fees per \$ million in sales	Average service cost per \$ million in sales	Average fee and service cost per \$ million in sales
<i>Dollars</i>							
Grapes (9)	28,361,837	160,868	53,363	214,231	5,192	1,233	6,425
Oranges (9)	26,466,812	207,693	64,036	271,730	8,677	2,685	11,362
Grapefruit (5)	18,245,368	209,000	12,333	221,333	10,128	4,435	14,563
California tomatoes (10) ²	24,502,254	66,534	38,450	104,984	1,309	1,305	2,614

¹ Results are based on a limited number of observations and must be interpreted with caution.

² Includes California tomato repackers.

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

accounts (table 17). Among those shippers paying fees to their top five accounts, grape shippers have the lowest share of fees per sales on an account basis, 0.66 percent. Orange and grapefruit fees as a share of sales averaged 1.13 percent and 1.77 percent, respectively. Bagged salad firms reported that fees as a share of all sales (not just the top five retail and mass merchandise accounts) ranged from 1 percent of shipper sales up to 8 percent.

The differing cost of fees and services across commodities may mean that some have been affected much more than others by the new operating environment prevalent in today's fresh produce industry. However, several factors affect the shipper/buyer relationship, including market structure at the shipper level, inter-firm rivalry, and most certainly supply and demand conditions. While these effects cannot be separated at this point, identifying the existence of differences between commodities is important.

The lack of fees paid to the top five accounts for California tomatoes is likely due to their reliance on sales through repacker/wholesaler channels. In the case of California grapes, the fragmented shipper structure may provide some protection from retailer requests for fees. Given an implicit need for retailers to spread purchases among more grape suppliers than for commodities with more concentrated supply structures, retailers may be less able or inclined to charge certain fees such as volume incentives. The prevalence of relatively large firms and more concentrated industry structures in the case of grapefruit and oranges may mean that retailers are better

able to approach firms for fees. Fees paid by some firms then affect fees requested of competitors.

While the level of fees as a share of sales might appear low, it is important to remember that in the produce industry market prices are often at or below total production and marketing costs, covering only variable costs. Consequently, these fees could be sufficient to eliminate profits or increase losses in periods where total production and marketing costs are not being met. As shown in table 16, in absolute terms the average cost of fees and services per shipper varied from \$105,000 for California tomatoes to \$271,700 for oranges. Given low profits or even losses in some seasons, fee and service costs of this magnitude may serve to accelerate supply adjustments and may reduce production. If production declines, retailers could risk insufficient supply when adverse weather shocks occur.

Fees and services that raise the costs of shippers without providing some benefit of equal value are a concern to the produce shipping industry. Even in the case where there is an equal trade, the types of fees and services requested can have structural impacts on the shipping industry. Per-unit fees or services, such as per-carton volume incentives, imply no differing impact by size of shipper if the fee is the same for all shippers. While fees are more costly than services, most fees are per-unit costs, ranging from 68 to 99 percent of the value of all fees paid (table 18). Fees are, therefore, generally neutral in terms of structural repercussions. However, as noted above, their impact on profits may be quite significant, given the low margins prevalent at the shipper level of the fresh produce distribution system.

The costs of providing most services are fixed. Fixed fees or services, if they are uniformly applied, could have a more negative effect on smaller shippers that cannot spread the costs over as many units as a larger shipper. However, service requests are expected to continue to increase and change the costs of doing business, as many appear to be the result of technology. For example, materials handling technology at the warehouse level may cause retailers to request special packaging, such as the use of a standardized stackable carton for all commodities to facilitate uniform palletization of store loads. Information technology is allowing retailers to better target specific consumer segments, sometimes leading to special merchandising, category management, or packaging requests. While it is likely that the costs of setting up some of these serv-

Table 17—Fees as a percentage of sales, based on shippers' top five retail and mass merchandiser accounts, 1999¹

Product	Total fees ²	Total sales ³	Share of fees per account
	Dollars	Dollars	Percent
Grapes	367,305	55,556,924	0.66
Oranges	494,393	43,834,539	1.13
Grapefruit	438,699	24,820,538	1.77
California tomatoes ⁴	0	5,379,034	0
Florida tomatoes ⁴	0	977,480	0

¹ Results are based on a limited number of observations and must be interpreted with caution.

² Sum of fees paid to the top five retail accounts by all shippers providing data.

³ Sum of sales made to the top five retail accounts by all shippers providing data.

⁴ Although tomato shippers paid no fees to their top five retail and mass merchandiser accounts, they may pay fees to other accounts.

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

Table 18—Cost of fees and services, per unit and fixed, 1999^{1,2}

Product	Per-unit share of fees	Fixed share of fees	Per-unit share of services	Fixed share of services
<i>Percent</i>				
Grapes	99	1	40	60
Oranges	68	32	63	37
Grapefruit	74	26	16	84
California tomatoes	72	28	24	76

¹ Complete data were not available for Florida tomatoes, lettuce, and bagged salads.

² Results are based on a limited number of observations and must be interpreted with caution.

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

ices are equal regardless of firm size, the cost per unit of sales is obviously greater for smaller firms. The relationship between shipper size and the ratio of fees and services paid per unit of sales is also of interest and must be further investigated, as this sample size was insufficient to yield reliable results on differences by firm size.

Trends in Shipper Consolidation, Shipping Seasons, and Product Line

As retailers increase their size and volume requirements, shippers will probably face more pressure to increase their scale of operation. New technologies such as capital-intensive fresh-cut processing operations may also motivate consolidation. Greater volume may be achieved by increasing a firm's own capacity, via consolidation, or joint marketing arrangements and strategic alliances (such as copacking) that fall short of actual consolidation.

Not all produce shippers, however, experience the same level of consolidation pressure. Data on the total number of shippers by commodity are sparse and often closely held. Although the march toward consolidation is often thought of as inevitable and ongoing, the level of consolidation varies across crops, and for a few crops the number of shippers has actually increased in some periods. While Sunkist is still the largest orange shipper in California, its share of volume has decreased and the total number of orange shippers has increased slightly during the 1990's. Interviewed orange shippers reported no consolidation since 1994.

However, merger/acquisition activities since the early 2000 interviews indicate that this industry has also embarked on consolidation.

The number of Florida tomato shippers grew from 59 in 1997/98 to 68 in the following season. In contrast, California tomato shippers declined from 31 in 1996 to 23 in 2000, and grape shippers also declined in the 1990's. Grape and California tomato shippers both reported consolidation, but only about half of the changes were in response to retail consolidation. The number of bagged salad shippers selling to mainstream supermarkets declined from 64 in 1994 to 54 in 1999. Information was unavailable on bagged salad shippers focused on other markets such as foodservice.

Shippers were asked whether retailers put pressure on them to consolidate. About half saw no change and half saw an increase in pressure due to retail consolidation. Most grape, grapefruit, California tomato, lettuce, and bagged salad shippers reported increased pressure; most orange and Florida tomato shippers did not. Overall, of those facing additional pressure to consolidate, opinion was split on the impact of this trend; two-thirds thought it was beneficial or neutral, one-third harmful. Increasing shipper consolidation may provide firms with countervailing power in their bargaining with retailers.

The trend toward longer shipping seasons continues. Over half the shippers reported that retailers were asking for longer seasons and almost all viewed this trend as beneficial. Most orange shippers felt there had been no change, but their product has long been available year-round. Interviewed shippers were split evenly on whether retailer demands for a broader product line had increased or stayed the same. The majority of grape, grapefruit, Florida tomato, and lettuce/bagged salad shippers felt demands had increased. Most orange shippers reported no change in product line and California tomato shippers were evenly split. Most shippers who reported increased demands thought the change was definitely due to retail consolidation. While risks increase when shipping seasons are extended, the potential for spreading costs over greater volume and maintaining more stable relationships with buyers also improves.

Conclusions

Trade practices used in shipper/retailer transactions is a topic that has recently come to the attention of policy-makers. This report provides a description and analysis of the trade practices currently used in shipper/retailer transactions and the economic forces behind recent changes in the produce industry. The findings in this study are based on a limited number of shipper, retailer, and wholesaler interviews and publicly available information; as a result, they must be interpreted as indicative of industry trends rather than authoritative results. This research is a first step; while we answer many questions about trade practices, many remain and will undoubtedly be the focus of future research.

The study examined the evolution of marketing channels used by shippers over the 1994-99 period. Conventional retail buyers remain the primary marketing channel for domestic sales of all the products examined except for California and Florida tomatoes (tomatoes are typically sold to repackers servicing final buyers). However, the *share* of total sales to conventional retail buyers did not increase for any product in our sample, despite the emergence of larger retail buyers. For grapes, oranges, and California tomatoes, the *absolute* dollar volume of sales to this channel did increase, but this was due to growth in the total sales volumes for the sampled firms rather than an increase in the retail share of total sales.

The stable or declining share of sales to conventional retailers was likely due in part to an increase in sales to mass merchandisers, a new segment that grew rapidly during the 1990's. If mass merchandisers are included in the retail category, the share to retail increased for all products except tomatoes. Hence, for most commodities, even where there was a declining relative share of sales to retailers, this was more than offset by the growth in relative importance of mass merchandisers.

Some of the changes observed in marketing channels are probably due to retail consolidation. For example, smaller shippers may not be able to match the large buying requirements of consolidated retailers. However, some of the change may be due to other economic factors such as growth in foodservice demand.

Given recent retail consolidation, we expected that shippers would have fewer total buyers and possibly encounter less competitive markets. However, when asked about the number of total accounts for all buyer

types in 1999 compared with 1994, about equal numbers of shippers reported increases as decreases, with a few reporting no change. Factors affecting the number of total buyers, independent of changes in retail consolidation, include changes in volume of sales or product line, acquisition of other shipping firms, and changes in business focus. In addition, retailers reported that over the same period, their total number of produce buyers had declined only slightly. Indeed, 60 percent of retailers said that when they consolidated, the number of buyers remained the same at the field and division levels, while 18 percent reported reducing the number of field-level buyers. As the buying structure of the now larger retailers continues to evolve, buying may become more centralized than it has to date, implying fewer accounts.

When asked specifically about their number of retail accounts, most shippers perceived a decline due to retail consolidation, and that this had an adverse effect on their business. The impact of consolidation on individual shippers was highly correlated with their relationship with the merging chains prior to consolidation. If a shipper supplied the acquiring but not the acquired chain, the shipper might gain by additional sales to the now larger account. Conversely, if a shipper supplied the acquired chain, the account might be lost.

For commodity shippers in 1999, their four largest customers comprised from 22 to 45 percent of sales to all types of buyers. Such dependence may compromise shippers' power in negotiating with buyers over prices and requests for fees and services. For their part, retail buyers reported more concentrated purchases, with their top four suppliers providing from 85 to 97 percent of total purchases depending on the product. As retailers source from fewer suppliers, shippers will likely become more account-oriented in their marketing strategies, providing products and services tailored to the needs of specific large accounts. These trends may be consistent with greater payment of fees; as the value of the business generated by individual accounts grows, suppliers may feel increased incentives to comply with fee and service requests to gain or keep the business.

Both shippers and retailers agree that the incidence and costs of fees and services are increasing. Shippers are particularly alarmed at the rapid escalation in requests for new types of fees and services in the last 5 years. However, volume discounts, the most commonly requested fee type, are a longstanding trade practice, though today they are more prevalent and

costlier than before. When viewed together, the majority of the cost of fees and services was attributed to fees, with the provision of services often perceived to be less onerous than fees. In general, whether or not a fee or service was thought to be harmful to doing business depended on whether the shippers felt they received something in return. For example, when volume discounts led to increased purchases, they were often viewed as beneficial.

The most controversial fees are slotting fees. We found that shippers paid slotting fees (in this case defined as a fixed upfront fee for a new or existing product) only in the fresh-cut side of the produce industry, rather than the commodity side. No commodity firms interviewed paid slotting fees, although several had received requests and a few lost accounts for not complying. Commodity shippers fear that slotting fees will become standard practice in their industries now that they have been introduced into one section of the produce department. Although lettuce shippers did not pay slotting fees, they have felt the effect. Shippers paying slotting fees for bagged salads and also selling lettuce were thought to have an advantage over lettuce-only shippers because buyers were receiving, in effect, slotting fees on a bundle of products. Some bagged salad firms have shifted to selling private-label product rather than their own brands because slotting fees are not used in that segment of the industry.

Current concern focuses on the potential for slotting fees to enter the commodity side of the fresh produce industry. However, all types of fees can affect a firm's bottom line. Commodity firms did pay fees, and they are increasing. In 1999, fees of all types averaged about 1-2 percent of sales for most commodity shippers, but ranged from 1 to 8 percent for bagged salad shippers. Given low margins in the fresh produce shipping industry, these fees may be sufficient to determine whether a firm earns a profit or loses money over the course of a season. Hence, this research demonstrates that a focus on slotting fees is far too narrow when examining fees paid by shippers.

Many types of services are newer than the types of fees being requested. They were also more often viewed as beneficial and therefore, not surprisingly, were complied with more frequently. New services may reflect changes in the way produce is marketed, independent of retail consolidation. Shippers reported the most commonly provided service as third-party food safety certification. Requests for third-party food

safety certification reflect growing buyer awareness of the concerns of consumers and the business consequences when food safety is compromised. Requests for returnable plastic containers or pallets are explained by buyer efforts to reduce labor costs and cardboard refuse, rather than retail consolidation, especially since the request for this service is most prevalent among mass merchandisers rather than conventional retailers. Many shippers viewed this service as having a beneficial or neutral impact on their business.

Requests for private labels are related to the growing emphasis of some buyer types on improving customer loyalty and controlling quality, profitability, and volumes. Category management services were entering the fresh produce side of the grocery business prior to the latest wave of retail consolidation. With the adoption of standardized PLU codes and customer card data, it is possible to conduct more rigorous analyses of category profitability at the store level. This is even more important now with the increased number of produce items handled by retailers.

Some shippers appear to be struggling more than others to adapt to the emerging trade practices. Services, which are generally fixed costs, would naturally be higher as a percentage of sales for smaller firms. Smaller firms may find it difficult to compete with larger shippers in funding large investments for some services. On the other hand, retailers reported that they expect more fees and services from their largest suppliers for any particular product because of a perceived greater ability to pay. Smaller shippers already had begun to focus on niche markets prior to the recent consolidation and those that succeed will likely continue to target specialty markets of less interest to larger shippers.

From a public policy perspective, fees and services may be of particular concern if they are off-invoice and not reflected in publicly reported market prices, such as AMS' Market News reports. If so, public prices may no longer provide representative reference prices for all parties. In addition, publicly reported shipping-point prices based on daily sales will increasingly represent a lower share of actual transactions as firms move more to supply chain management practices, with ongoing bilateral contracts between buyers and sellers. The issue of whether shipping-point prices reflect current net prices may be more serious for products with a high incidence of contracts. Both buyers and sellers are concerned that with less information

about the net prices obtained by their competitors, they will be less able to make informed decisions about the extent to which they should make (retailers) or comply with (shippers) fee and service requests. As off-invoice fees increase, firms will need other sources of information on fees in order to negotiate competitive deals.

Why are fees and services increasing in incidence, magnitude, and type? What lessons can be learned from the experiences of the products studied here? A one-size-fits-all explanation is most likely a simplification. We can say that, in general, the relationship between shippers and retailers has changed, but only partly due to retail consolidation. Retail consolidation does not necessarily lead to market power. Market power may, indeed, play a role in new trade practices but that is an empirical question to investigate. Fees and services are also a function of several complex factors such as changes in consumer demand, technology, supply and demand conditions, shipper marketing strategies, buyer procurement strategies, the structure

of the shipping and retailing industries, and the level of interfirm rivalry.

The Federal Trade Commission (FTC) and the Department of Justice are the Federal agencies that determine whether a pricing strategy violates antitrust legislation or, in other words, is anticompetitive. FTC decisions about whether a practice is competitive or anticompetitive are based on both legal and economic precepts (see box, “Determining Anticompetitive Trade Practices”).

Another pressing question is whether slotting fees will eventually become common in commodity transactions. Bagged salad shippers, as sellers of a differentiated, branded product requiring dedicated shelf space year round, are more able to incorporate slotting and other types of fees into their pricing structures and may find that slotting fees can provide a benefit to their firms in terms of acquiring shelf space. In contrast, commodity shippers as price takers are less able to incorporate slotting and other types of fees into their

Determining Anticompetitive Trade Practices

The Federal Trade Commission (FTC) and the Department of Justice are the Federal agencies that determine whether a pricing strategy violates antitrust legislation or, in other words, is anticompetitive. According to the FTC, “A practice is illegal if it restricts competition in some significant way and has no overriding business justification. Practices that meet both characteristics are likely to harm consumers—by increasing prices, reducing availability of goods or services, lowering quality or service, or significantly stifling innovation.” Four laws regulate pricing: the Sherman Antitrust Act, the Federal Trade Commission Act, the Clayton Act, and the Robinson Patman Act.

The Sherman Antitrust Act, enforced by the Department of Justice, regulates horizontal relationships among firms, including price fixing, collusion, and other horizontal restraints. The Federal Trade Commission Act, enforced by FTC, also regulates horizontal firm relationships. The Clayton Antitrust Act, supplements the Sherman Act. These three Acts are designed to protect and preserve competition in the marketplace. The Robinson Patman Act regulates vertical relationships (those between suppliers and retailers), and prohibits retailers from paying suppliers different prices for like quality and quantity if the discrimination has a negative

effect on competition. Sellers are also prohibited from knowingly soliciting a discriminatory price.

Past antitrust court decisions have determined that certain practices are “per se” illegal, and firms can be prosecuted for adopting these practices. For example, price fixing is per se illegal. If authorities are able to prove that there is an agreement to fix prices, the firms involved can be prosecuted on the basis of the existence of the agreement. If, however, the defendants can demonstrate that the pricing strategy in question has created a better product or greatly reduced costs, the pricing strategy will be assessed under the “rule of reason.” Other questionable pricing strategies that are not per se illegal are also assessed under the rule of reason.

A rule of reason analysis assesses the overall social benefit resulting from the questionable practice. The first step is determining whether the pricing strategy is necessary to achieve these benefits. If so, the next question is whether the pricing strategy in question leads to the exercise of market power, resulting in prices above the competitive level. If prices do not rise above the competitive level, the final step is to assess whether the efficiency benefits outweigh the anticompetitive harm (Salop and Scheffman, 1997).

cost/pricing structures so incentives are low to offer slotting fees as a strategy for capturing market share from competing suppliers. Even if retailers have market power, it may be difficult to apply slotting fees to commodities unless and until they are available year round from a relatively consolidated shipper structure.

Hence, while current conditions in the commodity side of the business may not lend themselves to slotting fees, this may change. If more commodity shippers consolidate or form strategic alliances to match the needs of fewer, larger buyers and become year-round operators capable of supplying large, consistent volumes with the quality specifications desired by individual accounts, it may be easier for retailers to request slotting fees. However, if a consolidated shipper structure were to prevail, it is not a given that slotting fees would become the norm since countervailing power could help shippers resist these fees. The intensity of interfirm rivalry becomes critical at this point, with shippers either capable of resisting fees or offering them as a strategy for capturing market share from

competitors. On the other hand, if retailers focus on supply chain management approaches where they operate more in partnership with preferred suppliers, slotting fees may be less of a factor.

This report provides a first look at the complex interactions between shippers and retailers. By describing the trade practices and indicating broad trends, it provides a launching point for further hypotheses and research. Data will continue to be a stumbling block for future research. More comprehensive sampling would provide more confidence in results, but the proprietary nature of transaction data may preclude efforts to improve the information base.

The next report in this series will focus on whether retailers exert market power, based on an empirical analysis of the relationship between shipping-point and retail prices. This third report will provide further insight into the complex interactions between shippers and retailers.

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Glossary

Advance pricing/lid prices. Buyers and sellers may negotiate “lid prices” or price ceilings for estimated quantities of product in anticipation of future retail promotions. No price floors are implied with these advance prices, meaning that if market prices decline in the interim the buyer is likely to request a lower price, whereas if the price rises the shipper is obliged to supply the estimated volume at the lid price.

Automatic inventory replenishment. The supplier is electronically integrated into the buyer’s inventory management system. The preferred supplier thereby has the responsibility, authority, and access to the data necessary to co-manage the inventory with the retailer, according to negotiated parameters. The supplier is responsible for maintaining appropriate inventory levels at identified distribution centers and for shipping product according to the agreement with the buyer, rather than waiting for product orders from the buyer.

Branded produce. All produce shippers have trade labels that are recognized by retail produce buyers, but most of these are not consumer brands since they don’t achieve consumer recognition. In this study, branded produce refers to products with brands that consumers may also recognize. Firms that successfully develop a differentiated product often use branding to solidify that advantage.

Broker. A broker is an agent in the marketing chain that negotiates transactions between buyers and sellers without taking title to the merchandise or physically handling the product. There are also buying brokers that purchase on account for clients and do take title.

Buy-back unsold product or failure fees. Retailers may charge suppliers fixed fees when products fail to sell or force shippers to take back product rejected at the distribution center level. A few shippers offer to buy back products that do not sell.

Capital improvement fees. Fees requested of suppliers by retailers to help pay for internal capital improvements, such as new refrigerated display equipment or the construction of new warehouses.

Category management. The process of making data-based decisions on shelf allocation, product mix, pricing, and merchandising strategies within a category of products, with the goal of improving category profitability. To conduct effective category management

there must be access to accurate retail data at the standard stock-keeping unit (SKU) level. Retailers may conduct category management in conjunction with their supplier partners or with industry-wide representatives, such as commodity marketing commissions. More shippers are investing in the analytical and information management capabilities necessary to provide this sophisticated service to customers.

Contracts. In this study 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.

Copacking. Firms may enhance their product line by having another shipper pack according to their specifications. These arrangements allow each firm to specialize in products in which they have a competitive advantage. For specialty items with small absolute volumes like escarole or bok choy, for example, firms can achieve scale economies through such arrangements.

E-commerce fees. Fees charged by new e-commerce firms to sell products using their electronic exchanges; these fees may be per transaction, or fixed for a specific period of time, such as a month.

Electronic data interchange (EDI) or retail link programs. These are bilateral electronic transactions between specific retailers and their preferred suppliers. They may be used only for invoicing or for electronic ordering and other procurement activities.

F.o.b. shipping-point price. Free-on-board prices exclude freight and insurance costs. This price is the average, unweighted unit price received by the shipper or grower-shipper primarily for sales in carload or truckload quantities but also including mixed loads.

Foodservice. Foodservice outlets provide products to consumers via commercial channels such as restaurants and hotels as well as non-commercial channels such as hospitals, schools, and other institutions.

Free product discounts. When a shipper offers a new product, a retailer may request a certain number of free boxes, usually a specific number per store. Con-

versely, when retailers open new stores, they may request free products from their suppliers.

Fresh-cut produce. Lightly processed fresh produce sold in cut and/or packaged form rather than as unprocessed bulk commodities. While these products are lightly processed they are still perishable with shelf life generally ranging from 14 to 21 days. Bagged salads and broccoli florets are common examples of fresh-cut produce.

Grocery retailers. Grocery retailers are broadly 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 as well. Retail cooperatives are essentially member-owned wholesalers since they consist of groups of retailers who jointly own a central buying and warehousing facility.

Grower-shippers. Growers that forward-integrate into the shipping and marketing of their own produce, frequently handling that of other growers as well, usually acting as sales agents rather than taking title.

Listing fees or warehouse fees. Listing or warehouse fees may be required to become a supplier to a distribution center, and are charged to cover the administrative costs of entering the shipper into the buyer's computer system.

Market power. A firm with market power can affect price by its own actions, for example raise the market price above competitive levels by reducing output. In contrast, in a competitive industry, firms are price takers and individually they can not raise price without losing their customers.

Mass merchandisers. Mass merchandisers include supercenters (large general merchandise discount stores with grocery departments) and club stores (membership wholesale clubs).

Pay-to-stay fees. Upfront fees paid to retailers for an existing product to retain shelf space. While economists distinguish between pay-to-stay fees for existing products and slotting fees for new products, shippers do not always distinguish between the two. In some cases, we discuss pay-to-stay fees and slotting

fees together and for convenience call them both slotting fees.

Perishable Agricultural Commodity Act (PACA). The Perishable Agricultural Commodities Act is designed to encourage fair trading practices in the marketing of fresh and frozen fruits and vegetables in interstate and foreign commerce. It prohibits unfair and fraudulent practices and provides a means of enforcing contracts. Under the PACA, anyone buying or selling commercial quantities of fruit and vegetables must be licensed.

Price look-up (PLU) codes. Codes used by retail tellers to look up the price of unpackaged fruits and vegetables. These codes may be retailer-assigned or standardized. Most standardized codes are four digits, but if products are organically grown a 9 precedes the regular four digits. If an item is genetically engineered, an 8 precedes the four digits. The Produce Electronic Identification Board, part of the Produce Marketing Association, assigns the standardized numbers.

Private-label product. An item sold under a buyer's trade label rather than the shipper's. The demand for customer-specific labels is growing, both among retailers and distributors.

Promotional fees or cooperative advertisements. Shippers pay promotional fees to retailers to promote their products to consumers. They may be fixed, upfront fees or structured as per-carton allowances. There may or may not be a performance commitment associated with these fees. For cooperative advertisements the buyer also contributes toward advertising jointly with the shipper.

Other rebates. These are per-unit price reductions without any stated performance commitment.

Repacker. A produce wholesaler who ripens and packs or repacks bulk produce, particularly tomatoes, generating packs with uniform product maturity and often providing presentations specific to the needs of individual buyers.

Returnable containers. These include recyclable plastic cartons (RPC's) and standardized pallets. They reduce solid waste and may help to streamline physical handling at the distribution center and store levels.

Shipper. Any shipping-point firm engaged in the business of marketing produce from growers or others and

distributing such produce in commerce. Shippers may or may not be forward-integrated growers and they increasingly also operate as importers in order to extend seasons or product lines.

Slotting fees. Economists define slotting fees as up-front fees paid by suppliers to retailers to guarantee shelf space for new products. Fees that are paid to guarantee shelf space for existing products are referred to as pay-to-stay fees. Produce industry usage does not always distinguish between the two. Listing or warehouse fees are similar. In some cases, we discuss slotting and pay-to-stay fees together and for convenience call them both slotting fees.

Special merchandising displays. These are store-level displays designed to enhance product sales. Suppliers often assist retailers in developing these displays as means of stimulating consumer demand.

Special packs. Buyers often have needs for particular size, quality, and variety configurations and suppliers may be asked to customize product offerings to meet these needs.

Supply-chain management. A procurement model designed to streamline the distribution system by eliminating nonvalue-adding transaction costs. This often involves marketing programs between buyers and preferred suppliers, rather than daily sales, including contract buying. Focusing procurement on preferred suppliers allows retailers to exercise greater control over product volumes, quality, pricing, promotions, and food safety standards.

Third-party food safety certification. Third-party food safety certifiers examine firms for compliance with both microbial quality control processes, and pesticide application and residue regulations, certifying that food safety control processes meet acceptable standards.

Trade practices. Trade practices is a broad term that refers to the way shippers and retailers do business, including fees such as rebates and slotting fees, as well as services like automatic inventory replenishment, special packaging, and third-party food safety certification. Trade practices also refer to the overall structure of a transaction—for example, long-term relationships or contracts versus daily sales with no continuing commitment.

Universal product codes (UPC's). The 12-digit code found on fixed-weight, packaged items. For fixed-weight produce, as opposed to manufactured items, numbers are assigned by the Produce Electronic Identification Board, which is part of the Produce Marketing Association. UPC's are scanned at retail checkout and at least two companies purchase and assemble scanner sales data for use throughout the food industry.

Volume incentives. Per-carton rebates are paid once a certain volume level is attained. Volume incentives are usually structured with graduated scales, increasing as certain target volumes are reached. Payments to buyers are retroactive after sales for the season, or a specified period, are over.

Appendix: Interview Questions on Fees and Services

Generally, have the requests for services and fees by your **GROCERY RETAIL** and **MASS MERCHANDISER** customers increased, decreased, or remained about the same in recent times?

Increased Decreased Same

Please indicate (check yes or no) whether *each* of the services and fees listed in the next table have been requested by your *retail/mass merchandise* customers. If yes, please check where shown if the fees/services are new within the last five years, whether they were initiated by retail/mass merchandiser buyers or rather by your firm or other shippers to gain a competitive advantage. If retailers did request a fee/service, indicate whether you complied with the original request (check yes or no). If no, check where shown if you negotiated an alternative arrangement. If not, check if you lost the account due to not complying. If you provided any of these fees/services, please

provide the approximate \$ cost (where applicable) of doing so. Please indicate if these costs were one time (1 T) fixed costs, or whether they were incurred on a per carton (/C) basis or per store (/S); for example, 1 free carton per store when introducing a new product into a chain. Also indicate the sales volume marketed under that type of arrangement as a percentage of total sales. For example, if you provided category management services or gave volume incentives, approximately what percentage of your sales was made using these arrangements? For any services/fees you provided/paid, did you receive any performance commitments in exchange from retailers? For example, if you paid volume incentives did retailers have to meet a minimum volume over the season to qualify? If yes, please specify the type of commitment where shown. Finally, please indicate whether the net impact to your business was Beneficial (B), Harmful (H), or Neutral (N) for each of the services/fees you provided/paid.

	Check if the Fee Has Been Requested/provided and if Yes, Check if is New Since '94			Who Initiated Fee (Check R if Retail Buyer, S if Self, C if Competitor)			If Retailer Initiated, Did You Comply With the Original Retailer Request?		Indicate if Negotiated Alternative Arrangement (A) or Lost the Account (L)		\$ Cost of Fee Per Season	Indicate if Fees were One-time, Per Carton Sold or Per Store		% of Sales Under Fee	Indicate if There Was any Volume/Performance Commitments Made by Retailer in Exchange for Fee- If Yes, Specify	What is the Net Impact of these Fees? Please insert the appropriate abbreviation (B) Beneficial (H) Harmful (N) Neutral
	Yes	No	New	R	S	C	Yes	No	A	L		1 T	/C or /S			
Fees:																
Pay fixed up-front slotting/listing/warehouse fee for a new product												1 T				
Pay fixed up-front slotting/listing/warehouse fee for an existing product (pay-to-stay fees)												1 T				
Give volume incentives													/C			
Pay promotional allowance or co-op ads																
Pay other rebates																
Pay free-product discounts																
Buy-back unsold products or failure fees																
Contribute to retail capital improvements, e.g., refrigerated equipment allowances, warehouse construction																
Pay e-commerce fees (retailer requires shipper to list with an e-commerce firm)																
Other fees (please specify)																

	Check if the Service Has Been Requested/provided and if Yes, Check if is New Since '94			Who Initiated Service (Check R if Retail Buyer, S if Self, C if Competitor)			If Retailer Initiated, Did You Comply With the Original Retailer Request?		Indicate if Negotiated Alternative Arrangement (A) or Lost the Account (L)		\$ Cost of Service Per Season	Indicate if Services were One-time, Per Carton Sold or Per Store		% of Sales Under Service	Indicate if There Was any Volume/Performance Commitments Made by Retailer in Exchange for Fee- If Yes, Specify	What is the Net Impact of these Services? Please insert the appropriate abbreviation (B) Beneficial (H) Harmful (N) Neutral
	Yes	No	New	R	S	C	Yes	No	A	L		1 T	/C			
Services:																
Participate in an Electronic Data Interchange (EDI) or retail link program																
Participate in an automatic inventory replenishment program																
Provide category management services																
Develop special merchandising displays																
Provide private labels																
Use of returnable containers (e.g., Chex. IFCO)																
Develop special packs																
Provide third-party food safety certification																
Other (please specify)																
Other fees (please specify)																