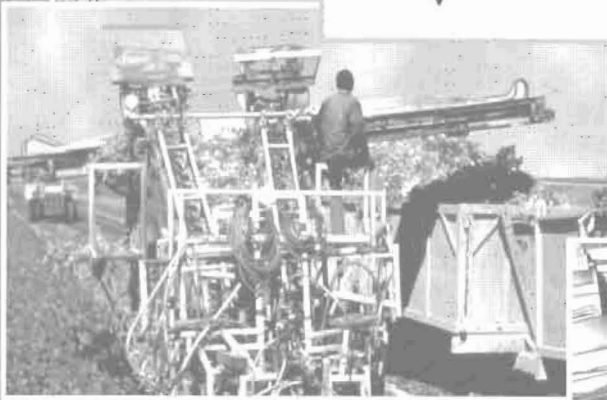


FreshTrack

1997



Marketing and Performance Benchmarks for the Fresh Produce Industry



Marketing and Performance Benchmarks for the Fresh Produce Industry

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FOOD INDUSTRY
MANAGEMENT

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Next, we would like to especially thank the industry “steering committee” who gave freely of its time to review draft questionnaires and to share insights regarding appropriate interpretation of the study results.

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Finally, we owe a great debt to the produce industry members who patiently filled out thousands of pages of surveys and answered an equal number of interview questions out of a genuine interest of improving the performance of their industry. Although they were guaranteed anonymity, we thank them individually and collectively. Without their participation, this report would not have been possible.

Foreword

The fresh fruit and vegetable industry has been one of the most dynamic in the U.S. food system for the past quarter century. Approaching the Year 2000, consumer demand for fresh fruits and vegetables is increasing, more sophisticated retail, foodservice and wholesale management practices are producing strong and expanding sales, and suppliers are responding with more flavorful varieties, new technologies and overall increases in efficiency. Yet a considerable number of opportunities and challenges are the by-products of such dynamism.

This report, prepared by the Food Industry Management Program at Cornell University for the Produce Marketing Association, establishes a set of “benchmark” measures to assist produce industry executives in understanding these opportunities and challenges. The measures have been developed through extensive interviewing and mail surveys with executives and organizations at virtually all levels of the produce industry. Empirical results and perspectives are presented in separate sections for retailers, foodservice operators, wholesalers, grower/shippers and together in an integrative systemwide summary.

This report is intended to be the first in an annual series of “benchmark” studies to be conducted each year by Cornell University’s Food Industry Management Program in cooperation with the Produce Marketing Association. We hope you find it both provocative and useful in planning your company’s own future. We welcome your comments.

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Dynamics of the Produce System

Introduction: Rationale for Systemwide Study

The fresh fruit and vegetable industry has been one of the most dynamic in the U. S. food system for the past quarter century. As we approach the Year 2000, consumer demand for fresh fruits and vegetables is increasing, more sophisticated retail and wholesale management practices are producing strong and expanding sales, and suppliers are responding with more flavorful varieties, new technologies and overall increases in efficiency. What's more, numerous federal and state governmental agencies, academic institutions and national health organizations have elevated the importance of the industry further with formal endorsements of the need for increased produce availability and consumption.

A considerable number of opportunities and challenges are the by-products of such dynamism. The objective of this report is to assist in the identification of these opportunities and challenges through analyses of the structure and standard operating practices of produce industry practitioners in the latter part of the 1990s. The basis of our analyses is a combination of (1) industry and



governmental data with (2) comprehensive mail surveys and (3) formal interviews of produce industry members at virtually every stage of the produce distribution system (see Figure 1.1).

The intermediate goal of these surveys is to develop a set of “benchmark” measures that will assist produce industry managers in gauging where their firms stand in comparison to their customers and their competitors. Moreover, these benchmarks will examine operational changes, marketing preferences and performance standards and will be tracked annually to capture directional changes. Such information is essential in guiding firms in their strategic planning for the future.

The need for this information is especially keen during such a time of industry growth and change. Although gaps exist in the data, using various federal and industry sources, we are able to estimate the volumes of fresh fruits and vegetables flowing through U.S. distribution channels. We know, for example, that in 1992, U.S. farms produced approximately \$15.6 billion of fruits and vegetables (Table 1.1), slightly over one-third of which is utilized for the fresh market according to the U.S. Department of Agriculture. Thus, when adding approximately \$4.5 billion worth of fresh fruit and vegetable imports and, ad-

TABLE 1.1

Farm Numbers and Values of U.S. Fruit and Vegetables, 1982–92

| | 1982 | 1987 | 1992 |
|--------------------------------------|---------|---------|---------|
| Vegetables | | | |
| Farms | 68,725 | 60,753 | 61,924 |
| Value (\$ billion) | 4.1 | 4.7 | 6.4 |
| Fruit and Nuts | | | |
| Farms | 90,291 | 96,908 | 89,417 |
| Value (\$ billion) | 5.9 | 7.1 | 9.2 |
| Total (Fruit & Vegetable) | | | |
| Farms | 159,016 | 157,661 | 151,341 |
| Value (\$ billion) | 10.0 | 11.8 | 15.6 |

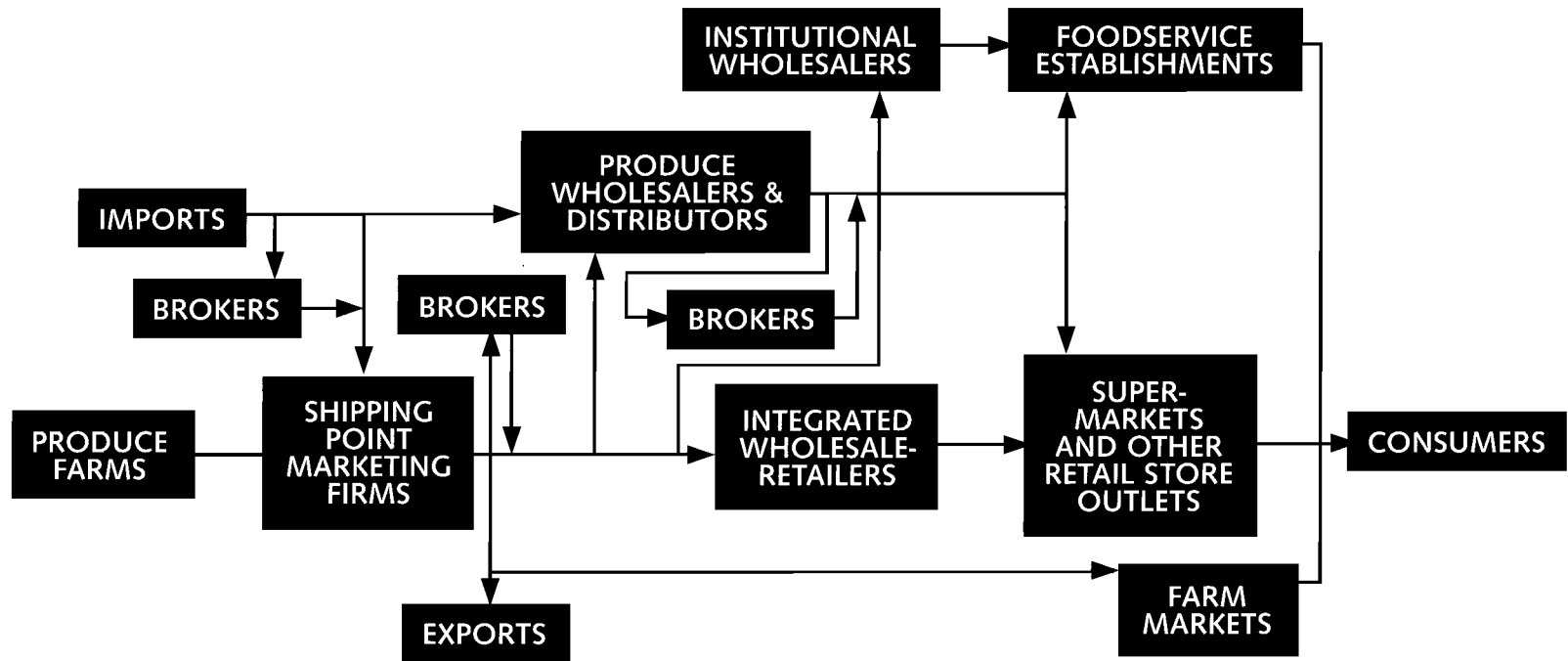
Source: 1992 *Census of Agriculture*, U.S. Department of Commerce Bureau of the Census, 1994.

justing for packing and shipping costs, the total supply of fresh fruit and vegetables in 1992 may have ranged from approximately \$16-20 billion. After subtracting \$4.6 billion of exports, the total supply entering the U.S. distribution system was roughly \$12-16 billion. Similarly, we can estimate the annual value of total consumption of fresh fruit and vegetable sales to consumers in the mid-1990s to range from approximately \$85-100 billion including some non-fresh “produce” and floral items (Figure 1.1).

However, the very substantial difference between the two, total supply and total consumption, perhaps as much as \$75 billion, represents the economic

FIGURE 1.1

U.S. Fresh Fruit and Vegetable Marketing System, Mid 1990s
(Billions of \$)



Source: 1992 Census of Agriculture (1994), unpublished data from the Economic Research Service (USDA), trade data, and Cornell estimates.

value added by the overall produce wholesaling system: produce packers, field buyers, distributors, brokers, repackers, and various types of wholesalers located both off and on terminal markets that service retail outlets and foodservice establishments, and transportation. But *where* exactly this value is added and *by whom* is not currently documented, and indeed the operating practices and expectations of these sectors are not terribly well understood. Although this may be considered the “black box” of the produce distribution system, it is a vital part of the system and essential to its successful operation.

Consumer Demand

The growth in the fresh produce industry can be explained by both demand and supply factors. On the demand side, consumers have been the primary engine driving change. Current demographic trends favor fresh produce in at least two ways. First, as the U.S. population ages, a significantly greater proportion of consumers are in older age segments, above 55 years old and above 65 years old. Research consistently has shown that produce consumption increases continuously with age, presumably, as consumers become more concerned with health and nutrition. Second, real income, adjusted for inflation, has generally risen over the past 15 years, both for households and for individuals (Table 1.2). Again, this trend generally advantages fresh food which is nearly always more expensive than its processed counterpart.

TABLE 1.2

U.S. Disposable Personal Income 1980 to 1995

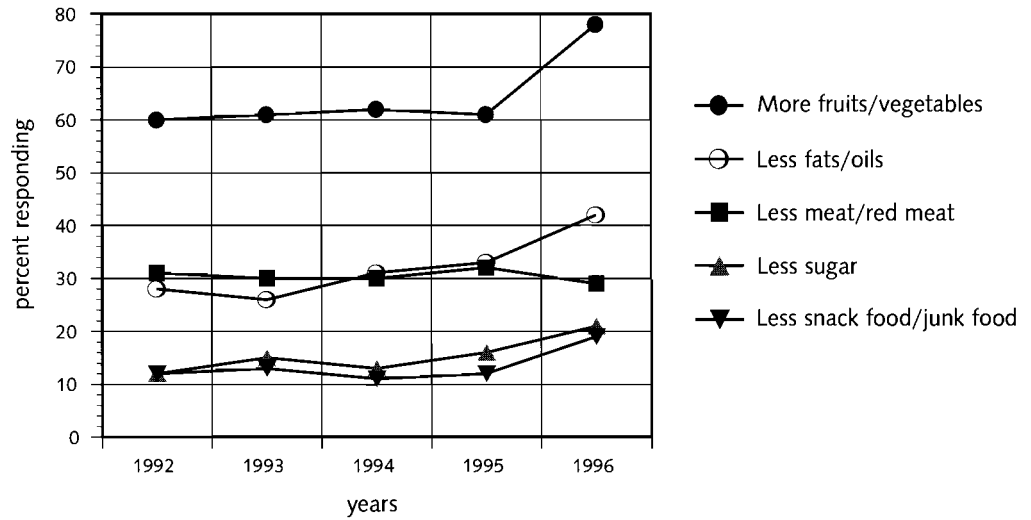
| | Per Capita | | Per Household | |
|------|---------------|--------------------|------------------|--------------------|
| 1980 | 14,813 | } Growth +26.6% | 41,761 | } Growth +19.4% |
| 1985 | 16,597 | | 45,612 | |
| 1990 | 17,941 | | 48,042 | |
| 1995 | 18,757 | | 49,850 | |

Source: U.S. Bureau of Census, *Statistical Abstract of the U.S.*, 1995.

Furthermore, lifestyle trends and consumer shopping preferences appear to place fresh fruits and vegetables in a prominent position. In its annual survey of consumer attitudes and shopping practices, the Food Marketing Institute has shown the growing importance of shopper preferences for produce. For example, when asked what dietary changes consumers have made over the last year, nearly twice as many consumers responded that they have attempted to eat more fruits and vegetables than the second most frequent response (Figure 1.2).

FIGURE 1.2

Consumer Dietary Changes, 1992-1996



Source: FMI *Trends in the U.S.: Consumer Attitudes and the Supermarket 1996, 1997*

This has held true for at least the past five years consecutively. Furthermore, in 1996, the interest expressed by consumers in fresh produce grew further. And this attitude appears to shape supermarket store choice. When consumers were asked to list the criteria most important to them in choosing a supermarket, again, “high quality fruits and vegetables” has been at the top of the list of reasons for six straight years (Figure 1.3).

FIGURE 1.3

Important Attributes in Choosing a Supermarket, 1992-1996

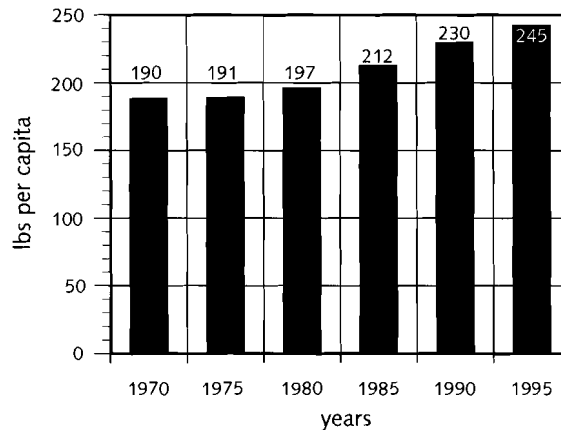


Source: FMI *Trends in the U.S.: Consumer Attitudes and the Supermarket 1996, 1997*

These demographic and lifestyle trends lead to quantifiable consumption increases. Fresh fruit and vegetable consumption, on a per capita basis, has continued to grow for 25 consecutive years (Figure 1.4). This is all the more impressive when considering the significant production swings that have occurred during this same period of time.

FIGURE 1.4

Fresh Fruit and Vegetable Per Capita Consumption, 1970–1995



Source: USDA, ERS, *Vegetable Yearbook*, 1970-1996, and *Fruit and Nut Yearbook*, 1970-1996.

Production and Marketing System Response

Fruits and vegetables are produced commercially on approximately 151,000 farms in the United States. In 1992, the most recent year for which census data were available, these farms combined to produce \$15.6 billion worth of fruits and vegetables at the farm level (USDA 1994). Once past the farm gate, the produce is bought, sold, stored, transported and otherwise handled by a large variety of individuals and firms. Although identifying all the system players is problematic, there may exist approximately 6,000 produce wholesalers, brokers and distributors, perhaps as many as 300 supermarket chains and nearly 100 general grocery wholesale companies serving small, independent retail stores. Most of these firms employ at least several produce professionals and many employ several thousand. Finally, foodservice establishments exist in a wide number of different formats, some small and quite fragmented and others, sophisticated and with a global reach and influence. The number of outlets is in the hundreds of thousands. Taken all together, it is likely that the total labor force that is responsible for the production and marketing of fresh fruits and vegetables figures over 1 million individuals.

All of these entities are affected by the changes in the consumer levels illustrated above. Consumer interest in fresh fruits and vegetables is perhaps easiest to demonstrate by examining some certain key retail trends.

First, recent trade data now call into question the very name of the traditional retail outlet for food, namely the “grocery” store, since beginning for the first time in 1996, slightly over half (51%) of all sales in the contemporary supermarket are perishables (Table 1.3), *not* dry groceries. And fresh produce is a growing part of these fresh foods.

TABLE 1.3**Supermarket Sales Distribution, 1996**

| Major Department | Sales (%) |
|-------------------------|------------------|
| Perishables | 50.21% |
| Misc. grocery | 9.51 |
| Beverages | 9.53 |
| Non-edible grocery | 9.12 |
| Snacks | 5.59 |
| Entrees | 5.07 |
| Health and beauty care | 4.01 |
| General merchandise | 3.94 |
| Other | 2.97 |
| Total | 100% |

Source: *Progressive Grocer*, July 1997

In 1995, the most recent year for which data are available, the average store’s produce department rang up approximately \$5,000 more in produce sales than in the prior year. And in independent research conducted among leading retailers by Cornell University, produce sales are projected to continue to make up a greater market share of retailers’ overall food sales at least through the year 2000 (Table 1.4). Moreover, department size grew from about 2,700 square feet in 1994 to 2,800 in 1995, while over the same period of time, the number of items carried was reported to have grown to nearly 300 from only 265.

Retailers have found produce shoppers to be among the most valuable in the store. According to *Progressive Grocer*, average transaction size for fresh produce grew from \$2.69 in 1994 to almost \$3.00 in 1995 as spending by produce shoppers outstripped the growth in spending for food overall. Further, among shoppers who say that the produce department is extremely important in selecting their supermarket, total weekly store spending is approximately 15 percent higher than for shoppers who say produce is not as important (*Progressive Grocer* October 1996).

Retailers also like the way a positive produce image leads to greater spending in other departments. In the “1996 Produce Annual Report” (*Progressive Grocer*, October 1996), data show that shoppers who think that produce is important shop significantly more often—over twice as often in a few cases—in the other service departments than do shoppers who are less concerned with produce (Table 1.5). Naturally, when retailers have the opportunity to increase sales in these high-margin departments, the whole store benefits.

TABLE 1.4**Supermarket Sales Distribution: Past, Present and Future**

| | 1967 ¹ | 1989 ² | 1994 ² | 2000 ³ |
|--------------|-------------------|-------------------|-------------------|-------------------|
| | % | % | % | % |
| Meat | 24.1 | 15.5 | 14.1 | 12.3 |
| Dairy | 11.1 | 6.2 | 6.0 | 6.1 |
| Produce | 7.6 | 9.1 | 10.0 | 12.7 |
| Deli | — | 4.3 | 6.1 | 7.8 |
| Bakery | — | 2.6 | 3.4 | 4.0 |
| Seafood | — | 1.1 | 1.1 | 1.6 |
| Frozen | 4.3 | 5.4 | 5.3 | 5.5 |
| Dry grocery | 34.5 | 27.0 | 27.0 | 24.7 |
| GM/HBC/other | 18.9 | 28.8 | 27.0 | 25.2 |
| Total | 100% | 100% | 100% | 100% |

¹Chain Store Age, 1968

²Supermarket Business, September 1990, 1994

³Cornell Food Executive Program projections, 1997

Indeed, “increasing sales” in their produce departments is exactly what retailers did in 1996 according to *Progressive Grocer’s 1997 Sales Manual*. Fresh produce outdistanced all other major categories in the supermarket in 1996 in terms of dollar increases compared to the previous year (*Progressive Grocer 1997*).

Report Organization

After a brief presentation of the study methodology in the next section, the remainder of this report is organized around the four industry surveys that were conducted, one each of four distinct industry segments: grower/shippers, wholesalers, foodservice operators and retailers. In each of these separate sections, survey results will be presented and analyzed. In the last section of the report, “Systemwide Implications and Perspectives,” the separate section conclusions will be integrated and summarized for the produce system as a whole.

TABLE 1.5

How Often Service Departments are Shopped
(% saying)

| | Most of the time | | Occasionally | | Almost never | |
|---|------------------|------|--------------|------|--------------|------|
| | 1994 | 1995 | 1994 | 1995 | 1994 | 1995 |
| Service bakery | | | | | | |
| Shoppers saying produce extremely important | 42% | 36% | 46% | 50% | 12% | 14% |
| Shoppers saying produce not as important | 41 | 32 | 43 | 59 | 16 | 9 |
| Service deli | | | | | | |
| Shoppers saying produce extremely important | 36 | 38 | 41 | 44 | 23 | 18 |
| Shoppers saying produce not as important | 32 | 23 | 42 | 47 | 26 | 30 |
| Service fish | | | | | | |
| Shoppers saying produce extremely important | 21 | 22 | 33 | 37 | 46 | 41 |
| Shoppers saying produce not as important | 13 | 14 | 29 | 30 | 58 | 56 |
| Prepared foods | | | | | | |
| Shoppers saying produce extremely important | 15 | 16 | 42 | 39 | 43 | 45 |
| Shoppers saying produce not as important | 8 | 8 | 46 | 53 | 46 | 39 |
| Cheese shops | | | | | | |
| Shoppers saying produce extremely important | 18 | 26 | 47 | 34 | 35 | 40 |
| Shoppers saying produce not as important | 28 | 5 | 44 | 38 | 28 | 57 |

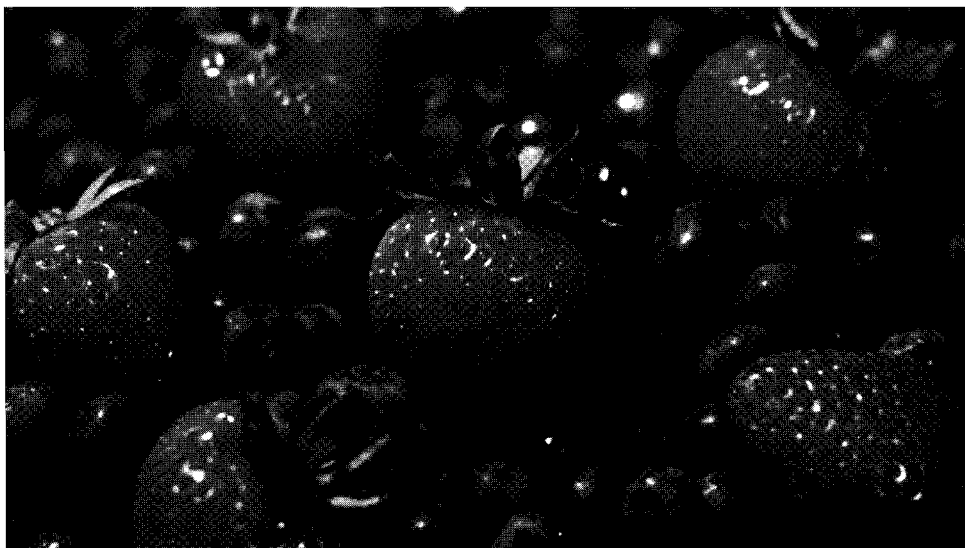
Source: *Progressive Grocer*, October 1996

Study Goals, Methodology and Respondent Profile

Goals

This study reports on a systemwide investigation of the U. S. fresh produce industry. The study, envisioned to be on-going for a period of at least three to five years, has two primary goals. First, the study proposes to establish a series of marketing, operational and performance measures to be used for planning and evaluation purposes for both private firm managers and public policy makers who interact with the produce industry. These benchmarks will be tracked over time in order to develop an accurate picture of industry status, detect new developments in the industry and to signal changes in industry direction and operating practices. Benchmarks will be established for at least four distinct components of the fresh produce industry: retailers, wholesaler/brokers, foodservice operators and grower/shippers.

Second, each year, one specific area or theme will be identified for special in-depth examination. This theme may be common to all industry members or it may affect one particular segment more than another. In this, the inaugural year of the project, the theme selected in conjunction with the PMA profes-



sional staff and its Board of Directors, is “the changing role of the produce wholesaling system.” Here, “wholesaling system” is interpreted very broadly to include virtually all organizations and individuals who play a role in the fresh produce distribution channels between the grower/shipper and the retailer: terminal market operators, various types of produce distributors, brokers, field buyers and importer/exporters. Results of the investigation into this little researched area will be highlighted in the current report but covered in much greater detail in a separate “in-depth” report.

Methodology

The method guiding this study has three principal components: (1) a review of the relevant trade and academic literature on the fresh produce industry, (2) an extensive national mail questionnaire, and (3) personal interviews with a large number of industry practitioners.

A mail questionnaire was developed for each of four distinct industry segments: retailer, wholesaler/broker, foodservice operator and grower/shipper. The questionnaires were developed in concert with a steering committee of twelve produce executives selected with help of the professional staff of the Produce Marketing Association to be representative of the many different facets of the fresh produce industry. Before mailing the surveys, each of the four questionnaires was pre-tested with a number operators from each of the four distinct industry segments and discussed with the Retail Board of Directors and the Main Board of Directors of the PMA. The questionnaires varied in length from four to approximately eight pages (interested readers are invited to contact the authors regarding questionnaire format and detail).

The questionnaires were mailed to a total of 1600 produce executives. The individuals and their mailing addresses were obtained from a variety of sources: the *Supermarket News: Retailers and Wholesalers* (1996); various membership lists of the PMA; and additional terminal market wholesalers from the *Green Book*, a produce market information directory produced by the National Association of Produce Market Managers; and Cornell’s own proprietary mailing list of food industry companies. The design of the questionnaire as well as the mailing procedures conformed to the Total Design Method (TDM) as established by Dillman (1978).

The personal interviews had two objectives. First, through discussions with the industry steering committee and visits to numerous produce operations, efforts were made to ensure that the mail questionnaires solicited the types of information that would be of optimal use and benefit for the industry. Second, once the preliminary analyses of the survey results were conducted, interviews were held with produce industry firms, particularly in the broad “wholesaling” system, to assist with the interpretation of the findings as well as to allow for industry reaction and perspective regarding the initial survey findings. Personal visits were made to six major terminal markets from coast to coast and executives were interviewed from over forty produce companies. Although no attempt was made to be random nor comprehensive in this primary data collection effort, the executives interviewed were selected for their representativeness, geographical dispersion and operational diversity (see profile below).

Respondent Profile

The procedure described above produced a mailing to over 1600 produce executives. The first mailing of questionnaires was sent to these executives the first week of May, 1997. Responses to the survey came in over approximately a ten week period, with the distribution found in Appendix A.

In general, survey researchers are quite pleased with a response rate from large executive-level mail surveys of between 15 to 20 percent. In this particular survey, 33 percent of all questionnaires had been returned by July 25, for a total of 541 usable surveys. This is more primary data collected on the operations and performance of the fresh produce industry than at any time since the major U. S. produce wholesaling study, commissioned by the U. S. Department of Agriculture nearly forty years ago (USDA 1964).

If we examine the response rate by industry sector, a considerable variance is observed according to sector (Table 2.1). Over half (255) of all responses came from grower/shipper organizations and their collective response rate was an impressive 44 percent. Further, although only 23 responses were received from foodservice operations, over 50 percent of all foodservice operators responded, indicating a considerable interest from this sector in this type of industry research.

TABLE 2.1

FreshTrack Survey Response by Sector

| | Sent | Received | Response Rate |
|-----------------------|-------|----------|---------------|
| Grower/shippers | 577 | 255 | 44% |
| Wholesalers | 821 | 205 | 25% |
| Retailers | 201 | 58 | 29% |
| Foodservice operators | 45 | 23 | 51% |
| Total | 1,644 | 541 | 33% |

Most importantly, this sample of respondents can be counted to be “representative” of the major segments of the produce industry as a whole: grower/shippers, wholesalers, retailers and foodservice operators. Along all the most critical dimensions—firm size, firm classification, and geographical dispersion—this sample is typical of what one would expect of the average produce industry firm in each of these industry segments. The geographical representation of our sample, for example, includes firms from each industry segment from East coast to West coast, from North to South and in the approximate density that they are found in the industry itself (Table 2.2). In general, the only area where our sample diverts from an industry “average” is in sales size: respondents to our survey tended to be biased toward a slightly larger size for nearly all industry segments than would be expected from an industry average. This is not surprising, given the greater interest on the parts of larger, perhaps more sophisticated firms, in this type of market research compared to their smaller counterparts.

The approximate dispersion of produce firms across the United States for produce brokers, wholesalers and shippers respectively can be found in Appendix B. These figures have been compiled from the most recent data as calculated from the *Blue Book*. The same data are not displayed for retailers or foodservice operators since the headquarters locations for these businesses are often less relevant than the actual location of their stores/restaurants.

More detail on the respondent profile for each of the individual industry segments is provided in the appropriate section below.

TABLE 2.2

Survey Response by Location, by Industry Segment

| Segment | East | Midwest | West | Other | Total |
|-----------------------|------|---------|------|-------|-------|
| Grower/shippers | 63 | 32 | 152 | 8 | 255 |
| Wholesalers | 84 | 50 | 61 | 10 | 205 |
| Retailers | 18 | 24 | 10 | 6 | 58 |
| Foodservice operators | 9 | 7 | 7 | 0 | 23 |
| Total | 174 | 113 | 230 | 24 | 541 |

Retail Benchmarks: Empirical Results and Perspectives

This section reports on the retail segment of the empirical component of this comprehensive produce industry research study. The overarching goal of this retailer focused survey is to build a foundation of benchmark indicators for the procurement, distribution and marketing functions for retail supermarket produce departments.

Profile of Respondents

Fifty-eight retail companies responded to the survey representing \$179.58 billion in annual company sales. Combined, these companies report annual produce sales of \$7.6 billion. The companies participating in the survey represent a vast array of formats, sizes and, perhaps most importantly, produce department strategies and profiles. The majority of respondents could be characterized as “mainstream” supermarket companies with “traditional” produce departments. Indeed, many of the largest and best known supermarket compa-



nies are included in our analysis. However, particularly within the small firm size category (annual company sales of less than \$300 million), more specialized “fresh” formats are evident. These specialized firms will be discussed in greater detail below.

Throughout this section survey results will be portrayed in several ways. In all cases, the mean results will be displayed. In selected cases, the results will be represented by firm size. That is, the firms participating in the study will be divided by annual company sales into one of three categories: less than \$300 million (<\$300M), between \$300 million and \$1.5 billion (\$300M - \$1.5B) and over \$1.5 billion (>\$1.5B) in annual company sales.

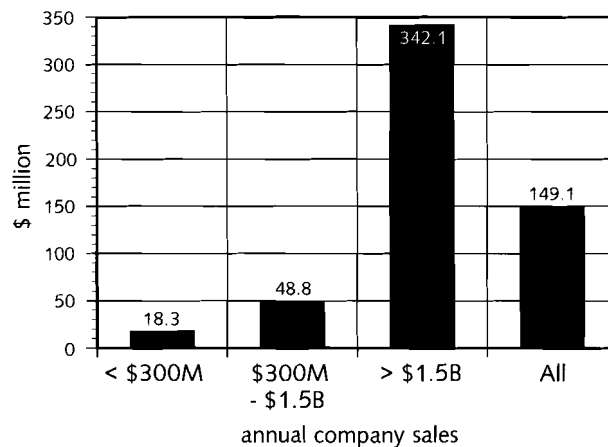
Produce Department Profile

Financial Profile

On average, a supermarket company's produce departments generate \$149.1 million in annual sales, however, produce departments in large firms more than double that figure reaching, on average, \$342.1 million in annual sales (Figure 3.1).

FIGURE 3.1

Annual Supermarket Produce Sales, by Firm Size

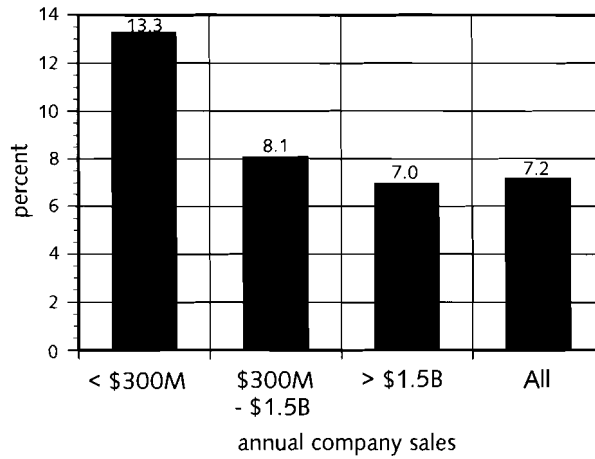


For the average firm participating in the study, the produce department represents 7.2 percent of company sales, however, this number almost doubles for small firms which boast 13.3 percent of company sales generated from produce (Figure 3.2). Mid-size companies produce departments average 8.1 percent of company sales while those firms with annual sales greater than \$1.5 billion indicate 7 percent of company sales are derived from the produce department.

An earlier study conducted by McLaughlin and Perosio (1994), which focused on supermarket fresh fruit and vegetable procurement dynamics, reported, on average, in 1990, produce sales represented 9.2 percent of com-

FIGURE 3.2

Produce Sales as a Percent of Company Sales, by Firm Size



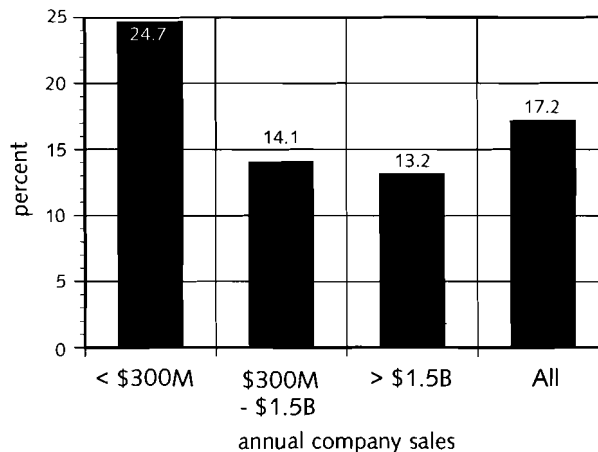
pany sales. Further, these same executives in 1994 estimated that produce sales would reach 9.8 percent of sales by 1996 and by 2000 hit almost 12 percent of company sales.

It appears that these earlier projections may have been optimistic, as current figures fall somewhat short. However, the sample in the current study is broader in at least two ways. First, it appears that the small firms sell relatively greater proportions of fresh produce due to the presence of a number of “fresh-oriented” stores who act like green grocers. Second, the very largest group (> \$1.5 billion) includes certain supercenter formats with very large sales of general merchandise compared to supermarkets.

The produce department is very profitable for the supermarket. On average, produce’s share of company profits is 17.2 percent (Figure 3.3). This is more than twice the level of produce’s retail sale share. It would thus appear that

FIGURE 3.3

Produce Department Share of Company Profits, by Firm Size

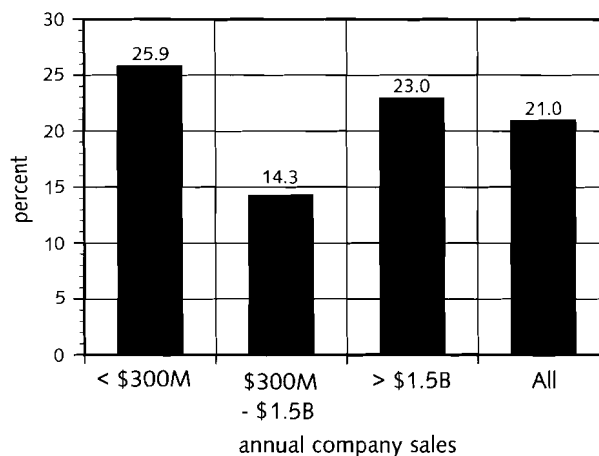


additional produce sales would make a substantially positive contribution to company profits. For small firms, the revenue generated in the produce department represents almost one-quarter of overall company profits. In fact, for several small companies produce sales represent well over 50 percent of company profits. This phenomenon may be explained in two ways. First, because smaller firms may not have as many ancillary departments such as specialty cheese and general merchandise, only the “traditional” departments (e.g. grocery, produce, dairy, deli, meat) represent the total store when determining profitability. Second, several of these smaller firms appear to be strategically positioning themselves as “fresh” stores, boasting abundant produce and other perishable items while limiting dry grocery items to only staples and specialty items.

Once again, smaller firms lead the way when evaluating produce’s share of total store transactions, as 25.9 percent of all store transactions contain produce (Figure 3.4). However, some “fresh” firms report triple the average number of transactions containing produce. Mid-size firms have the smallest percentage of produce transactions (14.3%), while large firms fall in the middle, with 23 percent of all transactions containing produce items.

FIGURE 3.4

Produce Department Share of Transactions, by Firm Size



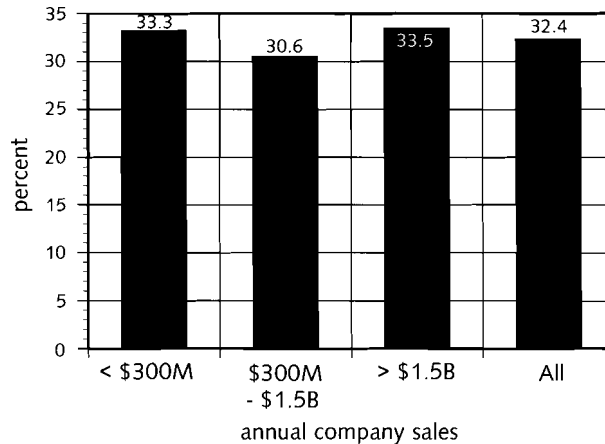
The average gross margin for all firms participating in the study is 32.4 percent (Figure 3.5). As would be expected the range varies considerably for retail supermarkets from a low of 18 percent to a high of 43 percent. Large firms reported, on average, the highest gross margin at 33.5 percent while mid-size firms indicated the lowest at 30.6 percent.

Department Size and Composition

Produce executives report the average size of their produce departments is 3,005 square feet (Figure 3.6). Firms with annual sales in excess of \$1.5 billion report the largest departments of 3,166 square feet while small firms, on average, have the smallest departments (2,602 sq. ft.). In 1994, McLaughlin and

FIGURE 3.5

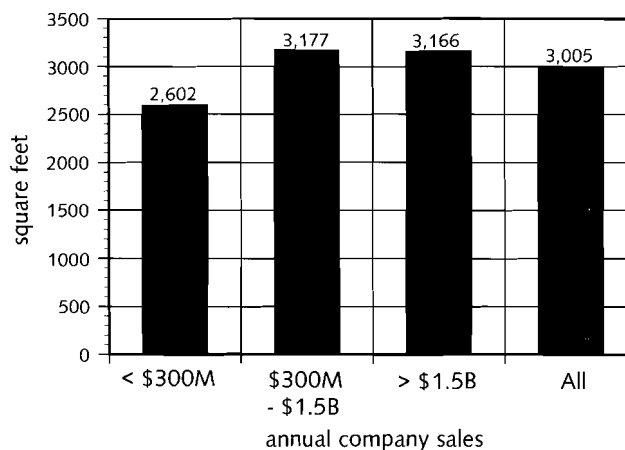
Produce Department Gross Margin, by Firm Size



Perosio reported the average size produce department was 3,087, remarkably close to current estimates. Thus it appears, at least with this large sample, that the produce department size has not substantially changed in the past three years.

FIGURE 3.6

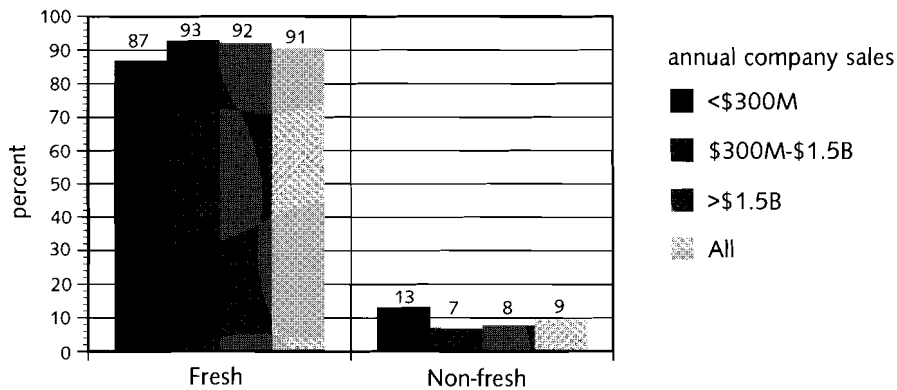
Produce Department Size, by Firm Size



Of course, the vast majority (91%) of the produce department consists of fresh produce items (Figure 3.7). Small firms' produce departments report fewer fresh items as a percent of the total department (86.9%), while mid-size firms report the highest percentage of fresh items (93%). These estimates are in keeping with earlier estimates. McLaughlin and Perosio (1994) reported that 83.7 percent of the produce department consisted of fresh items in 1990 and projected that, by the year 2000, 94.9 percent of items in the produce department would be fresh items.

FIGURE 3.7

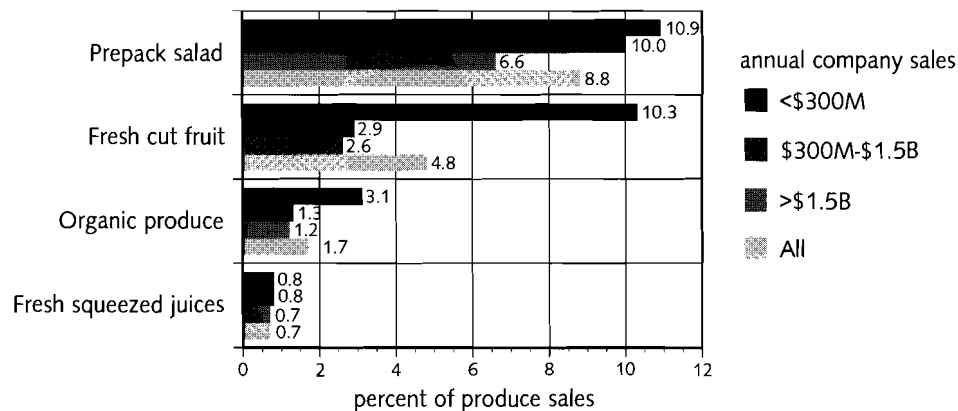
Fresh and Non-Fresh Items in the Produce Department, by Firm Size



Recent trends have brought increasing variety and selection to the produce department. Much of this produce department excitement and growth can be attributed to the explosion in popularity of prepacked salads and other fresh convenience items. Participating firms report that on average, 14.3 percent of department sales are generated from certain non-traditional categories: 8.8 percent of produce department sales are from prepacked salads, 3.6 percent from fresh cut fruit, 1.7 percent from organics and less than 1 percent from fresh squeezed juices (Figure 3.8).

FIGURE 3.8

Non-Traditional Items in the Produce Department, by Firm Size



Produce executives from small firms, on average, report having the greatest percentage of sales from these non-traditional items with almost 11 percent of sales from prepacked salads, 5.9 percent from fresh cut fruits, 3.1 percent from organics and again, less than 1 percent from fresh squeezed juices. Perhaps this is a reflection of the small firms' ability to innovate, their willingness to establish partnerships with local suppliers and finally their success in responding to local shopper preferences.

Equipment in Produce Departments

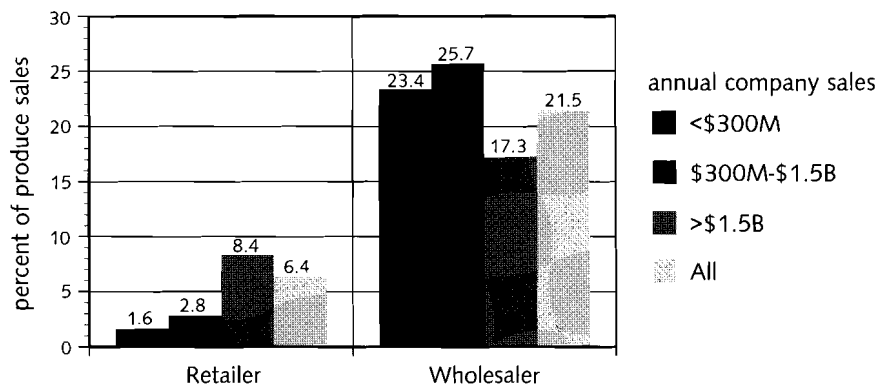
Produce departments are typically furnished with a variety of equipment. Firm size does not appear to be an indicator of the type of equipment a supermarket produce department may possess. On average, produce executives reported virtually 100 percent of their stores have refrigerated cases, while 92 percent have dry tables, 73 percent have shrink wrappers and misters. Sixty-nine percent of stores have random weight scales tied to scanners while two-thirds (66.1%) have wet tables. Slightly over half (51.4%) of all stores have pineapple corers and only 21.0 percent have juicers.

Private Labels, Brands and Commodities

Retailer controlled private label products, although gaining in popularity in the grocery department of many supermarkets, appear to be lagging behind in the produce department. In the dry grocery department, slightly over 14 percent of all sales are in private label brands. On average, just 6.4 percent of produce department sales originate from a retailer private label (Figure 3.9). Large firms, who by the very nature of their size and buying power, are able to de-

FIGURE 3.9

Wholesale and Retail Controlled Produce Labeling, by Firm Size



velop private label programs for produce, generate the greatest proportion of private label produce sales. Executives from these firms report posting over 8 percent of produce sales from their own proprietary label. The range in sales for retailer private label, however, varies greatly within these large firms. Some firms report fully 100 percent of their produce is sold under private label while others sell no produce at all under their own private label.

In contrast, small firm buyers report only 1.6 percent of sales originate from a private label. Typically, these small firms do not have the buying power nor the personnel to develop proprietary private label programs and therefore, depend more heavily on their wholesaler to fulfill these needs.

Small and mid-size firms, which are often supplied by either a produce and/or full-line grocery wholesaler, report the highest usage of wholesaler labeled produce products (23.4% and 25.6% respectively).

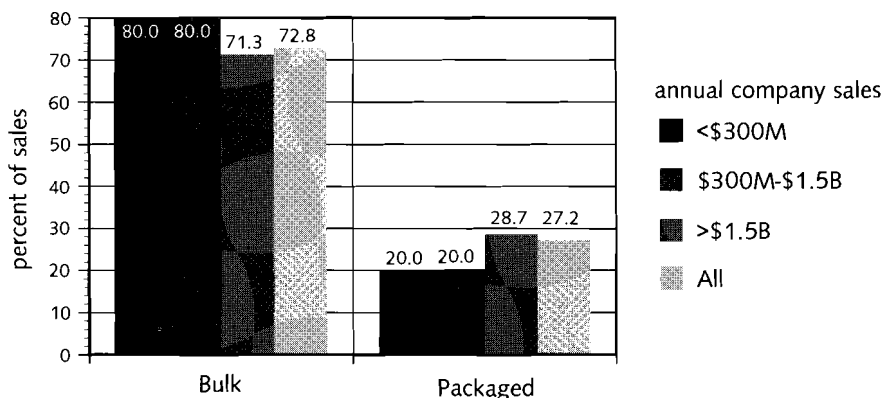
Produce Packaging

Almost three quarters (72.3%) of retail produce is sold in bulk, that is, the shopper can personally select the quantity and quality desired (Figure 3.10). Small and mid-size produce executives alike report that 80 percent of their produce is sold in bulk. This number drops considerably for large firms, as just over 70 percent of produce is sold bulk.

The mix of “packaged” produce items, however, may differ between firms. For example, conventional packaging, that is, bundling six peaches under cellophane may constitute more of the mix than say prepackaged salads for some conventional firms or, for those firms, where refrigerated cases are at a minimum.

FIGURE 3.10

Supermarket Packaging: Bulk vs. Packaged, by Firm Size



Price Coding Produce

In the past, there has been little industry-wide agreement in price coding procedures for produce. McLaughlin and Perosio observed little consistency in 1994, reporting that 50 percent of produce retailers used chain specific PLU (price look up) codes while the remainder relied first on UPC codes (29%) and second on industry specific PLU codes (10%). McLaughlin and Perosio went on to comment, “Perhaps, surprisingly, the future does not promise any industry-wide move towards uniformity. In fact, the situation in a way becomes more fragmented as respondents project an approximately equal usage of each check-out procedure for the near future.”

While the retailer projections in the 1994 report for the future were looking toward 1996, today, it appears that the industry is, in fact, moving towards a more uniform price coding system. Although the large firms are leading the way, small and mid-size firms are close behind moving toward industry-wide agreement on a uniform price coding system. Produce executives from all firms report a clear preference for Produce Electronic Identification Board Price Look Up (PEIB PLU) coding (47.8%) (Figure 3.11). UPC coding is still popular with 39.1 percent of firms reporting using this type of produce coding. Comparisons between the two studies are illustrated in Figure 3.12.

FIGURE 3.11

Supermarket Methods of Produce Coding, by Firm Size

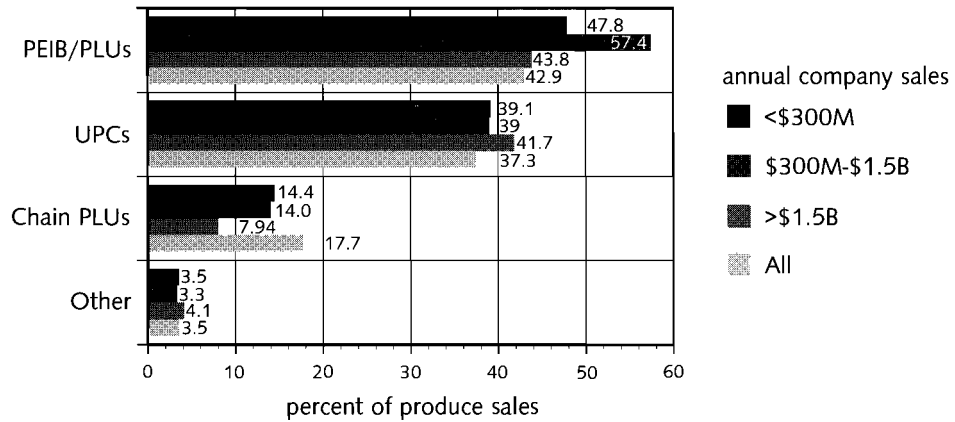
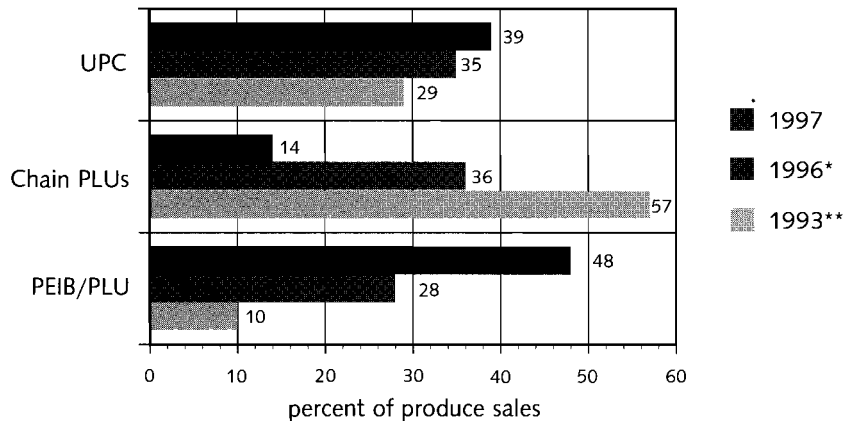


FIGURE 3.12

Supermarket Produce Price Coding: Past and Present



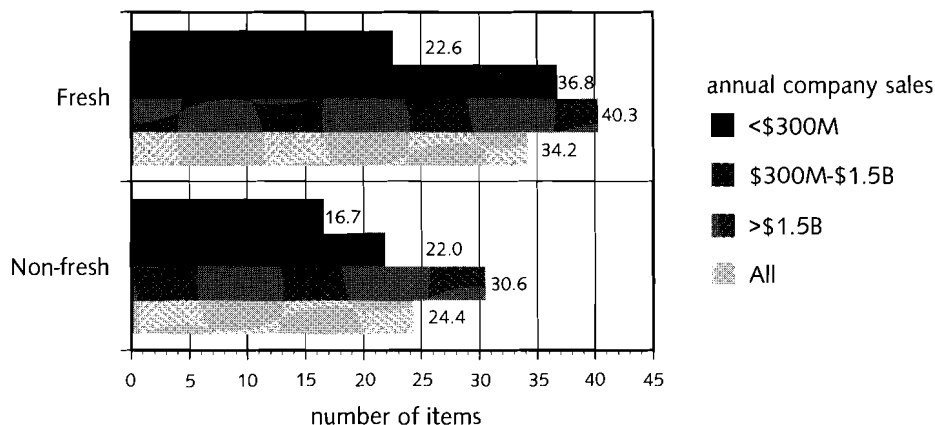
* McLaughlin & Perosio (1994)

** Projections

Produce Department Management

New Product Additions and Deletions

There continues to be a surge of new produce product introductions into the produce department. On average, for all firms in 1996, 34.2 new fresh products (58%) were added while 24.4 non-fresh (42%) products were added for a total of 58.6 new product additions (Figure 3.13). This new product addition rate far exceeds that reported by McLaughlin and Perosio in 1994. At that time produce executives added only 26.5 new items, 19.3 (73%) fresh and 7.2 (27%) non-fresh.

FIGURE 3.13**Supermarket Produce Product Additions, by Firm Size**

This figure varies considerably between large and small firms. Produce executives from large firms report adding 40.3 fresh (57%) and 30.6 non-fresh (43%) produce items for a total of 70.9 new items in the produce department for 1996. These results represent an almost three-fold increase in new produce additions over estimates made in the McLaughlin and Perosio study which reported an addition of 26.1 items in 1994 of which 22 (84%) were fresh and 4.1 (16%) were non-fresh.

In contrast, small firms are adding far fewer items than their large firm counterparts. Executives from small firms report adding only 39.3 items; 22.6 (57%) fresh and 16.7 (43%) non-fresh. These current figures once again exceed earlier estimates reported by McLaughlin and Perosio (1994). They reported that small firms added 31.2 new items; 20 fresh (64%) and 11.2 (36%) non-fresh.

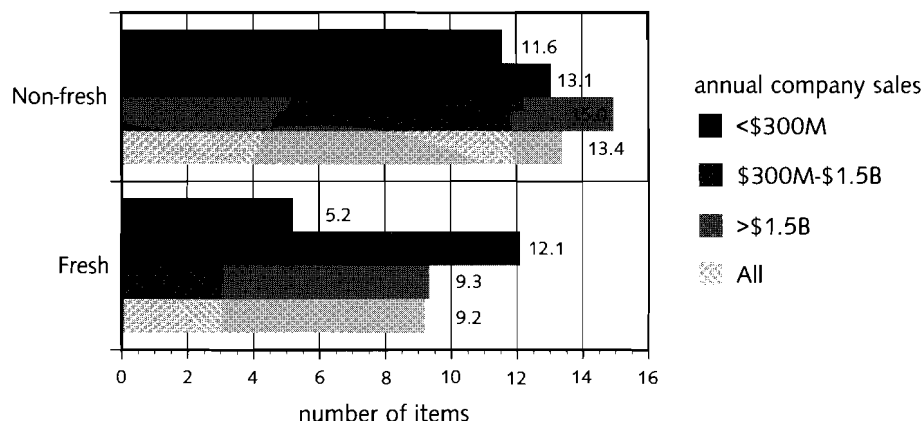
It is interesting to note, for both large and small firms, that in addition to the number of new product additions in 1996 far exceeding those from the earlier McLaughlin and Perosio study (58.6 vs. 26.5), the proportion of fresh to non-fresh produce items added has shifted considerably. The earlier study reported that for all firms, 73 percent of new produce department additions were fresh products. Today, however, only 58 percent of new produce additions are fresh items.

Typically, as new products are added, others are deleted. On average, for all firms, 9.2 fresh (41%) and 13.4 non-fresh (59%) produce products were deleted for a total of 22.6 produce deletions (Figure 3.14). This deletion rate is significantly higher than the McLaughlin and Perosio estimates of three years ago where, on average, all firms reported deleting a total of only 14 items; 3.3 fresh (24%) and 10.7 non-fresh (76%).

Small firm executives report deleting the fewest number of produce items; 5.2 fresh (31%) and 11.6 non-fresh (69%) for a total of 16.8 deletions (Figure 3.14). Mid-size and large firms were quite similar in total deletion numbers, however the mix of fresh and non-fresh varied. Large firm executives deleted 9.3 fresh (37%) and 15 non-fresh items (63%) for a total of 24.3 item deletions while mid-size firms deleted 12.1 fresh (48%) and 13.1 non-fresh (52%) for a total of 25.2 deletions.

FIGURE 3.14

Supermarket Produce Product Deletions, by Firm Size

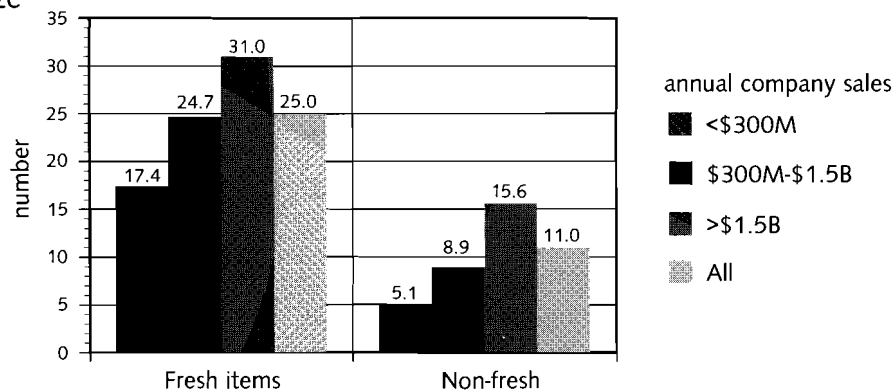


Again, when comparing product deletions between the two studies, marked differences emerge. It appears that today, produce executives are becoming more aggressive in “weeding” out non-performing products, deleting an average 22.6 products in 1996. However, McLaughlin and Perosio reported over three-quarters of product deletions in 1994 were traced to non-fresh products. In contrast, today, only 59 percent of deletions are non-fresh items.

The net effect for all firms, of produce additions and deletions is a net gain of 36 products; 25 fresh (69%) and 11 non-fresh (31%) (Figure 3.15). Although the proportion of fresh to non-fresh is not as heavily skewed toward fresh as it was in the 1994 study, still, fresh products are being accepted at twice the rate of non-fresh items in the produce department.

FIGURE 3.15

Net Effect of Supermarket Produce Additions and Deletions, by Firm Size



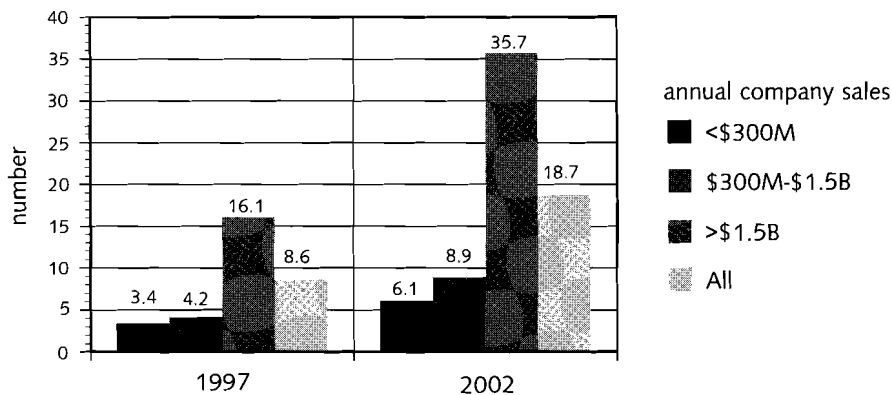
Frequency of Supplier-Retailer Partnerships

Produce retailers were asked, “How many partnerships with fresh produce suppliers do you currently have, and intend to have in the future (2002)?” On average, these retailers report having 8.6 supplier-retailer partnerships (Figure 3.16). Large firms lead the way with over 16 partnerships while small firms report only 3.4 partnerships.

Although partnerships are at a relatively low threshold now, the number of supplier-retailer partnerships are expected to swell dramatically over the next five years. For every firm size the number of partnerships is expected to grow by at least 100 percent. Again, large firms are leading the charge, as they expect to have 35.7 partnerships in five years compared to the all firm average of 18.7.

FIGURE 3.16

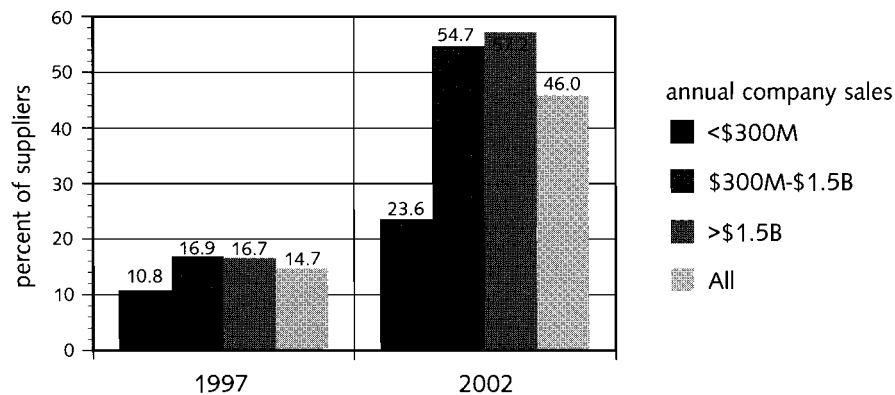
Supplier-Retailer Partnerships, by Firm Size



Current and Future Status of Electronic Data Interchange

The use of Electronic Data Interchange (EDI) is becoming increasingly prevalent within the supermarket industry. EDI can be defined as “the use of electronic technology to exchange data with suppliers for purchasing, invoicing, inventory control, forecasts, and/or deliveries.” Produce executives were asked two related questions regarding their current and expected use of EDI in the produce department. First, they were asked “With what percent of your fresh produce suppliers do you currently use and expect to use EDI?” On average, for all firms, produce executives are currently using EDI with 14.7 percent of their suppliers (Figure 3.17). Large and mid-size firms are remarkably similar; reporting 16.9 and 16.7 percent respectively. Small firms lag behind their larger firm counterparts as executives from these firms report using EDI with only 10.8 percent of suppliers.

In all cases, the use of EDI is expected to increase dramatically in just five years. By the year 2002, on average, the firms in this study expect to use EDI with 46.0 percent of their suppliers, more than doubling 1997 figures. (Figure 3.17). Once again, large firms report the greatest use and percentage increase in the use of EDI by 2002, jumping from just 16.7 percent of their suppliers to 57.2 percent.

FIGURE 3.17**Supermarket Produce Department Use of EDI, by Firm Size**

The use of EDI may, however, mean different things to different retailers. For many small retailers who are serviced by a full service wholesaler, EDI simply refers to the electronic interchange of data between the retail store and their wholesaler. Yet, for most large chains with internal produce buying capabilities, EDI refers to the exchange of data between themselves and grower/shippers or other produce suppliers.

The commitment to EDI varies considerably from firm to firm. Some companies have committed to becoming 100 percent EDI capable within a very short time. Their suppliers must either comply or face the prospect of losing important customers. Other firms, with strong "local" or "homegrown" programs, cater to small and/or niche growers. Although these growers may never have EDI capability, certain produce buyers report having made a quality commitment rather than a technology commitment. Essentially, the question of EDI use is one of "high tech" vs. "high taste," a balancing act to be sure. However, there does appear to be a middle road. One firm interviewed which is firmly committed to EDI has established an EDI training program for its suppliers. They boast that within a short six to eight week period, any supplier can enter the high tech world of EDI.

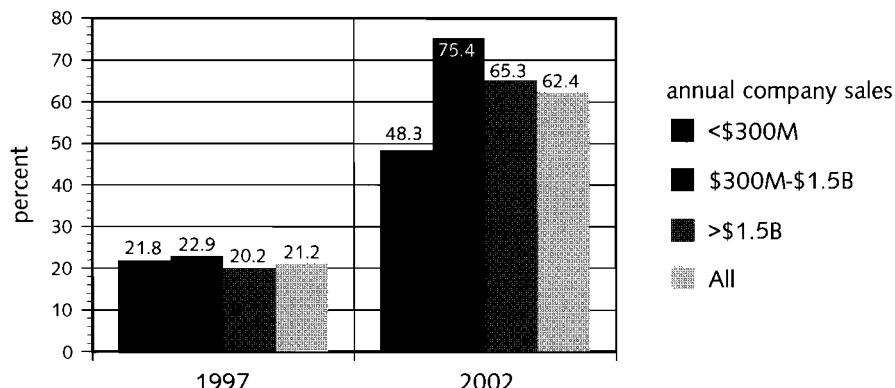
Produce executives were also asked "what percent of your volume is represented by EDI?" On average, for all firms, 21.2 percent of their volume is transacted using EDI (Figure 3.18). Remarkably, for all firm sizes, this figure varies very little. Once again, retailers expect this figure to increase significantly by 2002. Sixty-two percent of all produce transactions are expected to be made using EDI in just five years, a threefold increase over current volume levels. Mid-size firms expect to experience the most dramatic increase, jumping from 22.9 percent to 75.4 percent of produce volume by 2002.

It is interesting to note however, that, despite these very optimistic projections for EDI, that 39 percent of small firms currently do not use EDI at all, and do not expect to use it in the future.

These EDI projections appear to be consistent with a recent Cornell study conducted by McLaughlin, Perosio and Park (1997) which also reported that dramatic growth is expected in the use of EDI in the drug, mass and food

FIGURE 3.18

Percentage of Retail Produce Sales Transacted via EDI, by Firm Size



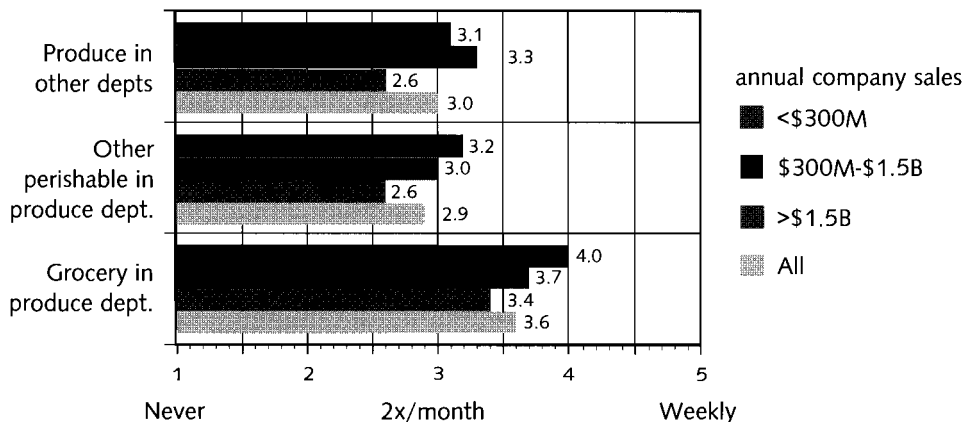
channels of trade. However, currently and in the future, EDI use is considerably greater on the grocery side of the food business. The authors reported that currently in the grocery industry, 54 percent of all volume was EDI transacted and by 2000 this is expected to increase to 88 percent.

Cross Merchandising Produce

Many firms use extensive cross merchandising strategies to boost sales. Produce executives were asked how often other departments cross merchandise in the produce department as well as how often produce was cross-merchandised in other departments. The most frequent type of cross merchandising occurs when grocery items are placed in the produce department. This typically occurs between once and twice per month (Figure 3.19). In general, small firms do the most extensive cross merchandising; placing grocery in produce, other perishables in the produce department as well as placing produce items in other departments. Small firm retailers report conducting each of these cross-merchandising activities at least once a month.

FIGURE 3.19

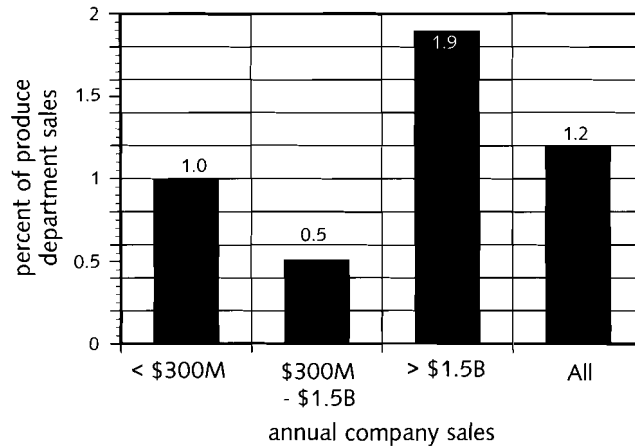
Frequency of Cross Merchandising Supermarket Produce, by Firm Size



One indication of the profitability and extent of cross-merchandising of produce is the percent of produce sales from produce items sold in other departments. For the firms participating in this study, only 1.2 percent of produce sales are from produce items cross-merchandised and sold through other departments (Figure 3.20). Large firms have the highest sales level at 1.9 percent while mid-size firms report the least at 0.5 percent of produce sales. However, despite this rather weak showing, several respondent firms report sales percentages of 10-15 percent; an impressive testimony to the potential of cross-merchandising produce in other departments.

FIGURE 3.20

Retail Produce Sales from Other Departments, by Firm Size

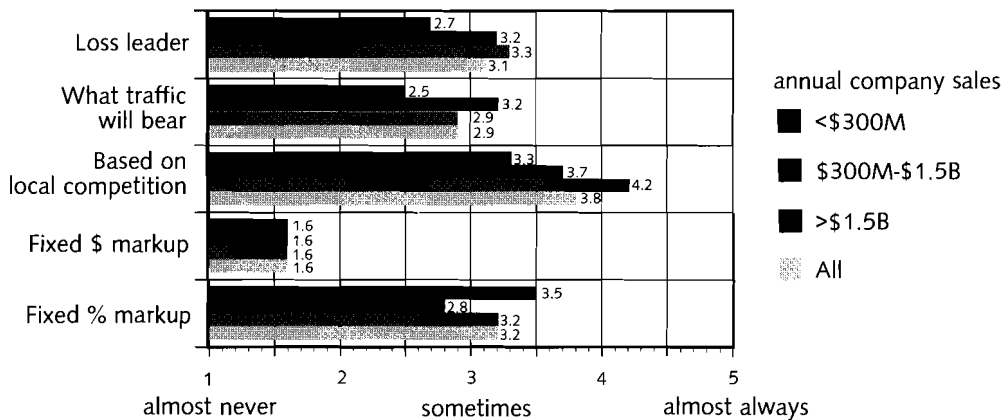


Pricing Strategies

There are a number of strategies produce executives execute when establishing price setting techniques for the produce department. For all firms, on average, the most commonly used technique is “price based on local competition” (Figure 3.21). “Fixed % mark-up” and “loss leader” are also commonly used techniques.

FIGURE 3.21

Retail Produce Pricing Strategies, by Firm Size



For all firm sizes, “price based on local competition” ranks either first or second as a favored price setting technique. Both large and mid-size firms rank “loss leaders” as second while small firms primarily use a “fixed % mark-up” followed by “price based on local competition.”

These findings are consistent with earlier figures reported by McLaughlin and Perosio (1994) who also found “price based on local competition” to be the predominant price setting technique while “loss leader” was ranked second.

Response to Sales Promotions

Retail produce executives were asked to indicate their normal expectations regarding the power of various combinations of pricing and merchandising techniques on department sales. The greatest sales increase (93% increase) occurs in response to a 25 percent price reduction combined with a demonstration and/or sampling (Table 3.1). Under an identical price reduction (25%), a nearly similar sales response (89% increase) is achieved with a major ad.

TABLE 3.1

Supermarket Buyer Perceptions of Sale Impacts of Selected Price/Promotion Combinations

| Promotion Activity | Regular Price | | | 25% Price Reduction | | |
|--------------------|---------------|---------------|---------------|---------------------|---------------|---------------|
| | All Firms | Sales <\$300M | Sales >\$1.5B | All Firms | Sales <\$300M | Sales >\$1.5B |
| No promotion | 100 | 100 | 100 | 131 | 133 | 137 |
| Minor ad | 105 | 103 | 106 | 150 | 138 | 166 |
| 50%> shelf space | 113 | 123 | 111 | 167 | 141 | 199 |
| Retail coupon | 106 | 108 | 105 | 134 | 124 | 142 |
| In-Store demo | 116 | 115 | 120 | 193 | 152 | 247 |
| Major ad | 112 | 107 | 111 | 189 | 182 | 210 |
| AVERAGE | 109 | 109 | 109 | 161 | 145 | 184 |

Produce executives from large retail firms report experiencing the greatest sales response to every promotional strategy when combined with a 25 percent price reduction (Table 3.1). On average, for these large firms, an 84 percent increase in sales is achieved when accompanied by a 25 percent price reduction. However, sales volume can more than double when the price reduction is used in conjunction with either an in-store demonstration or a major ad.

Perhaps, most interesting, is the sales response to various promotional techniques when there is no price reduction. By simply increasing shelf space by 50 percent, produce executives reported a 13 percent increase in sales (Table 3.1). A slightly higher sales response (16%) occurs in response to an in-store demonstration. Surprisingly, there is very little effect of firm size on the effect of a promotion on a non-price reduced item in the produce department. On average, for all firms, a promoted item selling at full price will achieve a 9 percent increase in sales.

Terms of Trade

Produce purchases may be transacted in a variety of ways: f.o.b. (free on board), delivered sale, price-after-sale, and via broker are common terms of sale. In an f.o.b. sale, the legal responsibility of the shipper generally ends upon placing the product in the truck or rail car in suitable shipping condition. The buyer then becomes responsible for all subsequent marketing charges.

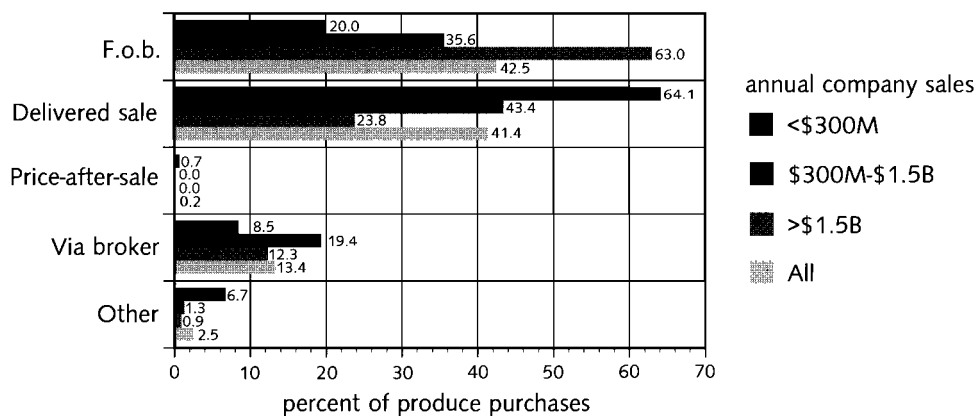
A delivered sale is an agreement which normally involves extending the shipper’s responsibility for both merchandise and transportation charges to the wholesale-retail delivery dock. “Price-after-sale” refers to deferring actual price establishment until after the negotiation of the sale generally at the wholesale level.

In general, brokers act as an agent for either a buyer or seller and occasionally for both. Brokers do not fundamentally alter the two basic types of sales, f.o.b. and delivered, they merely act as facilitators and add another element to the pricing process. This element, the brokerage, is typically calculated either as a percentage of selling price, or more commonly, on the basis of fixed rates per unit.

Produce retailers report, on average, similar usage between f.o.b and delivered sale (42.5% and 41.4% of purchases, Figure 3.22.) Sales transacted via brokers average just 13.4 percent of produce purchases for all firms. Price-after-sale, represents less than 1 percent of produce purchases for retailers.

FIGURE 3.22

Retailer Terms of Trade, by Firm Size



Terms of trade differ considerably according to firm size. Large firms purchase the majority (63%) of their produce via f.o.b transactions, 23.8 percent via delivered sale and 12.3 percent via broker (Figure 3.22). This pattern of trade reflects the purchasing preferences of large firm produce buyers for buying directly from grower/shippers who often prefer to sell via a f.o.b. transaction.

Mid-size firms use f.o.b. and delivered sale almost equally (35.6% f.o.b. and 43.4% delivered sale, Figure 3.22). These mid-size firms report usage of a broker more often than other firm sizes, transacting 19.4 percent of transactions via a broker.

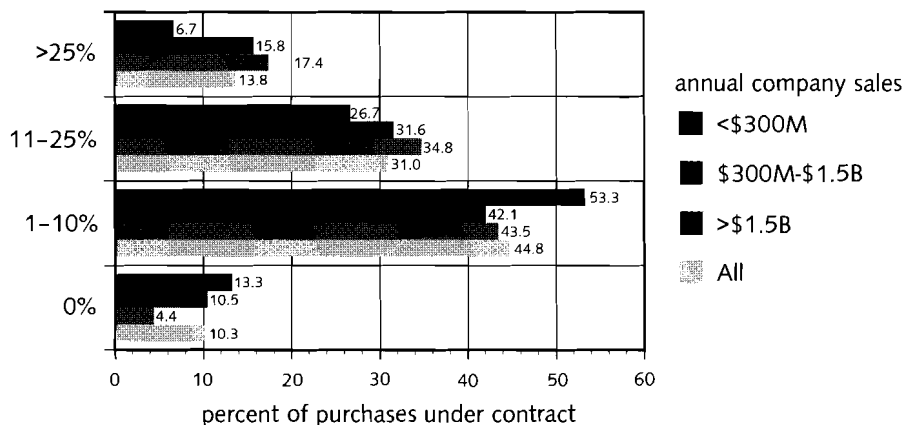
Almost two-thirds (63%) of produce purchases at small firms are priced via delivered sale. This is not surprising, since, typically, these small firms purchase the majority of their store's inventory through a wholesaler (either full line and/or produce) who typically sells via terms of delivered sale. Twenty percent of purchases are f.o.b. while 8.5 percent are transacted via a broker.

Contract Pricing

In the past, formal buyer-seller contracts seldom existed in the fresh fruit and vegetable system. In order to determine the extent of contract pricing today, produce retailers were asked to estimate the approximate percentage of their produce purchases which are contracted with suppliers. Although contract pricing is still not prevalent, 45 percent of firms indicated that more than 11 percent of their produce is contracted, while an equal percent of firms (45%) indicated that between 1 and 10 percent of their purchases are under contract (Figure 3.23).

FIGURE 3.23

Retailer Use of Contract Pricing, by Firm Size



Produce retailers from large firms tend to use forms of contract pricing more frequently than retailers from smaller firms. Fifty-eight percent of these executives report using contract pricing for at least 11 percent of their produce purchases. This increased usage may be attributed to several factors. Because these large firms tend to have their own headquarters and possibly field buyers, they may simply have better buying knowledge and greater trust levels with their supplier partners. It should also be noted that, since large retailers report the greatest number of supplier partnerships (Figure 3.15), in all likelihood, they would be expected to have the relationships in place which would facilitate increased usage of contracts.

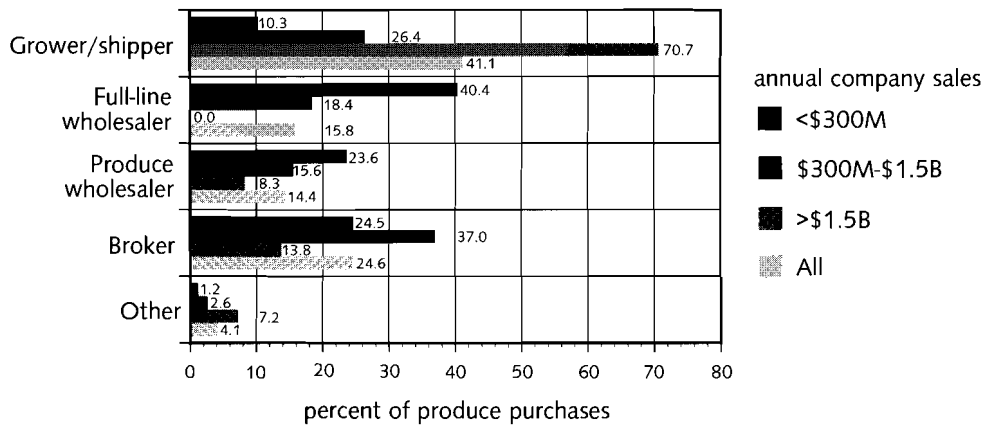
Supply and the Buying Process

Source of Produce

Produce is typically purchased via five major sources: grower/shipper, full-line or produce wholesaler, via broker or imported. Survey respondents indicated that 65.7 percent of all produce was shipped directly from the production area to supermarket buyers, whether the transaction was actually consummated by a shipper’s sales agent or a broker (Figure 3.24). Slightly over thirty percent of produce is purchased through a wholesaler: 15.8 percent from a full-line wholesaler and 14.4 percent from a produce wholesaler.

FIGURE 3.24

Source of Supermarket Produce, by Firm Size



Interestingly, despite the relatively greater number of terminal markets on the East Coast and the prevalence of grower/shippers on the West Coast, the origin of produce purchases does not differ markedly for East Coast versus West Coast supermarket firms (Table 3.2).

TABLE 3.2

Source of Supermarket Produce: East Coast vs. West Coast

| Firm Type | Grower /Shipper | Produce Wholesaler | Full-Line Wholesaler | Broker | Other |
|------------|-----------------|--------------------|----------------------|--------|-------|
| East Coast | 40.8 | 14.9 | 17.7 | 23.4 | 3.2 |
| West Coast | 42.9 | 12.9 | 10.5 | 28.7 | 5.0 |
| All Firms | 41.3 | 14.6 | 15.8 | 24.6 | 3.6 |

The preferences of large retailers for direct purchases from grower/shippers is evident as 71 percent of their produce is purchased direct (Figure 3.24). In fact, the value of all produce purchased by large retailers “directly from the shipping point,” without physically moving through a wholesale facility (even though the sale may be facilitated by a broker), is about 92 percent of a large firm’s produce purchases. This is in stark contrast to other firm sizes, which, rely heavily on wholesalers to fulfill their produce needs. Small firm buyers purchase a mere 10.3 percent directly from the grower shipper and 64 percent from either a full line or produce wholesaler. Small firms are also likely to retain a broker for securing their produce needs as 24.6 percent of their produce purchases are negotiated via a brokered sale.

In 1994, McLaughlin and Perosio documented a declining trend in the use of terminal markets (20% of total purchases), while, at the same time, a steady increase in buying direct (80% of total produce purchases), particularly on the part of large firms. At that time, they concluded sales via brokers were “remarkably” stable — 27 percent of produce sales on average for all firms.

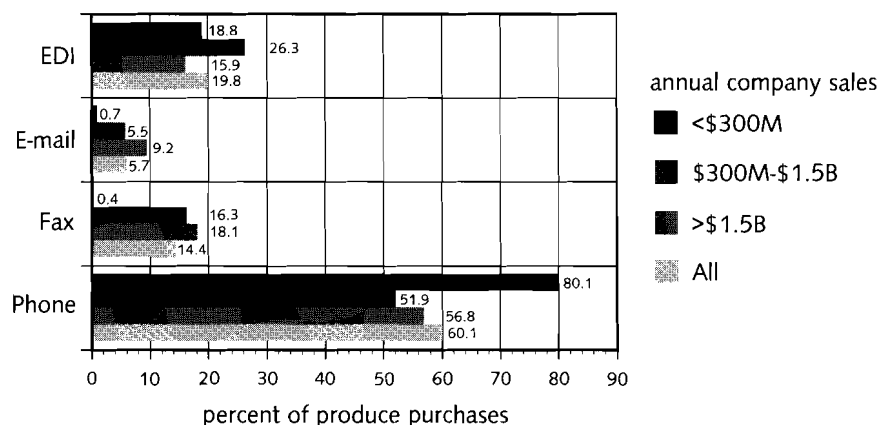
It appears that just three years latter, the function of direct buying either via a broker or direct from a grower/shipper, has declined slightly for many firm types. Today produce buyers report 65.7 percent of produce is purchased direct, a decline of just under 15 percent.

Supplier Relationships

Traditionally produce buyers have placed produce orders over the phone. With the explosion of technology in the past decade, electronic ordering is possible via EDI, fax and e-mail. Produce retailers were asked to estimate what percent of their purchases were made by each of the following methods: phone, fax, e-mail and EDI. Despite the availability of these various forms of technology, still, 60 percent of orders are initiated using the telephone (Figure 3.25). EDI is used for 19.8 percent of orders, fax is used for 14.4 percent while e-mail is used to order just under 6 percent of produce.

FIGURE 3.25

Retailer Method of Ordering Produce, by Firm Size



The use of EDI for ordering produce appears to take on different forms for different firm sizes. During personal interviews with executives from large firms, they acknowledged that the bulk of their initial order creation is still done on the phone, perhaps 90 percent-95 percent of the time, whereas, EDI and fax are more commonly used for order confirmation.

Small firm executives use the telephone 80 percent of the time for placing orders. These executive rarely use either fax or e-mail and report using EDI 18.8 percent of the time (Figure 3.25).

Large firm executives report using EDI for 16 percent of their produce purchases, and mid-size executives report using EDI for over one-quarter of purchases (Figure 3.25).

In contrast, several produce executives from small firms indicate they order virtually 100 percent of their produce via EDI. When questioned about this practice, it appears that these wholesaler-supplied retailers are electronically tied to their full-line wholesaler and use this EDI transmission capability to order produce directly.

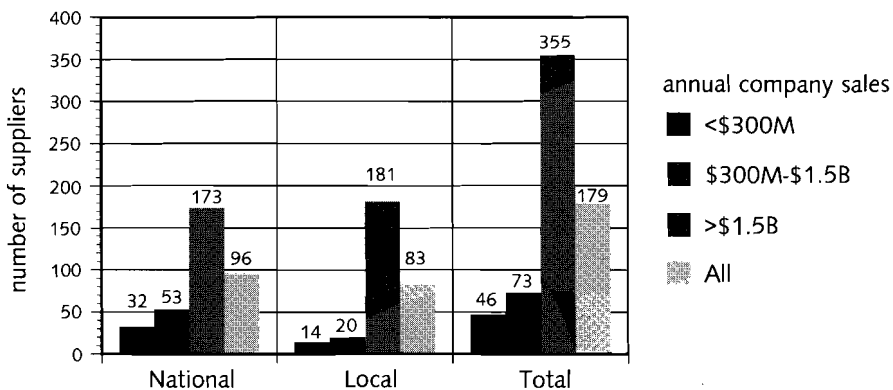
Number of Suppliers and SKUs

Supermarkets obtain their produce from a number of sources: direct from a grower/shipper, through a full-line or produce wholesaler, or via a broker. In addition to these typically “national” produce sources, increasingly, supermarket produce buyers are searching for “local” sources of produce. For the purpose of this study, local produce is defined as produce from regions other than the major growing areas and which are in close proximity to the supermarket or wholesaler headquarters.

The number of produce suppliers varies considerably according to firm size. While the average for all firms is 178.5 suppliers (82.8 local, 95.7 national), large firm produce buyers report using 355 produce suppliers; 181 local and 173 national (Figure 3.26). Small and mid-size firms report using considerably fewer suppliers, 46.4 for firms with sales less than \$300 million and 73.1 suppliers for mid-size firms.

FIGURE 3.26

Supermarket Produce Suppliers: National and Local, by Firm Size



Since large firms typically have their own produce buying departments, with headquarter and perhaps field buyers, they have greater access to a multitude of suppliers, typically grower/shippers, who individually may only supply a very small percentage of a large firm's needs. Therefore, the expanded number of suppliers seems appropriate and necessary in order for large firm produce buyers to satisfy their year-round produce needs.

In contrast, small and mid-size firms practice more "one-stop shopping" for their produce needs. These firms often purchase the vast majority of their produce from either a grocery wholesaler, or, in some cases, broad line produce wholesalers who stock virtually all the produce a retail store would normally stock. Therefore, the total number of suppliers necessary to supply their needs is minimized.

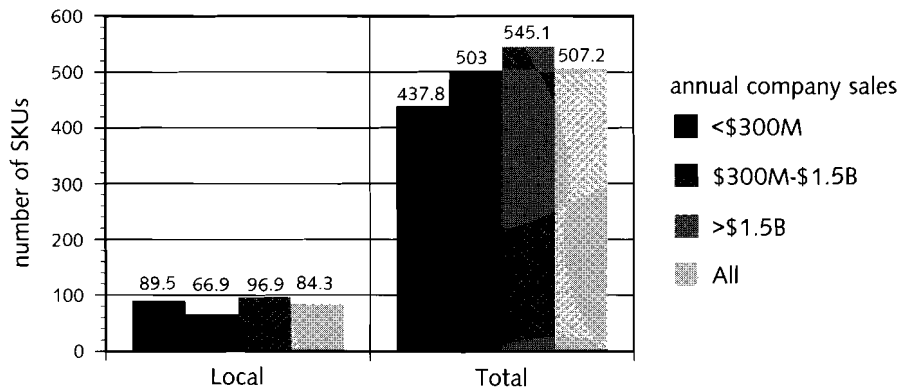
The use of local suppliers varies considerably between large firms and all other size firms. Over half of the suppliers used by large firm produce buyers are local, again, perhaps an indication of the extent of the buyers' interest and commitment to locally produced produce.

SKUs in the Produce Department

Produce buyers were asked to estimate the number of produce SKUs carried in their warehouse. On average, buyers report carrying 84.3 local SKUs and 422.9 other SKUs for a total of 507.2 (Figure 3.27). This number varies considerably by firm size. As would be expected, large firms report the highest count, 545 SKUs, small firms indicate having access to 438 SKUs with the range of 70 to a high of 1,100 produce SKUs. Typically, this very large representation of produce items would be indicative of the full line of produce (including seasonal items) carried by a major wholesaler.

FIGURE 3.27

Number of Supermarket Produce SKUs, by Firm Size



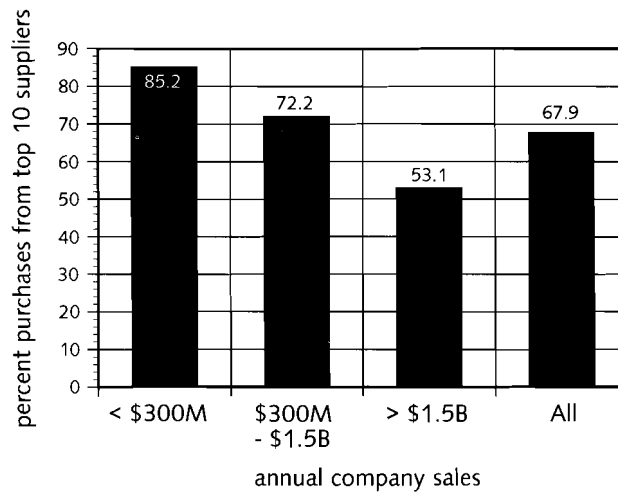
McLaughlin and Perosio (1994) reported in 1990 the average produce department carried 370 SKUs. At that time, produce buyers predicted that their average produce department would carry 495 SKUs by 2000. It appears from the current estimates that the number of new SKUs is even outpacing earlier growth projections.

Supplier Importance and Attributes

Although average firms in this study carry over 500 SKUs in their produce departments and report purchasing from over 178 suppliers, over two-thirds (67.9%) of their purchases are acquired from their top ten suppliers (Figure 3.28).

FIGURE 3.28

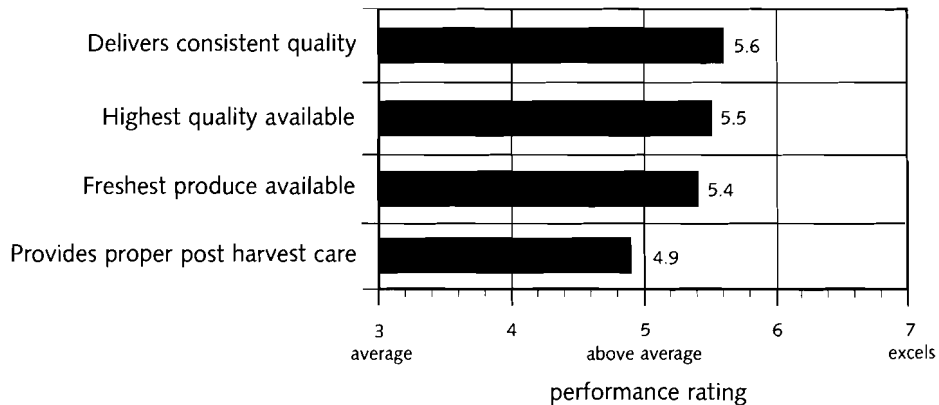
Importance of Retailer Top Suppliers, by Firm Size



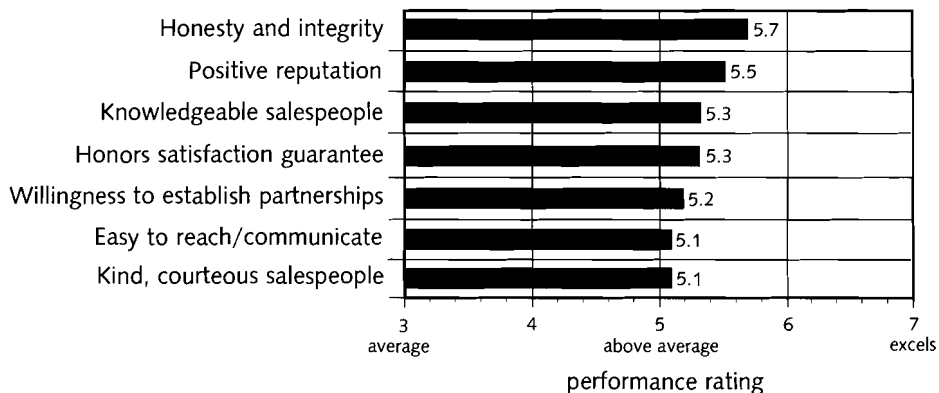
Small firms concentrate their purchasing power the most, as 85.2 percent of their purchases are made from their top ten suppliers which in many cases would be their full-line wholesaler or broker. As would be expected, large firm buyers report the lowest level of concentration as only 53.1 percent of their produce originates from their top ten suppliers. It appears that, in addition to buying from national companies, large firm buyers also concentrate much of their buying with a diverse array of local growers, perhaps identifying niche products to satisfy consumer preferences.

In a measure of overall supplier satisfaction, produce executives were asked to rate how their most highly regarded suppliers perform compared to their average suppliers on the overall performance of several supplier attributes which focused on five conceptual areas: overall produce quality, supplier reputation, supply, packaging & logistics and price.

When considering their top suppliers' attributes, produce executives rated those attributes associated with quality as the most important. Based on a scale from 1 to 7 where 1 = "below average performance," 3 = "average," 5 = "above average," and 7 = "excels," produce executives assigned the highest "quality" rating of 5.6 to "delivers consistent quality" and the lowest score of 4.9 to "provides proper post harvest care" (Figure 3.29).

FIGURE 3.29**Highly Regarded Supplier Attributes: Quality Rankings**

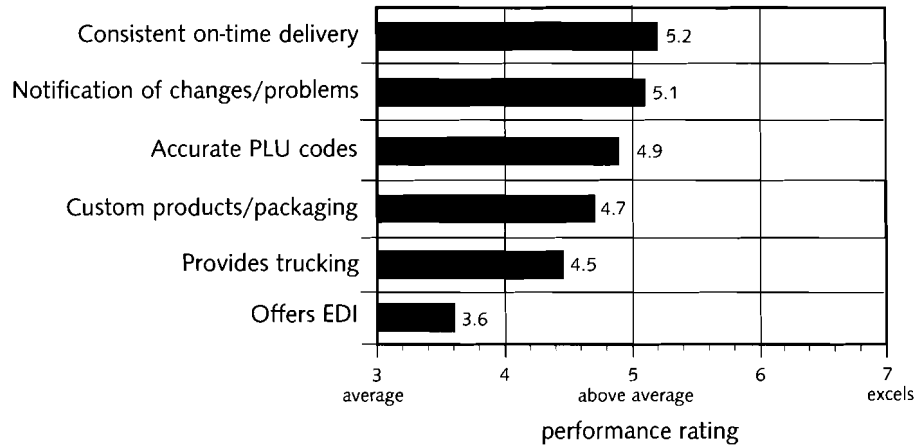
“Supplier reputation” was ranked as the next set of attributes commonly credited to top suppliers. Among these seven very closely ranked attributes, “honesty & integrity” was ranked the highest at 5.7, while “kind and courteous salespeople” was ranked the lowest at 5.1 (Figure 3.30).

FIGURE 3.30**Highly Regarded Supplier Attributes: Reputation**

The next set of supplier attributes, “Packaging & Logistics,” and “Supply,” were, on average, ranked almost identically. When considering packaging & logistics, “consistent on-time delivery” was ranked the highest with “notification of problems/changes” ranked close behind (Figure 3.31). When comparing top suppliers to average ones, produce executives ranked “offers EDI” the lowest, 3.6, an indication that the lack of EDI does not necessarily preclude a supplier from being considered among a retailer’s preferred suppliers.

FIGURE 3.31

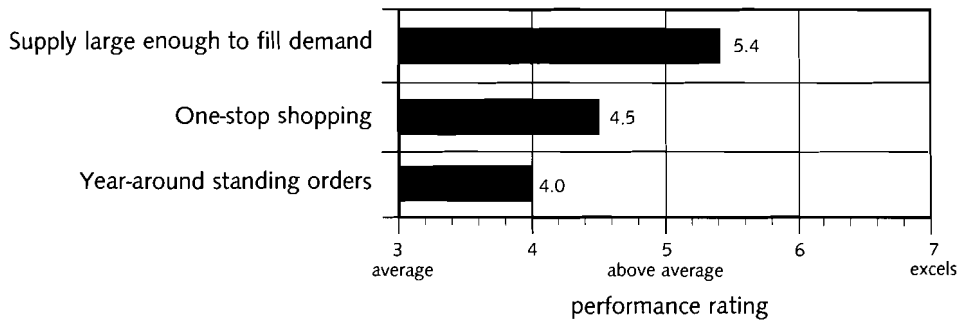
Highly Regarded Supplier Attributes: Packaging and Logistics



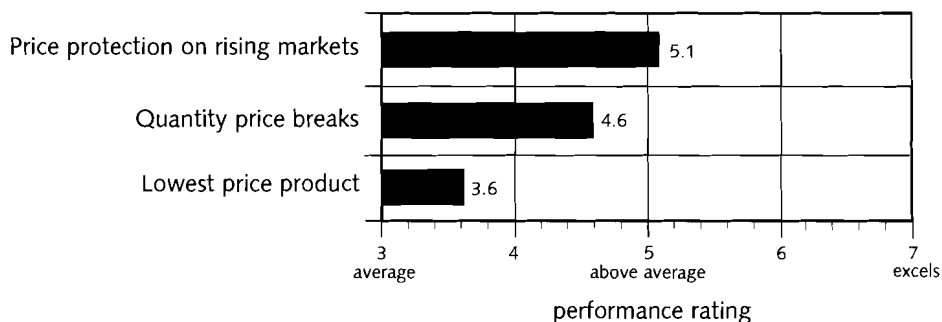
“Supply large enough to fill demand,” was ranked the highest among supply attributes at 5.4 (Figure 3.32). Less important attributes for top suppliers to possess include “one-stop shopping,” and “year-around standing order quantities.” This relatively low ranking of the latter two supply attributes may be good news for small and medium size suppliers who may not have a broad selection or year-round quantities available. Yet, in the opinion of produce buyers, if the optimum quality standard is met, these small suppliers still represent an attractive supply source for produce buyers.

FIGURE 3.32

Highly Regarded Supplier Attributes: Supplier Attributes and Supply



When comparing top suppliers to “average” suppliers, price is ranked as the lowest attribute—a clear signal to all suppliers that, quality and reputation, not price, are the supplier attributes produce buyers value the most. “Price protection on rising markets,” was ranked the highest while “lowest price produce” was assigned a comparatively low ranking of 3.6 (Figure 3.33).

FIGURE 3.33**Highly Regarded Supplier Attributes: Price**

Thus, when comparing top suppliers to “average” suppliers across all five attribute categories, the top ranked supplier attributes which characterize “preferred” suppliers are (Table 3.3):

- honesty and integrity
- delivers consistent quality
- highest quality available
- positive reputation
- supply large enough to fill demand
- freshest produce available

TABLE 3.3**Supplier Attributes: Ranking of Attribute Categories**

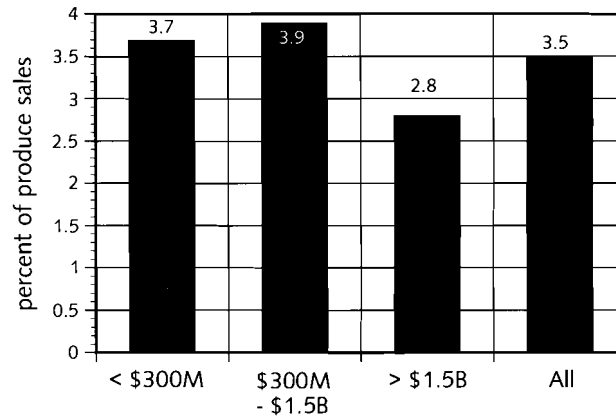
| Attribute Category | Importance: Average Ranking |
|-------------------------|-----------------------------|
| Quality | 5.4 |
| Reputation | 5.1 |
| Supply | 4.6 |
| Packaging and logistics | 4.6 |
| Price | 4.4 |

Produce Losses: Rejections and Shrink

Produce retailers report, on average, that 3.5 percent of produce arrivals are rejected (Figure 3.34). This figure is lowest for large firms at 2.8 percent and the highest for mid-size firms at 3.9 percent. This figure may have decreased slightly over the past several years. McLaughlin and Perosio (1994) reported that overall, 3.7 percent of arrivals were rejected in 1991-2 and 4.0 percent were rejected a decade earlier in 1981-2. It appears that, with the steady decline in produce rejections, that produce suppliers, whether grower/shipper or wholesaler, have embraced the quality imperative so clearly articulated by pro-

FIGURE 3.34

Retail Produce Rejections, by Firm Size



duce buyers. This appears particularly true with large retailers whose greater number of supplier partnerships may be leading to improvements in quality arrivals.

When asked to indicate the total produce shrinkage or loss (explained and unexplained) as a percentage of produce sales, survey respondents indicated a total shrinkage of 7.3 percent of sales (Figure 3.35). When disaggregated, this reveals a shrink factor of .9 percent at the warehouse and 6.4 percent at the store level. These latest estimates indicate a slight improvement over the past three years. McLaughlin and Perosio (1994) reported a total shrink factor of 7.6 percent; 1.3 percent at the warehouse and 6.3 percent in the retail store.

FIGURE 3.35

Retail and Warehouse Produce Shrink



Produce Warehouses

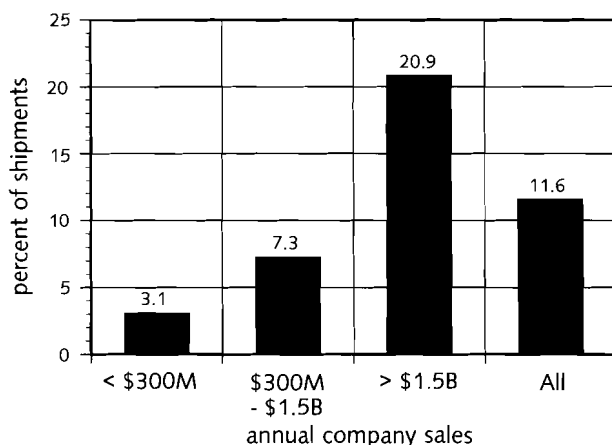
Produce executives were asked what percent of their warehouses have ripening rooms. On average, for all firms, 77.8 percent of warehouses contain ripening rooms.

Survey respondents were asked to estimate the percentage of their produce shipments/arrivals which are cross docked at their warehouse. Cross docking is a practice commonly used by mass merchants and increasingly employed by supermarket companies as part of their ECR initiatives. Within a cross docking scenario, pallets are unloaded from an inbound delivery truck onto a warehouse dock. They are then checked in, manually or electronically, and immediately reloaded onto an outbound truck destined for a retail supermarket.

Respondents indicated that, on average, 11.6 percent of their produce is cross docked (Figure 3.36). Large firms cross dock the most, 20.9 percent of their loads, while small firm produce buyers indicate cross docking only 3.1 percent of their produce purchases.

FIGURE 3.36

Frequency of Cross Docking Produce, by Firm Size

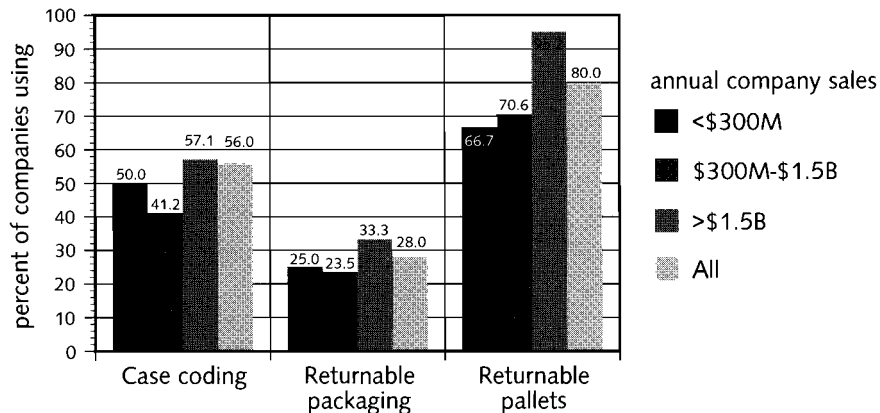


Packaging and Coding Devices

A variety of packaging and coding devices are available for use today. Produce executives were asked whether their company currently uses: coding, returnable packaging and returnable pallets. Returnable pallets are the most commonly used, as 80 percent of companies report using while returnable packaging is only used by slightly over one-quarter (28%) of companies (Figure 3.37). Fifty-six percent of companies report using case coding on secondary shipping cartons.

FIGURE 3.37

Use of Selected Packaging and Coding Devices, by Firm Size



Summary

This survey was conducted as one segment of the empirical component of this comprehensive research study. The overarching goal of this retailer focused survey is to build a foundation of benchmark indicators for the procurement, distribution and marketing functions for retail supermarket produce departments. Results of this retail focused survey can be captured in five broad categories; Department Profile, Technology, Pricing, Supply and Supplier Attributes and, finally, Firm Size.

Department Profile

- Since 1994, produce department size has not measurably changed. Today the average produce department in our sample is 3,005 square feet, nearly identical to its size in 1994.
- Despite static size, produce executives report having more SKUs than ever before. In fact, today, the average produce department has over 500 SKUs, more still than earlier projections which predicted by 2000, the produce department would include as many as 495 SKUs.
- The trend towards increasing proportions of fresh products vs. non-fresh products continues. Today, 90.6 percent of the department consists of fresh products while in 1990 only 83.7 percent of products were fresh.
- Produce executives appear bullish regarding the growth potential of the produce department. This is evidenced by the rate at which new products are currently being added. There are 2.6 new produce products added for every one product deleted. This product addition rate exceeds the historical rate where typically for every product deleted only 1.9 new products were added.
- Retailer controlled private label has yet to penetrate the produce department in any significant way. Today, only 6.4 percent of produce sales are sold under a retailer's private label. The dry grocery, health and beauty care and general merchandise private label sales percentages are approxi-

mately three times this level. Wholesaler private labels are more prevalent as 21.5 percent of produce sales come under this category.

- Typically, a very small percent of produce department sales can be traced to cross merchandising produce items in other departments, a mere 1.2 percent. Typically, some type of produce cross merchandising activity is performed between once and twice a month.
- Although perishable by nature, none-the-less, produce sales increase significantly in response to various price reductions and promotions. The most dramatic increase occurs when a 25 percent price reduction is coupled with either an in-store demonstration or a major ad. However, produce executives report surprisingly large sales increases to promotions in the absence of a price reduction.

Technology

- Despite the availability of electronic technology such as electronic data interchange (EDI), fax and e-mail, the majority of produce is still ordered via the telephone. Apparently, for produce buyers, the personal relationships developed with suppliers coupled with the apparent difficulty in communicating produce quality electronically, are far more important than the efficiencies gained by technology.
- The consensus among firms clearly points to a marked increase in both the number of firms and the volume of produce sales which, in the future, will be transacted via EDI.
- Despite the predicted increase in the use and volume of EDI transactions, the commitment to EDI varies dramatically from firm to firm. Some firms have publicly announced that, within a very short time, all transactions will be executed via EDI. However, this firm stance may, in some cases, omit small and niche suppliers who may never have genuine EDI capability. Recognizing this dilemma, one produce executive commented that within his firm, the bottom line in produce is quality. For him, "hi-tech" will never replace "hi-taste."
- A notable difference emerged in the way EDI is used among firms. Typically, for large firms, EDI is used to transmit order confirmations with their grower/shipper suppliers. However, for independent supermarkets serviced by a wholesaler, EDI transmission refers primarily to the interchange of data electronically between the retail store and the full-line wholesale supplier.

Pricing

- In the past there has been a general lack of consensus among produce retailers regarding price coding procedures for produce. However, results from this survey indicate a transition is underway. Firms are beginning to show a preference for PEIB PLU coding over other types of coding systems available.
- Produce executives keep a close watch on competition when determining price. In fact, this is the most frequently employed strategy when setting prices. However, the drawing power of the produce department is not overlooked by survey respondents. They report the second most frequently

used pricing strategy is to price produce as a “loss leader,” a time-honored method for attracting customers to the produce department and increasing sales.

- Contract pricing currently does not account for a large percentage of produce purchases. On average produce executives report 13.8 percent of purchases are transacted with contracted price and/or quality conditions in place.

Supply and Supplier Attributes

- Produce retailers report sourcing their produce from over 350 suppliers, 46 percent of which are local. Despite this large choice of suppliers, over two-thirds of a company’s produce is purchased from their top ten preferred suppliers.
- In comparing these “preferred” suppliers to “average” suppliers, produce retailers rank quality and reputation as the most important supplier attributes. Price, on the other hand, is not viewed as a superior attribute of “preferred” suppliers.
- Two-thirds of all produce is purchased direct; either from a grower/shipper or via a broker. However, for large retailers, over 90 percent is purchased direct. Thirty percent of all produce is purchased from a wholesaler, either a produce or a full-line grocery wholesaler.
- The terms of trade upon which produce is purchased is generally evenly split between f.o.b. (42.5% of produce purchases) and delivered sale transactions (41.4%).
- Produce losses — that is rejections as well as shrink — appear to be modestly declining. Today approximately 3.5 percent of produce is rejected down from 4.0 percent in 1981. Currently shrink accounts for 7.3 percent of produce sales, a decrease of 0.3 percent over the past three years.
- Produce can be delivered with a variety of special packaging and coding devices. Currently 56 percent of produce arrives at retail distribution centers with case coding on the secondary shipping carton, 28 percent contains returnable packaging, while 80 percent of produce arrives at the warehouse on returnable pallets.
- When asked about warehousing produce, executives indicated that 11.6 percent of produce is cross docked upon arrival at the warehouse. Further, over three-quarters of warehouses contain ripening rooms.

Firm Size

Several distinctions were observed among the procurement, distribution and marketing functions of large (annual company sales in excess of \$1.5 billion) and small firms (annual sales less than \$300 million).

Small firms can be characterized as having:

- Merchandising expertise and marketing savvy. This is evidenced by more frequent cross merchandising activity and a proportionately more diverse array of speciality products such as precut fruits, prepackages salads, organics and juices than their large firm counterparts.
- More diversity in formats. Some small firms could be characterized as

“fresh” formats with 50 percent of company sales originating in the produce department with over 60 percent transactions including produce.

- Less pricing flexibility. The primary pricing strategy used by small firm produce executives is a fixed percentage mark-up.
- Mixed usage of electronic data interchange. Whereas some firms are currently using EDI with their own wholesaler for nearly all of their orders, almost 40 percent of small firms have no plans to utilize EDI today or in the near future.
- The most conservative approach to new product additions. However, compared to other firm sizes, small firm executives add proportionately more fresh items than non-fresh; over three fresh products are added for every one non-fresh.
- The least aggressive approach to developing supplier-retailer partnerships. However, since many of these small firms are serviced almost exclusively by either full-line or produce wholesalers, this would naturally reduce the number of partnerships needed. Further, the wholesaler relationship with small firms also reduces the number of suppliers necessary for a produce buyer as these executives report the fewest number of suppliers, just over 46. Another indication of the concentration of purchasing with wholesalers is the percentage of purchases from a retailer's top ten suppliers. In the case of small firms, this is the highest percentage of all firm sizes; 85.2 percent of their produce is purchased from their top ten suppliers.

Large firms can be characterized as having:

- A strong commitment to technology, specifically EDI.
- A more developed retailer controlled private label program. Over 8 percent of produce sales originate from private label produce for large firms.
- An expansive network of suppliers. Large retailers buy produce from over 350 different firms. This is reflected in the high percentage of produce which is purchased directly from a grower/shipper—over 90 percent, if “brokered direct shipments” are included. However, despite this impressive network, still, 53 percent of a large firm's produce is purchased from their top ten suppliers. Further, these large firm buyers are more apt to form partnerships with their suppliers than their smaller firm counterparts. Today, these firms report having over 16 supplier partnerships and expect this number to more than double to over 35 by 2000.
- An aggressive approach to new product additions. These executives added over 70 new produce products and only deleted 24 products, thus, increasing the product count in the produce department by 46 products or about 10 percent in only one year.
- The highest percentage of produce sales from items originating in other departments—1.9 percent. Although this is a relatively small percentage, this may indicate a trend towards increased initiatives in the area of home meal replacement programs.
- The greatest flexibility in pricing. Large firm produce buyers typically use contract pricing more often than their smaller firm counterparts. When establishing retail prices, these same executives first rely on competitive pricing strategies followed by loss leader pricing.
- The lowest percentage of sales lost to shrink, perhaps an indication of superior buying knowledge and/or stricter quality standards on the part of large firm produce buyers.

Wholesaler Benchmarks: Empirical Results and Perspectives

The term “wholesalers,” as used throughout this study, refers to a very broad segment of the produce distribution system. It encompasses virtually all types of produce handlers and operators between the shipper’s sales desk and the retailer sector, whether supermarket or foodservice. Included are various types of commission merchants, brokers, distributors, terminal and off-market wholesalers, repackers, importers and exporters. This broad usage is consistent with the term established by the USDA in its 1964 classic produce wholesale study led by Alden Manchester, *The Structure of Wholesale Produce Markets*.

Profile of Respondents

A total of 205 wholesale firms responded to the FreshTrack 1997 survey producing a response rate of approximately 25 percent of the total wholesaler surveys mailed (Table 4.1). The respondents represent a broad and comprehensive segment of the industry including brokers, wholesalers, distributors, and



importers. Of the one hundred sixty-five survey respondents who reported sales, total company sales averaged \$98.8 million in 1996, while fresh produce sales averaged \$41.6 million. Extrapolating these averages to encompass our total sample results in our survey representing approximately one-quarter of all U.S. produce wholesaling activity as reported by the most recent *Economic Census* conducted by the U.S. Bureau of the Census (U.S. Bureau of the Census 1992).

TABLE 4.1

Response to FreshTrack 1997 Wholesaler Mail Survey

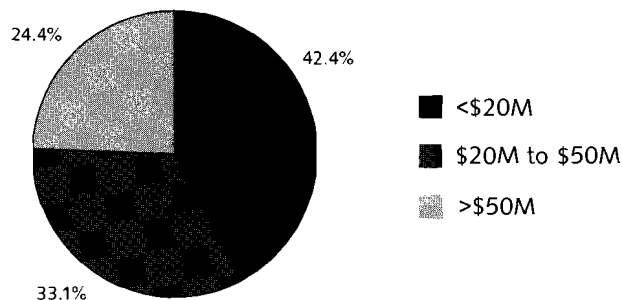
| | Mailed | Total mailed (%) | Received | Response rate(%) |
|------------------------------------|------------|------------------|------------|------------------|
| Terminal market wholesalers | 290 | 35.3 | 34 | 11.7 |
| Other wholesalers and distributors | 371 | 45.1 | 122 | 32.9 |
| Brokers | 161 | 19.6 | 49 | 30.4 |
| Total wholesalers | 822 | 100.0 | 205 | 24.9 |

Respondent firms are grouped into three size categories to provide further perspectives into the survey responses. Where appropriate, these categories are used to further refine wholesale sector benchmarks by firm size. Small sized firms are firms with less than \$20 million in company sales in 1996, medium sized firms have \$20 to \$50 million in company sales, and large firms have over \$50 million in company sales.

Forty-three percent of the respondents have 1996 company sales of less than \$20 million; 33 percent have 1996 sales of \$20 million to \$50 million; and 24 percent of the respondents have 1996 company sales of over \$50 million in 1996 (Figure 4.1).

FIGURE 4.1

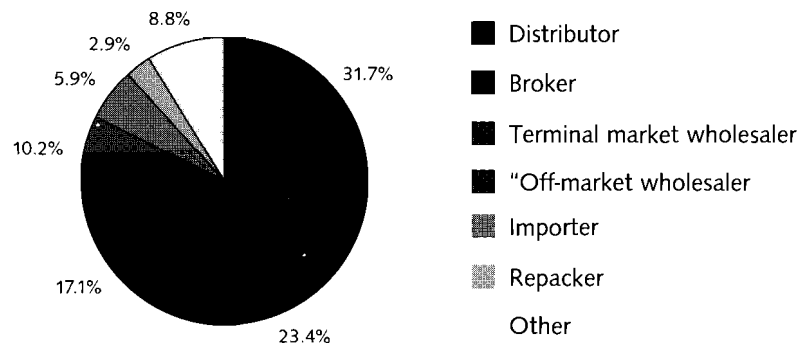
Wholesale Respondents by Firm Size



Respondents are also classified by their primary type of business. Classifications are chosen in order to separate businesses by the different tasks they may perform. Respondents ranked their own business operations in order from most important to least important using a list of generalized wholesale business classifications: terminal market wholesaler, "off-market" wholesaler, broker, distributor, repacker, importer, and "other." Thirty-two percent of respondents state that their most important operation is that of distributor (Figure 4.2). Almost one quarter (23%) of the respondents consider themselves primarily brokers, and 17 percent are primarily terminal market wholesalers. The remaining respondents are: 10 percent "off-market" wholesalers, 6 percent importers, 3 percent repackers, and 9 percent "other" which include such operations as exporter, consultant, merchandiser and processor.

FIGURE 4.2

Primary Business Classification of Wholesaler Respondents



Although wholesalers classify themselves according to their primary business activity, most also perform "secondary" operations. Distributors and wholesalers may also broker product or act as repackers. For example, although 23 percent of respondents consider themselves primarily as brokers, an additional 31 percent of respondents claim to perform brokering activities some of the time for a total of 54 percent of respondents who report conducting at least some brokering services. In the FreshTrack 1997 in-depth report, this issue is described more thoroughly with information on importer and repacker activities.

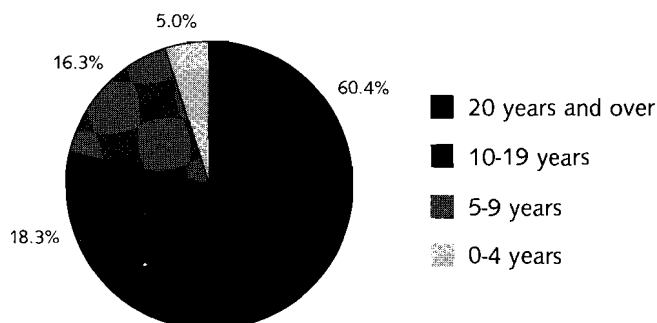
During subsequent interviews with produce wholesalers, it became evident that over time traditional definitions of wholesale operations and business classifications have become blurred, even among industry members. For instance, brokers, in the classic definition and in PACA definitions, do not take title of their product and do not physically handle it. However, in the last two decades firms considering themselves produce brokers have increasingly taken title to product. Moreover, many brokers also now have their own warehouses. However, many still call themselves and primarily consider themselves as brokers.

Age of Wholesale Companies

Over 60 percent of all wholesalers in our sample have been in business for 20 years or more, while 5 percent have been in business for 4 years or less (Figure 4.3). Sixteen percent have been in business for 5 to 9 years and the remainder, 18 percent, between 10 to 19 years. This appears to be a slight advance in overall age of companies within the industry in the last forty years. It was reported by Manchester (1964) that only 53 percent of produce wholesalers had been in business for 20 years or more.

FIGURE 4.3

Age of Wholesaler Companies by Years in Business



Wholesaler Legal Business Form

Almost 83 percent of wholesale respondents are organized as corporations in 1997. This continues a trend documented by the Bureau of Census where during the past twenty years, a growing percentage of firms have become corporations (Table 4.2). The proportion of produce wholesalers that are incorporated has increased from 55.3 percent in 1972 to 78.9 percent in 1992, the last Census year. According to FreshTrack respondents, corporations further increased to 82.9 percent of the total in 1997. Individual proprietorships, partnerships and cooperatives have generally all experienced declines from 1972 to 1997.

TABLE 4.2

Legal Business Forms of U.S. Fresh Produce Wholesalers

| | Proprietorship | Partnerships | Corporations | Cooperatives | Other |
|-------------------|----------------|--------------|--------------|--------------|-------|
| 1972 | 18.5 | 11.1 | 55.3 | * | 15.0 |
| 1977 | 22.1 | 8.6 | 64.4 | 4.8 | 0.1 |
| 1982 | 17.6 | 6.5 | 73.4 | 2.2 | 0.2 |
| 1987 | 15.4 | 5.7 | 76.7 | 2.1 | 0.1 |
| 1992 | 15.1 | 4.3 | 78.9 | 1.7 | 0.0 |
| 1997 ¹ | 7.3 | 6.7 | 82.9 | 1.0 | 2.1 |

* Not reported for 1972; unusually large "other" seems to account for the omission.

Source: Compiled from Bureau of Census, U.S. Census of Business, *Wholesale Trade*, 1972-1992.

¹ FreshTrack 1997 wholesale respondents.

TABLE 4.4

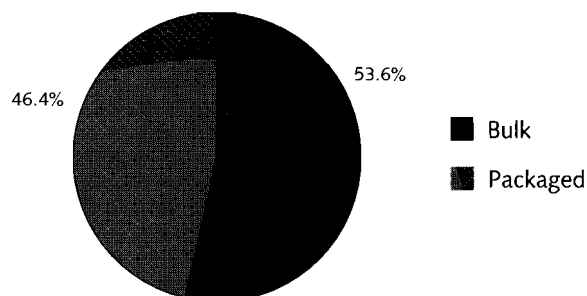
Wholesaler Produce Sales as a Percent of Company Sales, by Firm Size and Classification

| | Produce sales as % of company sales |
|--|--|
| Wholesaler annual sales | |
| < \$20 million | 95.0 |
| \$20 to \$50 million | 92.6 |
| > \$50 million | 32.2 |
| Primary business classification | |
| Terminal market wholesaler | 100.0 |
| Importer | 99.5 |
| Other wholesaler | 97.4 |
| Repacker | 96.3 |
| Broker | 37.6 |
| Distributor | 26.6 |

Historically, produce wholesaler sales have been predominantly in bulk, commodity form. Today, the major portion of wholesaler produce sales is still bulk product, generally packed in corrugated cartons (53.6%). However, packaged produce accounts for the remaining 46.4 percent, almost half of sales (Figure 4.4). Packaged products may include boxed fruit or vegetables ready for retailer shelves or may include numerous packs of tomatoes, shrink wrapped fruit, packaged salads, bagged carrots, etc. Many wholesalers indicated the demands for items like packs of tomatoes alone have increased over the last decade to now include two, three, four, eight packs, shrink wrapped trays, and display ready cartons packed for easy assembly in a retail store.

FIGURE 4.4

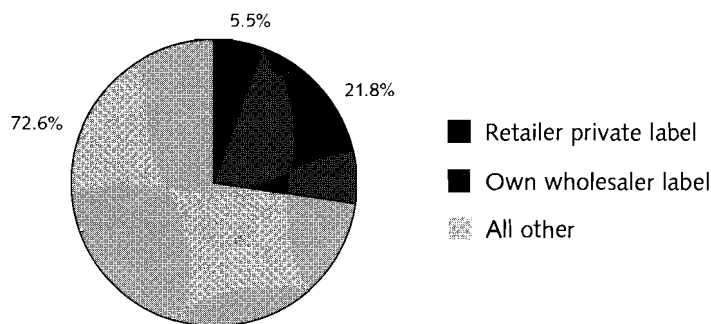
Bulk vs Packaged Sales: Wholesalers



Labeling is generally viewed as a means of distinguishing certain products and of differentiating one commodity from another. In retailing, private label refers to a supermarket or chain label applied as a method of providing an alternative, usually lower cost, product to consumers and also of enhancing the image of the retailer. Wholesalers in our study indicate that 5.5 percent of their produce sales are packed with the retailer private label and an additional 21.8 percent with their own wholesaler label (Figure 4.5). In some cases, wholesalers may be selling both retailer private label and their own wholesaler label produce to the same retailer.

FIGURE 4.5

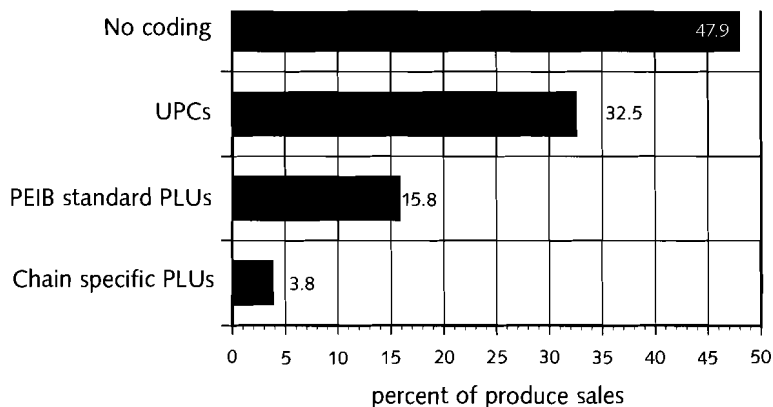
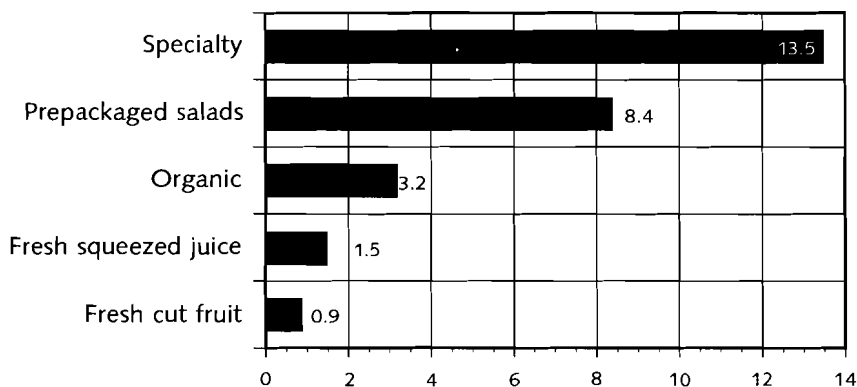
Wholesaler Sales by Label Type



Every segment of the produce industry is affected by the opportunities and challenges provided by coding. Opportunities include the ability of codes to streamline inventory and ordering, to better track customer demand, and to provide better customer service in terms of pricing and promotions. Challenges include numerous inventory demands for PLU labels, management time, packing inefficiencies associated with changing labels and cleaning of packing equipment. In addition, as of 1997, there are not yet enough PLUs defined for the increasing number of SKUs being sold through the produce industry channels.

At least three retail coding options may be provided by wholesalers: universal product codes (UPC), price look up (PLU) labels and no coding at all. Wholesaler respondents indicate that 32.5 percent of their produce sales are UPC coded, while 15.8 percent of sales are coded with standard PLU codes developed by the Produce Electronic Identification Board (PEIB) (Figure 4.6). Some retailers have developed their own PLU codes and these account for 3.8 percent of wholesalers' produce sales. In total, over half (52.1%) of produce being sold by wholesalers is coded in some form.

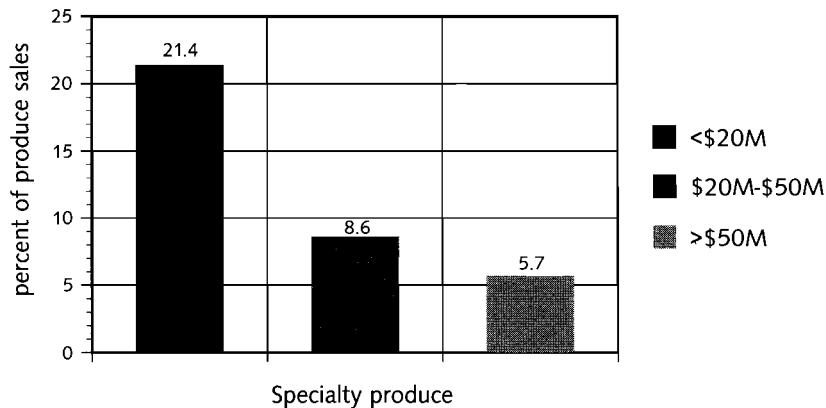
Non-traditional produce items are becoming more important and more available in most parts of the industry. Wholesalers, for example, indicate that 13.5 percent of their produce sales are specialty products other than organic, while organic produce accounts for an additional 3.2 percent of total sales (Figure 4.7). Prepackaged salads alone account for an average of 8.4 percent of respondent produce sales.

FIGURE 4.6**Wholesaler Sales by Coding Type****FIGURE 4.7****Non-traditional Produce Items Share of Wholesaler Sales**

Wholesalers' involvement in these non-traditional produce items is correlated to company size. Firms whose sales are less than \$20 million report a significantly greater proportion of specialty produce sales than larger firms (Figure 4.8). Specialty produce, generally associated with low relative volumes but high relative prices, may be providing a niche opportunity for these smaller firms. In addition, terminal markets and importers, which also tend to be smaller wholesale firms, report that specialty produce was 16.6 percent and 49.4 percent respectively of their total produce sales, greater than any other firm classification.

FIGURE 4.8

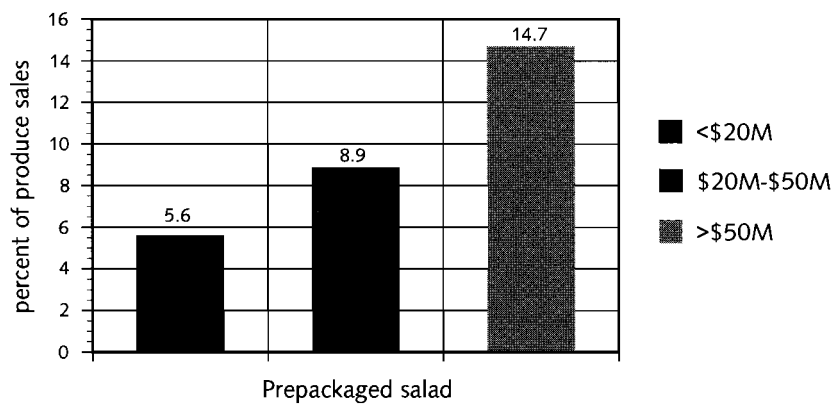
Specialty Produce Share of Wholesaler Sales, by Firm Size



Sales of prepackaged salads as a percent of total produce sales also vary by wholesaler firm size. Firms with annual sales over \$50 million report that almost 15 percent of their produce sales are from packaged salads, whereas packaged salad sales from small firms of less than \$20 million in company sales are only 5.6 percent of produce sales (Figure 4.9).

FIGURE 4.9

Packaged Salads Share of Wholesaler Sales, by Firm Size



Produce SKUs

With the proliferation of specialty products, packaged salads, and other consumer packages, wholesalers are now responsible for managing a larger number of items than in the past. Stock keeping units (SKUs) have increased tremendously. The average number of produce SKUs carried by wholesalers re-

ported by the FreshTrack 1997 survey is 425.4 (Table 4.5). However, this number varies widely by company size. Firms in the largest size category (>\$50 million in company sales) report carrying, on average, almost 741 SKUs. (Figure 4.10).

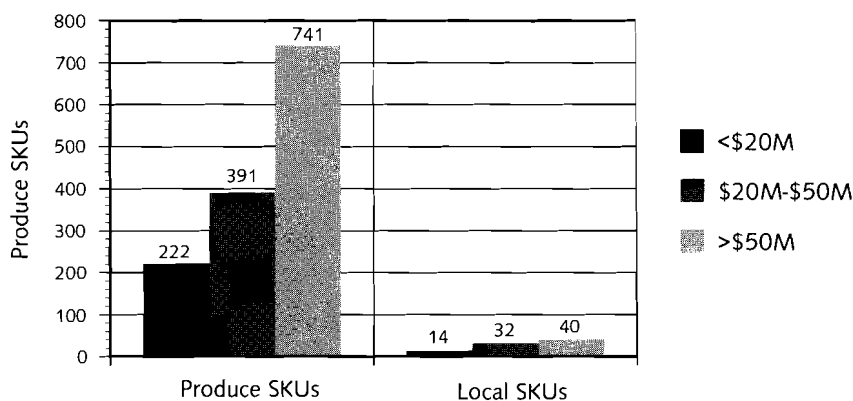
TABLE 4.5

Product Mix of Produce Wholesaler Respondents

| | Number of SKUs |
|------------------------------|----------------|
| Total produce SKUs | 425.4 |
| local produce SKUS | 31.7 |
| New produce SKUs in 1996 | 24.1 |
| New non-produce SKUs in 1996 | 26.9 |

FIGURE 4.10

Produce SKUs, by Firm Size



As a means of distinguishing themselves, a number of retailers and restaurants take advantage of local growers and have initiated programs which handle and market locally grown produce. This strategy helps promote freshness, a local, community image for retail and foodservice and also helps maintain sales during the summer season which often have been eroded by local farmers' markets and roadside stands. Some wholesalers also carry locally produced product although the number of local SKUs carried averages only 31.7 or just under 7.5 percent of total SKUs (Table 4.5). In general, wholesalers in the Western region, closest to the major growing areas, tend to carry more local SKUs than other regions (Figure 4.11).

Wholesale respondents introduced on average 24 new produce items in 1996 (Table 4.5). And similarly, they carry on the average 26.9 new non-produce items (Table 4.5). Looking at this phenomenon more carefully reveals that distributors tended to add more non-produce items than any other operations, adding a substantial 42 non-produce items in 1996 (Figure 4.12).

FIGURE 4.11

Produce SKUs, by Region

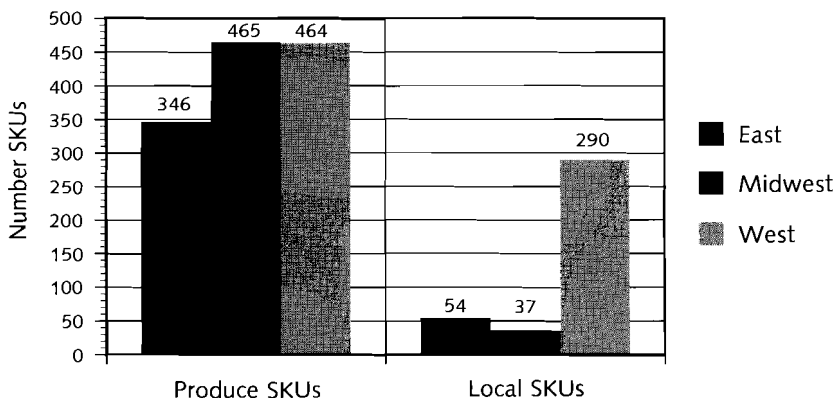
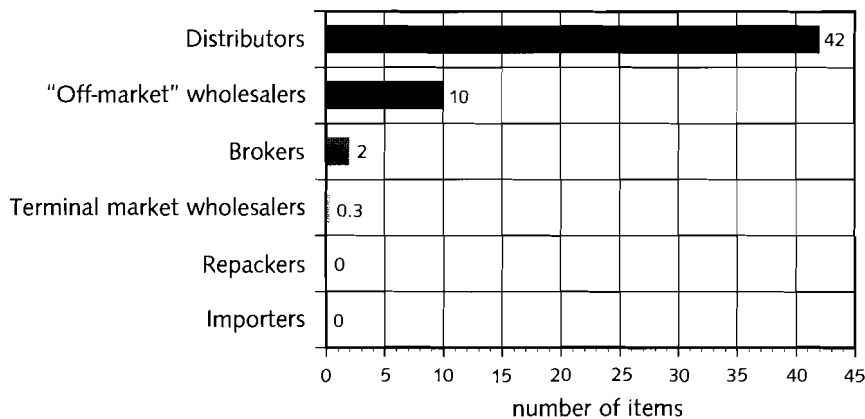


FIGURE 4.12

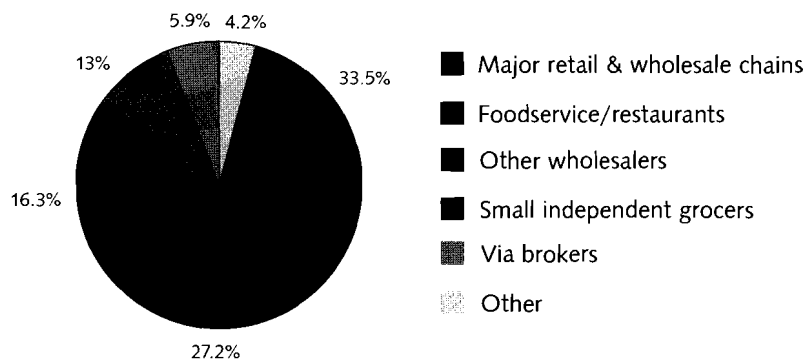
New Non-Produce Items Introduced in 1996, by Firm Classification



Wholesale Customers and Customer Services

Customers

Produce wholesalers sell through numerous channels. Overall, wholesaler respondents said that 34 percent of their produce sales go to major retail and wholesale grocery chains (Figure 4.13). So, at least until 1997, retail and wholesale grocery chains still account for a major proportion of wholesaler sales despite trade concern about a trend toward disappearing sales to major retail accounts. Substantiating reports of a growing foodservice customer base is the significant proportion of wholesaler sales to the foodservice industry (27.0%), coinciding both with the growth in foodservice sales and in consumer food expenditures away-from-home.

FIGURE 4.13**Wholesaler Sales by Customer Type**

Other wholesalers and small, independent grocers account for 16 percent and 13 percent of wholesaler sales respectively. Produce sold through brokers accounts for 6 percent of sales. Other customers including military, processors, and exporters total 4 percent of overall wholesaler sales.

Customer Services

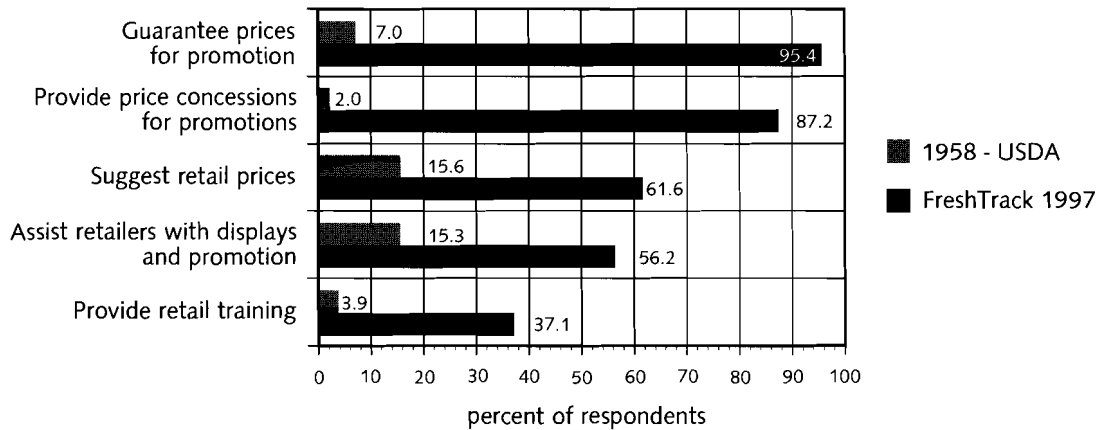
Although wholesalers' customers include major supermarket retailers, foodservice operators, other wholesalers, small independent retailers, brokers and other customers (see Figure 4.13), it may be observed that not all customers are equal. For example, the relative importance of the largest customers can be judged by noting that survey wholesalers state that 61.3 percent of their sales go to their top ten customers. This is a symptom of the consolidation taking place generally in the retail and foodservice industries. Fewer buyers are available but those that remain are often of substantial size.

The services provided by wholesalers to their customers depend largely on the customer group. For retailers, which in general account for almost half of total wholesaler sales, these services may include such items as delivery, merchandising, and product information. In 1958 (USDA, 1964), the merchandising service provided by more wholesalers (15.6%) than any other was "suggesting retail prices" (Figure 4.14). The other merchandising services listed in 1958 in order of frequency were "assisting retailers with displays and promotions" (15.3% of wholesalers); "guaranteeing prices for specials" (7.0%); "training retail produce personnel" (3.9%) and "providing price concessions for specials" (2.0%).

By 1997, many more wholesalers were providing these merchandising services than in 1958. In fact, compared to merchandising and logistical services offered by their predecessors in the 1950's, today's wholesaler generally offers an expansive set of services as the rule, not the exception. Moreover, the leading merchandising services have changed since 1958. In 1997, 95.4 percent of FreshTrack 1997 wholesalers report that they "guarantee prices for promotions" to customers compared to only 7% of wholesalers in 1958. Eighty-seven percent in 1997 report that they "provide price concessions for promotions"; 61.6 percent "suggest retail prices"; 56.2 percent "assist retailers with displays and promotions"; and only 37.1 percent "provide retail training."

FIGURE 4.14

Wholesaler Firms Offering Merchandising Services, 1958 and 1997

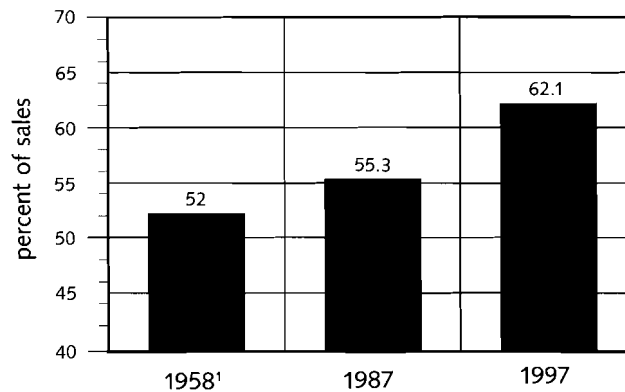


Delivery is another very important service often provided by wholesalers. In 1958, delivery was reported as the most commonly offered service, except for credit. At that time 77 percent of all wholesalers made deliveries. By 1997, this had changed in some ways. Currently although 88.7 percent of wholesalers offer delivery, delivery is no longer the most commonly offered service. By 1997, “guarantee prices for promotions” was the leading service, offered by 95.4 percent of all wholesalers.

In 1958, 52 percent of total wholesalers’ sales were delivered to customers (Figure 4.15). FreshTrack 1997 respondents state that in 1987 they delivered 55.3 percent of their sales, only a modest growth over a 30 year period. However, in 1997, deliveries account for 62.1 percent of sales, a more significant increase in the last 10 years than had been seen between 1958 and 1987.

FIGURE 4.15

Sales Delivered by Wholesalers, 1958-1997



¹Source: USDA (1964)

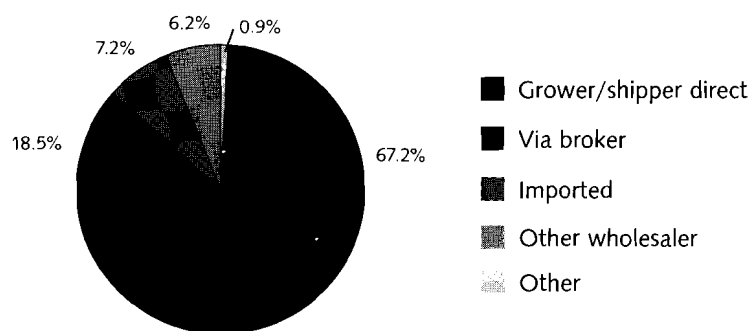
Supply and Supplier Attributes

Suppliers

In general, wholesalers report that two-thirds of their produce purchases are direct from grower/shippers (Figure 4.16). Fully 18.4 percent of their purchases are through a broker. In addition, wholesalers purchase 7.1 percent (non-banana purchases) from importers. Although more than half of wholesalers indicate they do not handle any imported produce, a significant number of wholesalers may handle 20-30 percent of their inventory as imports at any one point in time. Other wholesalers provide another 6.2 percent of wholesaler purchases.

FIGURE 4.16

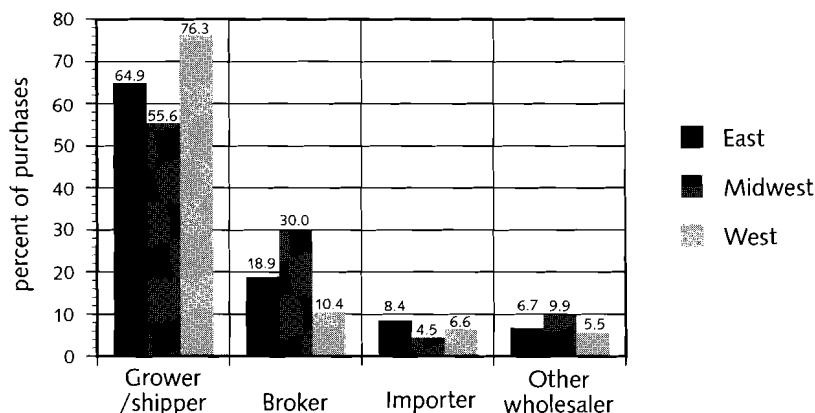
Sources of Wholesaler Produce Purchases, by Firm Type



As a function of proximity to production areas, wholesalers in the Western region purchase more “direct from grower/shippers,” whereas wholesalers in the Midwest and East purchase relatively more of their purchases through brokers and from other wholesalers (Figure 4.17).

FIGURE 4.17

Sources of Wholesaler Produce Purchases, by Region



Although produce wholesalers typically procure their products from hundreds of different grower/shippers, their main volume comes from a relatively few major suppliers. Respondents indicated that their top ten suppliers account for 71.8 percent of their entire produce purchases.

Supplier Attributes

Top suppliers, besides being chosen for their size and ability to fill required orders, may have been selected for other reasons. In order to try to understand what motivates wholesalers to do business with certain suppliers, they were asked to rate how their most highly regarded suppliers perform compared to their average suppliers on the overall performance of 24 key supplier attributes. These attributes can be categorized into five broad conceptual areas: overall produce quality, supplier reputation, supply, price and packaging & logistics. The performance rating scale ranged from 1 to 7 where 1="below average"; 3="average"; 5="above average"; and 7="excels."

Among the five conceptual areas "quality" attributes overall were found to be most important to wholesalers (Table 4.6). This result coincides with previous research conducted by McLaughlin and Perosio (1994) where supermarket buyers were asked to rank various supplier attributes by their importance in making purchase decisions. The single most important supplier attribute, as determined by that study on supermarket buyers, was the "ability to deliver consistent quality."

TABLE 4.6

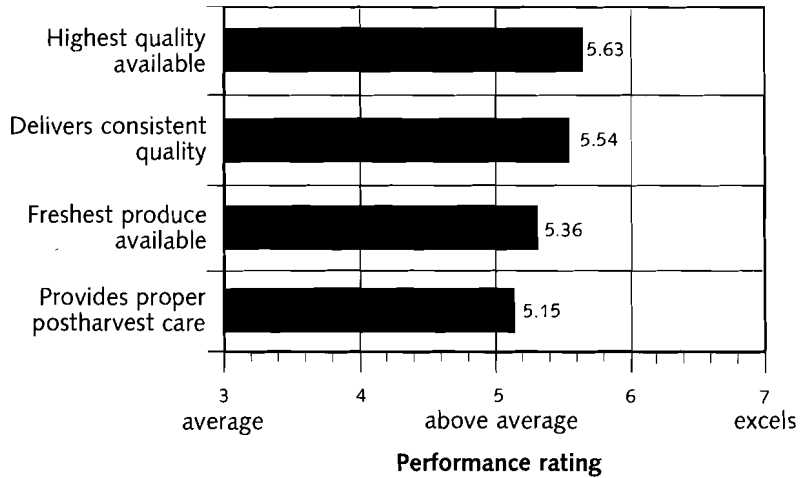
Performance Ratings for Attributes of Highly Regarded Suppliers by Attribute Category

| Category | Overall rating ¹ |
|-----------------------|-----------------------------|
| Quality | 5.42 |
| Reputation | 5.34 |
| Supply | 4.63 |
| Price | 4.37 |
| Packaging & Logistics | 4.24 |

¹ Performance rating scale ranged from 1 to 7 where 1="below average"; 3="average"; 5="above average"; and 7="excels."

In 1997, FreshTrack wholesalers responded that the supplier attribute with the highest rating pertaining to quality is "highest quality available" with a rating of 5.63 out of 7 (Figure 4.18). The quality attribute with the lowest score is "provides proper postharvest care" which received a rating of 5.15 from wholesalers.

Supplier reputation is the attribute category that received the second highest overall rating by wholesalers (see Table 4.6). In this category, the attribute "honesty & integrity" is not only the attribute with the highest reputation rat-

FIGURE 4.18**Highly Regarded Supplier Attributes: Quality Rankings by Wholesalers**

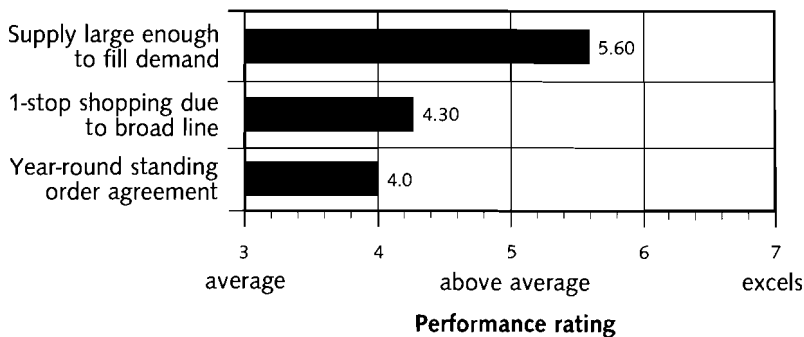
ing, it is also the highest rated individual attribute statement among all 24 key attributes with a rating of 5.79 (Figure 4.19). The attribute “positive reputation” also ranks very high with a rating of 5.7, even higher than the highest quality rating. Other reputation attributes are not as important, and the lowest rated is “willing to establish partnerships” with a rating of 4.57.

FIGURE 4.19**Highly Regarded Supplier Attributes: Reputation Rankings by Wholesalers**

Supply, price, and packaging and logistics attributes are all important to wholesalers although to a lesser extent than quality and reputation (Table 4.6). The most important attribute pertaining to supply is “supply large enough to fill demand” with a rating of 5.6 (Figure 4.20) while the least important was “year around standing order agreements” rated 4.0.

FIGURE 4.20

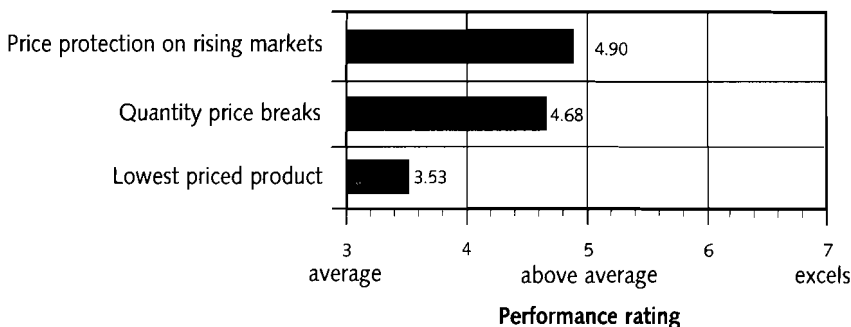
Highly Regarded Supplier Attributes: Supply Rankings by Wholesalers



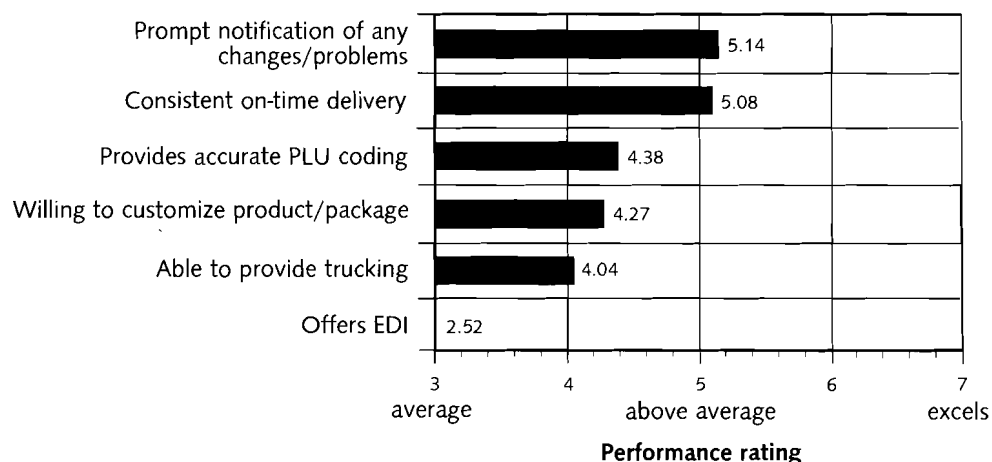
In the category of price attributes, even the highest individual statement was only rated 4.9, “price protection on rising market” (Figure 4.21). The lowest rated statement in the price category, indeed, belying the impression perhaps that the lowest priced supplier is one that is very highly valued by the wholesaler customer, was “lowest priced product.”

FIGURE 4.21

Highly Regarded Supplier Attributes: Price Rankings by Wholesalers



Suppliers who provide “prompt notification of any changes/problems” and “consistent on-time delivery” are appreciated, and these attributes receive ratings of 5.14 and 5.08 respectively from wholesalers (Figure 4.22). However, “offers EDI” is an attribute only rated 2.52 indicating either that it is not important to wholesalers when selecting highly regarded suppliers or that even the most highly regarded suppliers do not outperform their counterparts in this regard.

FIGURE 4.22**Highly Regarded Supplier Attributes: Packaging and Logistics Rankings by Wholesalers**

In summary, the individual attribute statements in order of highest to lowest rating were:

| Attribute statement | rating | attribute category |
|--------------------------------------|--------|--------------------|
| • honesty and integrity | 5.79 | reputation |
| • positive reputation | 5.70 | reputation |
| • highest quality available | 5.63 | quality |
| • supply large enough to fill demand | 5.60 | product line |
| • delivers consistent quality | 5.54 | quality |

The predominance of reputation, while maybe not the category with the overall highest rating, indicates the importance of these virtues in a leading supplier. Perhaps because the industry has historically been one filled with “opportunism” or because of the nature of the business of pricing, this has led to a certain distrust between sellers and buyers. Yet in an industry where almost three-quarters of all product purchases are from ten suppliers, distrust can lead to missed opportunities in discovering system efficiencies.

Operations

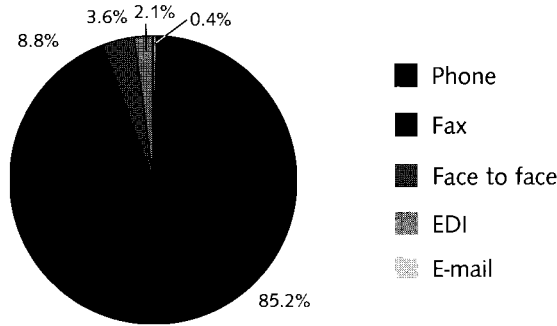
Produce Purchases

The process and methods of purchasing produce have not changed significantly since the advent of the telephone. Wholesalers’ produce purchases are made primarily by phone with survey respondents indicating that 85.2 percent of

their purchases are made using the phone (Figure 4.23). Faxes are also used for purchasing 8.8 percent of the time. Face-to-face purchases are occasionally made (3.6% of purchases), and purchasing via EDI and E-mail are also used to a small extent (2.1% and 0.4% respectively)

FIGURE 4.23

Wholesalers' Primary Purchase Methods

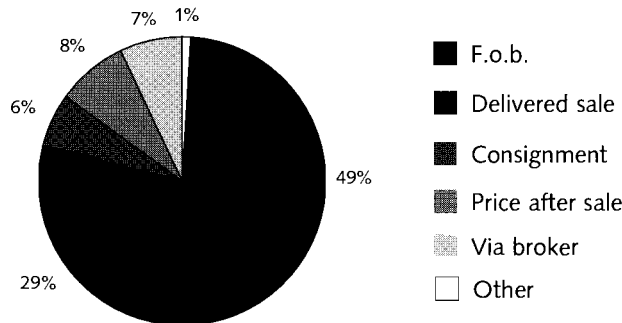


Judging by industry response, purchasing by phone is still the most effective method of purchasing. Although faxes are becoming very important and EDI and E-mail are providing some additional purchasing methods, purchasing and ordering in the produce industry still requires person-to-person contact. While “high tech” methods are being and will likely be used increasingly in the future, they will likely be used only for selective orders or for order confirmation.

In general, close to half of all produce purchases made by the wholesale sector were made employing free on board (f.o.b.) pricing (Figure 4.24). In this mechanism, all responsibility for transportation cost and, in general, product transport is with the buyer. Buyers indicate that with their own trucks already on the road, f.o.b. terms were often preferred. F.o.b. is also favored by many sellers who do not want to assume the risks and costs of trucking.

FIGURE 4.24

Wholesaler Purchases by Purchase Terms



Delivered sales account for 29.0 percent of all wholesaler produce purchases. When using terms “delivered sales,” sellers are responsible for transport charges and quality assurances to the buyers’ dock. In these circumstances, sellers may benefit when they control their own transportation network and want to operate it to maximize profits. Sellers may also choose to offer more delivered sales versus f.o.b. when they need to liquidate surplus inventory. In those cases, they may offer the transportation at a very reduced rate, therefore not jeopardizing their f.o.b. price but still offering a better overall value. However, some in the industry believe that buyer rejection is more likely with a delivered sale than a f.o.b. sale, since, at that late point, the seller has very limited available alternatives.

Under some circumstances, sellers may opt to ship product to a buyer deferring actual price establishment until after a final sale is negotiated. Often, sales of this type involve distressed produce, previously rejected merchandise, or produce unsold by shippers’ direct sales’ agents during a time of over supply.

Historically, the most common price-deferred term of sale was the consignment sale. Consignment sales account for 6 percent of overall purchases, while a near equivalent technique, “price-after-sale,” represents an additional 8.2 percent of purchases.

Price-after-sale is a purchase term that has emerged over the last 40 years. It is quite similar to consignment in that produce is shipped to a handler with no set price. When consignment and price-after-sale terms are combined, they represent 14.1 percent of wholesaler purchase terms.

While consignment and price-after-sale terms combined were only 14.1 percent of purchases for all wholesalers, these sale conditions were much more prevalent for terminal market wholesalers and importers. Consignment sales for these two wholesaler classifications consist of 11.0 percent and 39.2 percent for terminal market wholesalers and importers respectively (Table 4.7). Price-after-sale term accounts for 29.3 percent and 6.9 percent respectively of purchases. The importance of terminal markets in handling produce being sold in this manner appears to be significant while importers handle more consignment sales to decrease risk.

TABLE 4.7

Consignment and Price-After-Sale Terms, by Wholesaler Classification

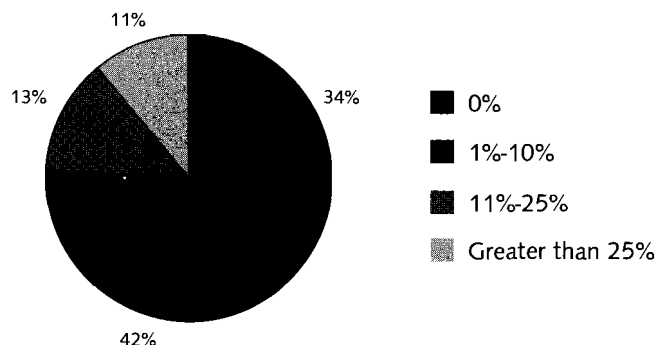
| | Consignment | Price-after-sale | Total |
|-----------------------------|---------------------------------|------------------|-------|
| | <i>-% of produce purchases-</i> | | |
| Importers | 39.2 | 6.9 | 46.1 |
| Terminal market wholesalers | 11.0 | 29.3 | 39.3 |
| “Off-market” wholesalers | 1.8 | 7.8 | 9.6 |
| Brokers | 3.5 | 7.2 | 8.7 |
| Repackers | 5.7 | 2.8 | 8.5 |
| Distributors | 2.2 | 3.3 | 5.5 |

Still another purchase arrangement is contracts. Generally such contracts consist of an agreed price and/or quantity for a produce item, often at specified quality conditions, before it is mature and for a specified length of time. Recent trade press reports and industry interviews indicate an increase in the use of contracts, especially between foodservice distributors and their customers. However, little is known about the use of contracts between wholesalers and their suppliers. Most of the demand for contract pricing appears to be retail oriented: retail supermarkets and foodservice operators.

A large majority, 76 percent, of wholesale respondents report that 10 percent or less of their purchases are made on contract, and 34 percent of those indicated that none of their purchases are made on contract (Figure 4.25). However, 24 percent of wholesalers did indicate that contract sales consisted of greater than 10 percent of their purchases.

FIGURE 4.25

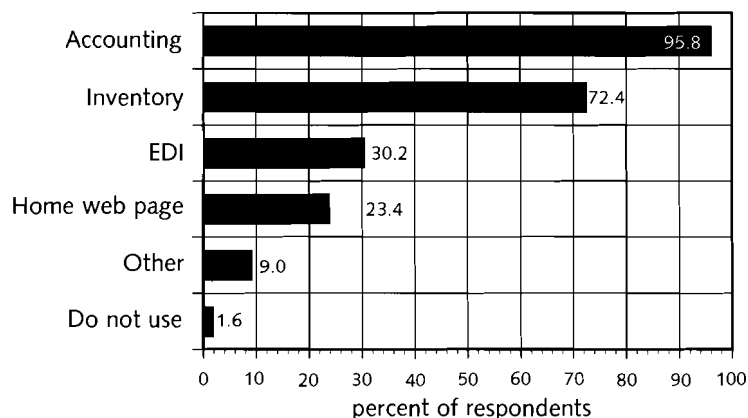
Percent of Produce Purchases Made with Contract Pricing



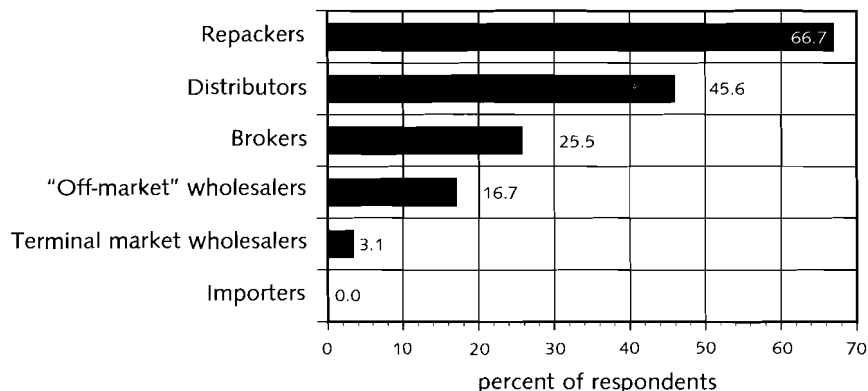
Technology

Since the industrial revolution, technology has driven change in manufacturing and retailing industries. The fresh produce industry is no exception. With the advent of the information revolution, technology is again propelling changes in numerous operations and business practices. Personal computers are used in business applications from purchasing and sales to market research. When wholesalers were asked how they use computers, 96 percent indicated that they use them for accounting purposes including billing, invoicing, and payroll (Figure 4.26). Fewer, 72.4 percent, report using them for inventory management, and 30.2 report using them for EDI.

The use of computers for EDI purposes as reported above may be misleading. Interviews with industry members suggest that while a number of wholesalers may use EDI, they are likely to use it with only one account and only in the most basic way. In addition, while many wholesalers appear to be gearing up for EDI and have purchased computers and software with EDI usage in mind, they are still not currently operational with EDI.

FIGURE 4.26**Computer Usage by Produce Wholesalers**

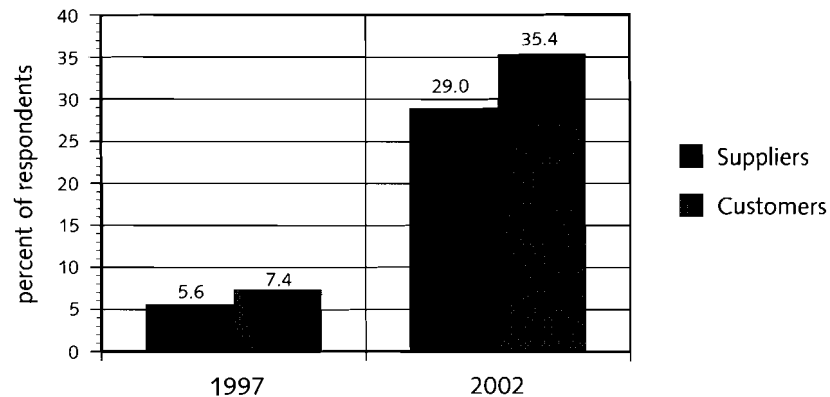
There is also a large variation in the types of firms which report using EDI. Distributors and repackers report using EDI much more than do other types of wholesalers in other classifications (Figure 4.27). Sixty-seven percent of repackers indicated they use computers for EDI as did 45.6 percent of distributors. It is perhaps not surprising that these two groups lead other wholesalers in use of EDI. Distributors, for example, tend to be larger firms, who often have larger retail accounts which are more likely to be using EDI with their suppliers. What's more, repackers, as a function of their typically limited range of products, have less variation in product quality and condition, perhaps making standardization easier.

FIGURE 4.27**Wholesalers Using Computers for EDI, by Firm Classification**

Wholesalers indicate that 5.6 percent of their suppliers currently use EDI and that only a slightly larger number of customers, 7.4 percent, use EDI (Figure 4.28). When wholesalers project to the year 2002, they anticipate these numbers to rise significantly. They forecast that 29 percent and 35.4 percent of their suppliers and customers respectively would use EDI by 2002.

FIGURE 4.28

EDI Use by Wholesaler Produce Suppliers and Customers, 1997 and 2002



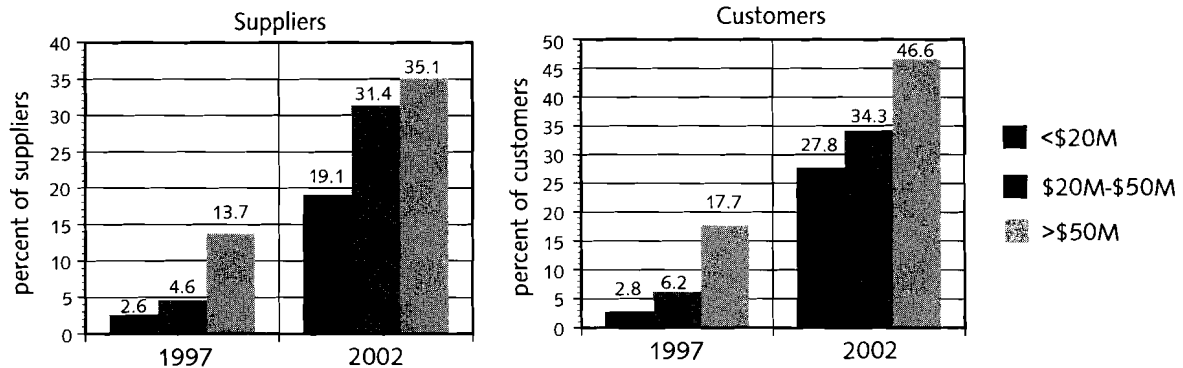
Caution should be used when trying to compare these produce industry numbers to figures from the grocery industry. EDI in the grocery industry encompasses electronic data interchange which often focuses on streamlining the product ordering and delivery process. Efficiencies gained from electronic ordering then trickle through other levels of order confirmation, inventory management, and logistics. In the fresh produce industry where much of the ordering process depends on personal communication of produce size, grade and quality conditions over the telephone, EDI may not be as easily implemented. However, in produce, EDI may come into play after ordering, during the process of confirmation, inventory management, warehousing, transportation and logistics. Many industry members also expressed frustration regarding the necessary product identification nomenclature in order to implement EDI in produce as is done in dry grocery.

A closer examination of responses shows that larger wholesale firms lead the way in EDI participation. Firms with over \$50 million in annual company sales report that EDI is used by 13.7 percent of their current suppliers and 17.7 percent of their current customers (Figure 4.29). By 2002, they anticipate 35.1 percent and 46.6 percent of their suppliers and customers respectively will be using EDI techniques.

Although relatively small wholesalers currently do not participate in EDI as much as their largest counterparts, they, too, apparently see the possibilities in efficiencies gained using EDI. By 2002, even the smaller firms anticipate significantly more of their suppliers and customers—indeed a tenfold increase in only five years time—will use EDI (Figure 4.29).

FIGURE 4.29

Wholesale Suppliers and Customers Using EDI, by Size of Wholesaler and by Year



Distribution

Shrinkage and losses as well as reconsignment may be used as proxies to evaluate certain aspects of quality performance in distribution channels. Wholesalers indicated that 5.3 percent of product is reconsigned and 3.6 percent is lost due to shrink and other losses (Table 4.8). Reconsignment occurs when, instead of rejecting a load of produce outright, many wholesalers find an alternative outlet for the product and renegotiate the purchase terms with the seller.

TABLE 4.8

Sources of Wholesale Losses

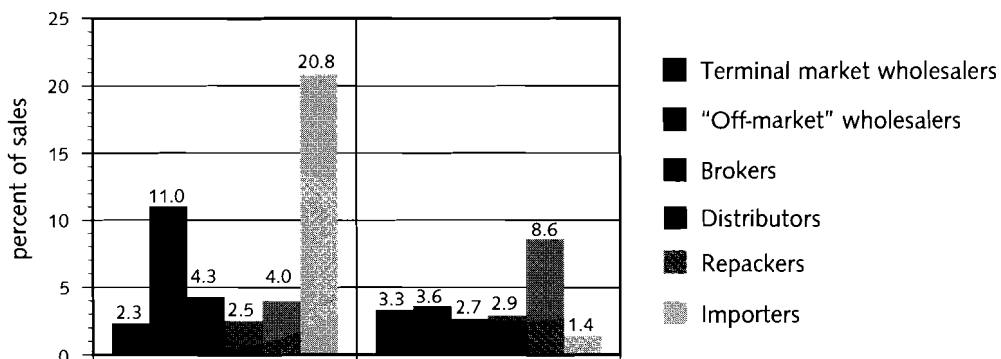
| | Percent |
|------------------|------------------|
| Reconsigned | 5.3% of arrivals |
| Shrinkage & loss | 3.6% of sales |

Reconsignment and shrink vary among wholesaler classifications. Importers report the highest reconsignment rate of 20.8 percent, a rate which is very high compared to other wholesalers but perhaps to be expected considering the long distances some imported produce travels (Figure 4.30). Repackers, also not surprisingly, report the highest shrink at 8.6 percent. Importers report the lowest shrink of 1.4 percent perhaps because their reconsignment is so high coupled with the infeasibility of returning the shipment (Figure 4.29).

Among the current initiatives to improve distribution system efficiency are case coding, returnable packaging, and returnable pallets. Case coding, used extensively to facilitate inventory flow and warehouse management as well as

FIGURE 4.30

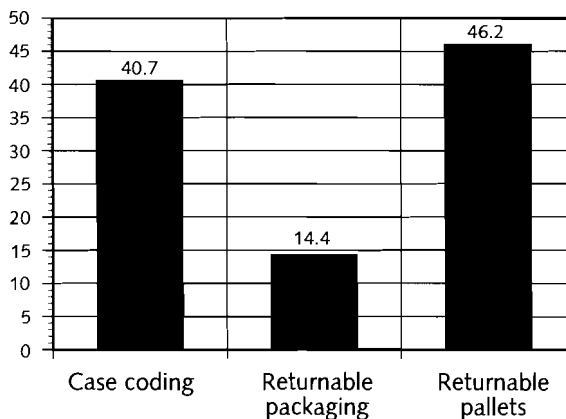
Wholesaler Reconsignment and Shrinkage, by Wholesaler Classification



cross docking in the grocery distribution system, has met with mixed acceptance in the produce wholesaling sector. Overall, 40.7 percent of wholesalers indicate that they use case coding (Figure 4.31). Seventy percent of "off-market" wholesalers, those wholesalers not located on a terminal market site, indi-

FIGURE 4.31

Wholesaler Use of Coding and Returnables



cate that they use case coding at least to some extent (Figure 4.32). This may be expected given the greater presumed need for inventory handling efficiencies for wholesalers who own large warehouse facilities. Only 21.1 percent of terminal market wholesalers, however, indicate that they use case coding.

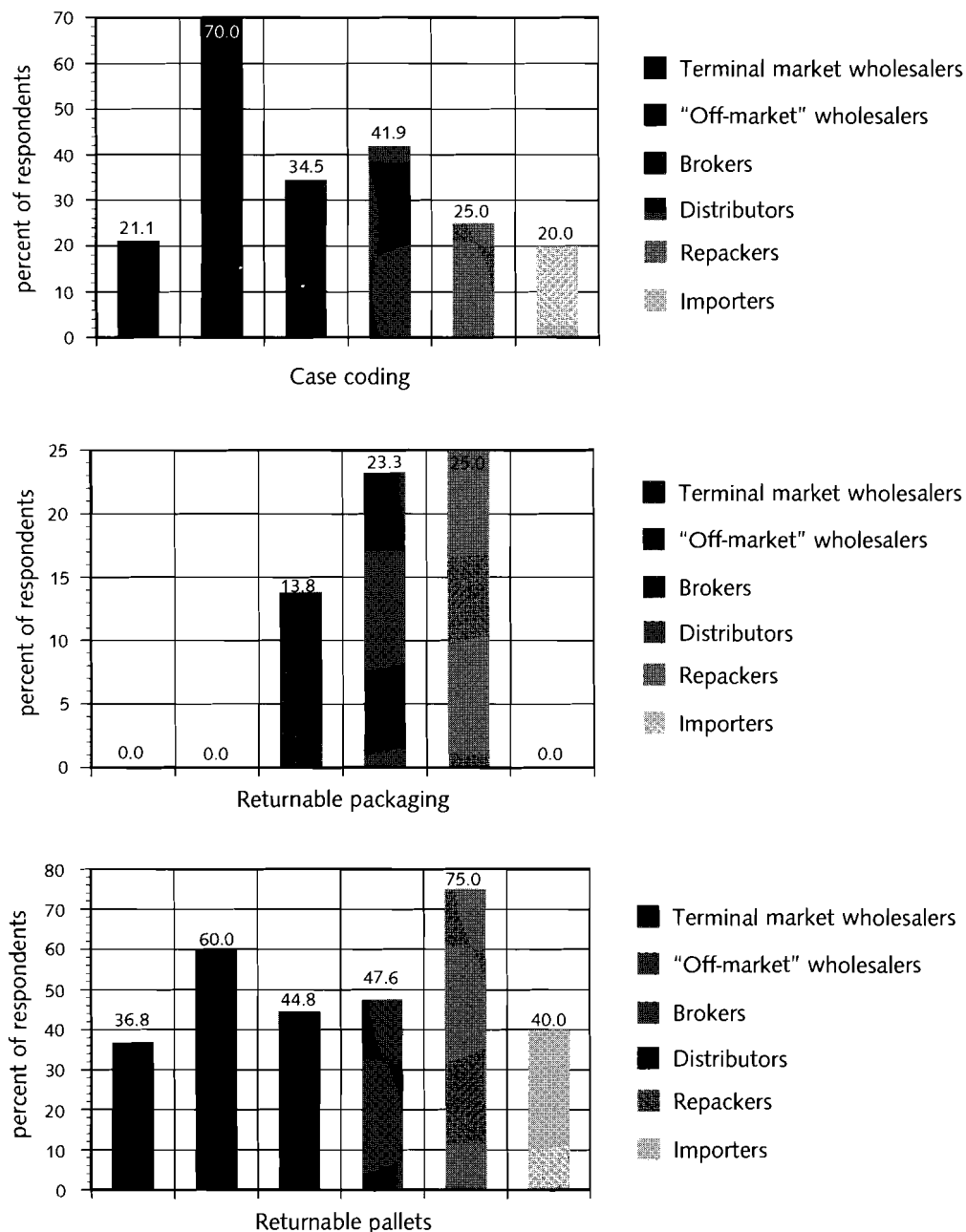
Returnable packaging such as plastic cases which can be returned to the packing source has benefits in terms of stackability, durability, and economics. However, few companies, only 14.4 percent of wholesalers, indicate that they

use returnable packaging of any sort. And when viewed by wholesaler classifications, only brokers, distributors and repackers report they use returnable packaging at all (Figure 4.32).

Repackers and “off-market wholesalers” report using returnable pallets more than other wholesale classes (Figure 4.32) while fewer terminal market wholesalers report using them.

FIGURE 4.32

Wholesaler Use of Coding and Returnables by Wholesaler Classification



Summary

The wholesale sector of the fresh produce industry is composed of widely diverse wholesaling firms. The firms are diverse in the activities and functions they perform whether they are traditional terminal market wholesalers or brokers offering importing and warehousing services. They also vary substantially in the size of their operations. Some companies report over \$1 billion in 1996 company sales, while others sell less than \$1 million annually. This diversity makes reporting industry “averages” difficult as averages in some cases can be misleading. However, the diversity also points to the many opportunities open for companies and the myriad of market approaches employed by leaders in the field. Below are highlights regarding produce wholesalers from the FreshTrack 1997 study.

Wholesaler Profile

The survey response consisted of 205 wholesale firms whose company sales totaled an estimated one-quarter of the total fresh produce wholesaling sector.

- The number of operations in which firms are engaged is becoming greater and more diverse with wholesalers also engaging in brokering services and brokers engaging in distribution and wholesaling. Some “wholesalers” charge commission; some “brokers” take title. Traditional definitions of wholesale business classifications have become indistinguishably blurred.
- 1996 company sales from respondents range widely from \$20,000 to \$4.5 billion with an average of \$98.8 million. Average wholesaler produce sales in 1996 were \$41.6 million, however, the importance of produce versus non-produce sales varied considerably by firm size. Small and medium sized firms sell produce as their primary business, whereas large firms are considerably more diverse with produce sales accounting for only one-third of their total business. Brokers and distributors also carry relatively more non-produce items with produce only accounting for 38 percent and 27 percent of their businesses respectively.
- Proliferation of new produce varieties and new packaging has enhanced sales of packaged produce by wholesale companies. In addition, non-traditional produce items including specialty produce, prepackaged salads, organics, fresh squeezed juice, and fresh cut fruit now contribute up to 27 percent of total wholesaler sales. In general, firms whose sales are less than \$20 million carry more specialty produce, but larger firms carry more prepackaged salads.
- With the proliferation of specialty products, packaged salads and other consumer packages, wholesalers are now responsible for managing a larger number of items than in the past. The number of SKUs carried by wholesalers depends on firm size. New produce items are introduced by wholesalers at a rate of 24 new items in 1996. In addition, 27 new non-produce items were introduced. However, most of the new non-produce items are introduced by distributors who sell more non-produce items than any other business classification.

Customers and Suppliers

- The two most significant customer bases for produce wholesalers were major retail/wholesale grocery chains (34 percent of sales) and foodservice operations (27 percent of sales). As such, many wholesaler services are geared to these customers. The number of wholesalers offering merchandising services has increased tremendously in the last 40 years, to the point that wholesalers offer an expansive set of services today as the rule not the exception. “Guaranteeing prices of promotions” and “providing price concessions for promotions” are now services offered by the vast majority of wholesalers. However, many fewer wholesalers offer “assistance to retailers with displays” and “providing retail training” perhaps suggesting further opportunities for distinguishing performance through expanded services.
- Although produce wholesalers typically procure their products from hundreds of different grower/shippers, their main volume comes from a relatively few major suppliers. Almost three-quarters of the quality, price, delivery, and overall performance of wholesalers’ products are highly determined by ten principal suppliers.
- Wholesalers were asked to rate how their most highly regarded suppliers perform compared to their average suppliers in order to try to understand what motivates wholesalers to do business with certain suppliers. Out of 24 key attributes, the attributes grouped under the category “quality” are considered most important by wholesalers. “Reputation” is also very important with “supplies,” “price” and “packaging and logistics” less important.
- Although “reputation” is not the overall leading category, the two individual attributes with the highest rankings come from the “reputation” category: “honesty and integrity” and “positive reputation.” This indicates that in an industry filled with “opportunism” and highly competitive pricing behavior, a positive reputation may, for many, be a differentiating factor. Companies recognizing the importance of their suppliers may recognize also that distrust can lead to missed opportunities in discovering system efficiencies.

Operations

- Close to half of all produce purchases made by wholesalers are made by f.o.b. sales. Delivered sales account for 29 percent of purchases. Whether one party or another benefits from either term of sale depends on the market conditions, individual commodities and transportation availability. Consignment and price-after-sale terms combined were only 14.1 percent of general wholesaler purchases. This is much higher, however, for terminal market wholesalers who reported that these price deferred terms were over 39 percent of purchases. The importance of the terminal markets for handling and absorbing produce being sold in this manner is quite significant especially since no other business type (except importers) handles any significant amount of produce on price deferred terms.
- Generally, retailers and large foodservice operators are much more experienced using EDI from their grocery businesses, however, using EDI with

produce contains many challenges. Much of the ordering process for fresh produce is still very dependent on the personal communication of produce size, quality, and grade conditions and therefore may not be appropriate for EDI. As numbering standards become defined for some of these criteria, however, EDI is likely to become more available for the processes of order confirmation, inventory management, warehousing, transportation and logistics, and category management.

- Currently, larger produce wholesaler firms are leading the way in EDI acceptance, yet small and medium sized firms anticipate using EDI significantly more in the future. At this time, EDI is a mystery to most firms who have yet to make the large investment in time and money to become operational with EDI.
- Use of case coding and returnable packaging and pallets, depends on wholesaler business type. Case coding is currently being used more by “off-market” wholesalers than any other business class most likely for better inventory management and cross docking purposes. No terminal market wholesaler, “off-market” wholesaler, or importer reported using any returnable packaging. Some returnable packaging is being used by repackers, distributors and brokers.

Foodservice Benchmarks: Empirical Results and Perspectives

As the inaugural year of this comprehensive study, in order to capture the breath and scope of each major segment of the fresh fruit and vegetable marketing system, the procurement practices of foodservice establishments are reported. Foodservice companies represent a vastly understudied yet highly complex and fragmented marketing channel for fresh fruit and vegetables. In fact, foodservice establishments purchase an estimated \$41 billion in produce annually.

The objective of the foodservice survey is to establish baseline indicators which focus on selected operational and procurement practices for fresh fruits and vegetables in various foodservice companies.

A broad spectrum of foodservice companies responded to this first-ever PMA FreshTrack study. Several national chains as well as regional foodservice companies comprise the sample. In all, eighteen companies participated in this portion of the study. Due to this relatively small sample, in most cases, results will be illustrated by reporting the mean as well as the range of responses.



Profile of Respondents

Eighteen foodservice companies responded to the survey and, combined, represent \$16.9 billion in annual company sales. The average firm in this sample has company sales of \$995 million, however annual company sales range from \$23 million to \$4.1 billion. Taken together, these firms report total purchases or cost of goods sold in excess of \$8.2 billion with a range spanning from a low of \$7 million to a high of \$3.6 billion. When disaggregating produce purchases from the total cost of goods, produce accounts for 11.1 percent or \$922 million.

For those companies which report all company financial information, that is, annual sales, total purchases and produce purchases, average gross margin is 69 percent. Gross margin percent varies considerably from firm to firm, from a low of 62.3 percent to a high of over 77 percent.

Supply and Supplier Attributes

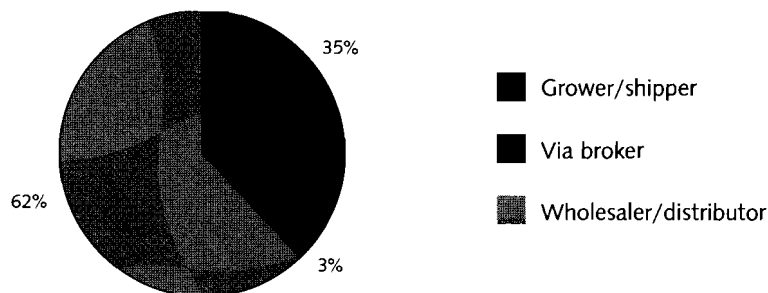
Supply Source

Foodservice companies report purchasing almost two-thirds (62%) of their produce needs from a wholesaler or distributor (Figure 5.1). Slightly over one third (35%) of purchases come directly from a grower/shipper while only 3 percent is purchased via a brokered sale. It appears that larger firms tend to rely more heavily on direct purchases while smaller, perhaps regional foodservice operators, typically turn to wholesalers for their produce needs.

The range, however, for both direct purchases and those purchased through a

FIGURE 5.1

Source of Produce: Foodservice
-percent of total purchases-



wholesaler is broad. Six companies report purchasing 100 percent of their produce from a wholesaler while four companies purchase 20 percent or less from a wholesaler. On the other hand, several large national companies indicate a preference for purchasing produce direct from a grower-shipper. Seven companies purchase over 70 percent of their produce direct while an equal number do not purchase any produce at all directly from grower/shippers.

Number of Suppliers

Executives from foodservice companies were asked to estimate the number of suppliers, both national and local, who provide produce for their organizations. For the purpose of this study, local produce is defined as produce from regions other than the major growing areas which are in close proximity to a purchasing location or company headquarters.

On average, participating firms report using a total of 63.7 suppliers; 6.3 national and 56.9 local. Some firms however, which rely exclusively on wholesalers, report using very few suppliers, typically fewer than six. In contrast, other firms indicate utilizing a broad network of suppliers—almost 300—an indication perhaps of a decentralized purchasing system, one in which individual restaurants purchase most, if not all, of their produce needs independent of headquarter buying.

Stock Keeping Units and Packaging

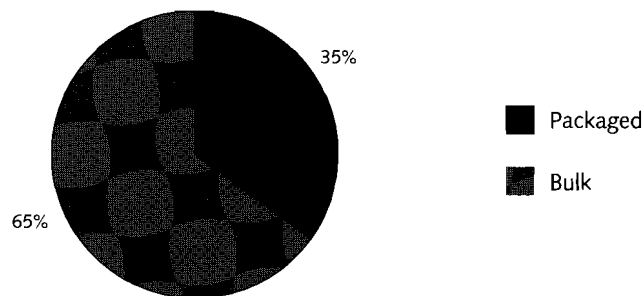
Although these foodservice executives report utilizing an expansive network of suppliers, their number of stock keeping units (SKUs) is rather modest. On average, respondents to this survey indicate purchasing a total of 62 different SKUs annually of which 28 are purchased locally. However, again, the range is broad, from just 4 SKUs to 250.

It is interesting to compare the purchase patterns for local and national produce. It appears that foodservice companies have twice as many local suppliers as local SKUs purchased, perhaps an indication of multiple suppliers for single commodities. In contrast, these same executives report using, on average, just 6.3 national suppliers to provide 34 produce SKUs — perhaps an indication that these “national” suppliers are in fact multi-commodity or full-time foodservice wholesalers.

Almost two-thirds (65%) of produce procured by foodservice executives is purchased in bulk quantities. The remainder (35%) is purchased packaged or precut (Figure 5.2).

FIGURE 5.2

Foodservice Purchases by Packaging Type



Supplier Importance

Although the average firm in this study carries over 62 produce SKUs in their foodservice establishments and report purchasing from an average of 63 suppliers, over two-thirds (69.6%) of their purchases are acquired from their top ten suppliers.

Smaller firms appear to concentrate their purchasing power the most, as several of these companies purchase virtually 100 percent of their produce from just ten suppliers. In many cases this is likely to be their full-line wholesaler or distributor. As might be expected, larger foodservice firms report the lowest level of purchasing concentration. Five of these larger companies report that less than 30 percent of their produce originates from their top ten suppliers. It appears that, in addition to buying from national companies, large firm foodservice executives concentrate much of their buying with a diverse array of shippers and local growers, perhaps attempting to match certain regional and niche products with local consumer preferences.

Another indication of supplier importance is the number of “partnerships” established between suppliers and foodservice executives. For the purpose of this study, “partnership” is defined as “formalized business commitments with joint objectives where confidential information is shared.” Foodservice executives currently report having, on average, 9 partnerships with suppliers however, they expect this number to increase to 15 by 2002.

Supplier Attributes

In order to obtain an indication of overall supplier satisfaction, foodservice produce executives were asked to rate how their most highly regarded suppliers perform compared to their average suppliers on the overall performance of several supplier attributes. These attributes focused on five conceptual areas: overall produce quality, supplier reputation, supply, packaging & logistics and price. When considering their top suppliers’ attributes, foodservice executives rated those attributes associated with supplier reputation as the most important. Based on a scale from 1 to 7 where 1 equals “below average performance,” 3 = “average,” 5 = “above average,” and 7 = “excels,” foodservice executives assigned the highest “reputation” rating of 6.2 to “honors satisfaction guarantees” and the lowest score of 5.4 to “easy to reach/communicate with” (Figure 5.3). The relative rankings for each category are listed in Table 5.1.

FIGURE 5.3

Supplier Attributes: Reputation

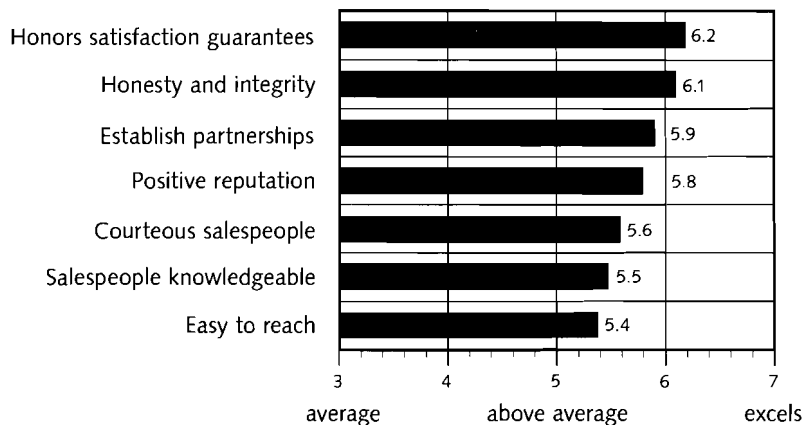


TABLE 5.1

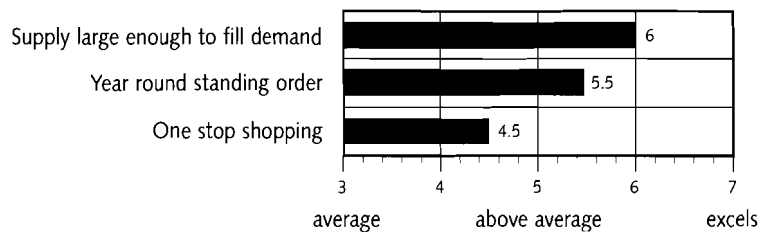
Relative Importance of Supplier Attributes by Major Category

| Attribute | Relative Importance |
|-------------------------|---------------------|
| Reputation | 5.8 |
| Supply/Availability | 5.3 |
| Quality | 5.2 |
| Packaging and Logistics | 4.9 |
| Price | 4.8 |

“Supply and availability” was the next set of attributes rated most highly and commonly credited to top suppliers. Among these three attributes, “supply large enough to fill demand” was ranked the highest at 6.0, while “one stop shopping” was ranked lowest at 4.5 (Figure 5.4). This relatively high ranking relating to a demand for large quantities of supplies appears in stark contrast to earlier reported estimates regarding the large network of local suppliers used by foodservice executives. On one hand local suppliers might be viewed as

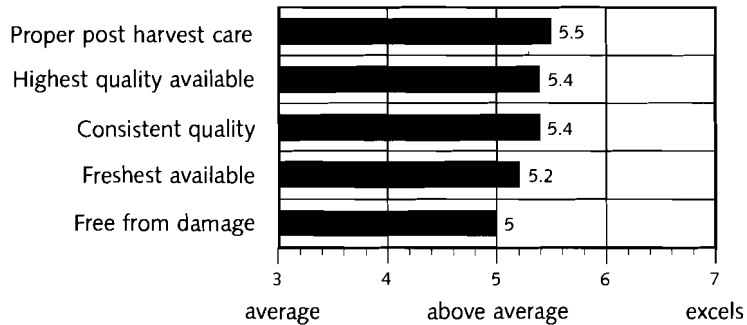
FIGURE 5.4

Supplier Attributes: Supply

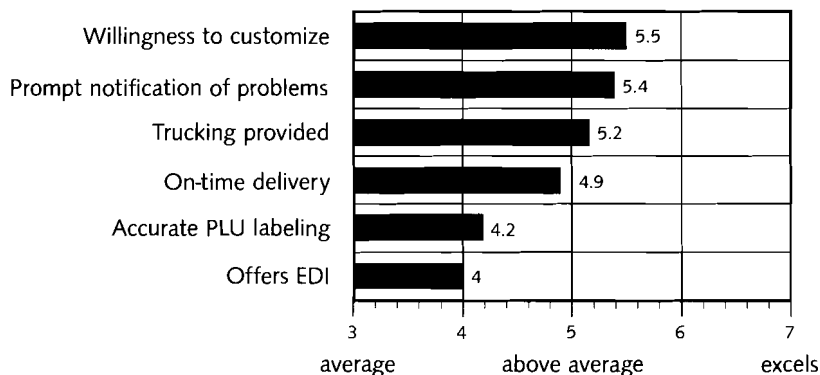


small niche players with limited supply and therefore unable to provide enough product to fill demand. Apparently, at least in the foodservice sector of the trade, where in many cases produce purchasing may be decentralized and concentrated at the individual restaurant level, a local grower may very well be able to fill one restaurant’s demand when this would not be possible for an entire chain of restaurants.

The third most important set of supplier attributes is “Quality.” When considering these five closely ranked attributes, “proper post harvest care” was ranked the highest (Figure 5.5). When comparing top suppliers to average ones, produce executives ranked “free from damage” the lowest among quality attributes.

FIGURE 5.5**Supplier Attributes: Quality**

“Willing to customize products/packaging,” was ranked the highest among packaging and logistics attributes at 5.5 (Figure 5.6). When comparing top suppliers to average ones, foodservice executives ranked “offers EDI” the lowest, 4.0, an indication that the lack of EDI does not necessarily preclude a supplier from being considered as a preferred supplier.

FIGURE 5.6**Supplier Attributes: Packaging Logistics**

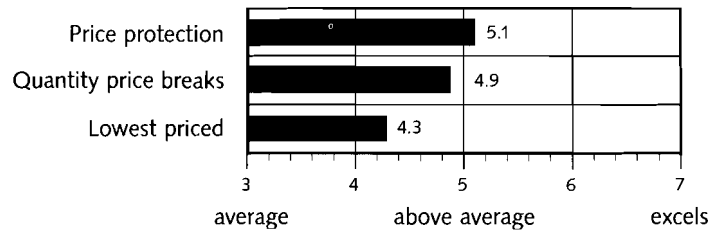
When comparing top suppliers to “average” suppliers, price is ranked as the lowest attribute—a clear signal to suppliers that reputation and supply, not price, are the supplier attributes foodservice executives value the most. “Price protection on rising markets,” was ranked the highest while “lowest price produce” was assigned a comparatively low ranking of 4.3 (Figure 5.7).

Thus, when comparing “top” suppliers to “average” suppliers across all five attribute categories, the top ranked individual supplier attributes which characterize “preferred” suppliers are:

- honors satisfaction guarantee
- honesty & integrity
- supply large enough to fill demand
- willing to establish partnerships
- positive reputation

FIGURE 5.7

Supplier Attributes: Price



It is interesting to note that “quality” is not among the top five attributes most preferred by foodservice executives. However, upon closer examination, those attributes associated with supplier reputation— “honors satisfaction guarantee,” “honesty & integrity” and “positive reputation” all point toward an unspoken quality imperative.

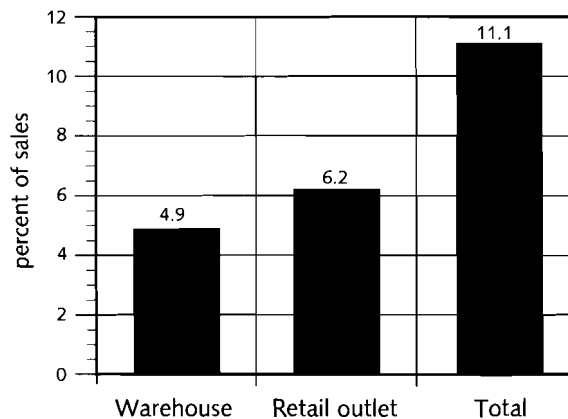
Supply Quality & Handling

One indication of initial quality and subsequent post harvest care of produce is the rejection level of incoming produce arrivals and the volume of shrink at both the warehouse and in the restaurant or ultimate foodservice outlet. On average, for all respondent firms, 6.8 percent of produce arrivals are rejected. For some companies, this figure drops to a mere 2 percent while several other companies report rejection rates as high as 10 percent of produce arrivals.

Once in the warehouse, foodservice executives report an average shrink of 4.9 percent (range from 1-12.5). Further shrink is experienced at the retail outlet— 6.2 percent—for a total produce shrink of just over 11 percent (Figure 5.8).

FIGURE 5.8

Produce Shrink: Foodservice



Contract Pricing and Terms of Trade

Foodservice executives report extensive use of contract pricing when procuring produce. On average, 66 percent of firms report using contracts for over 25 percent of their purchases. Eleven percent of companies use contracts to procure between 11 and 25 percent of their produce needs. Seventeen percent of companies use contracts for between 1 and 10 percent of produce purchases. Finally, only six percent of companies do not use contracts when purchasing produce.

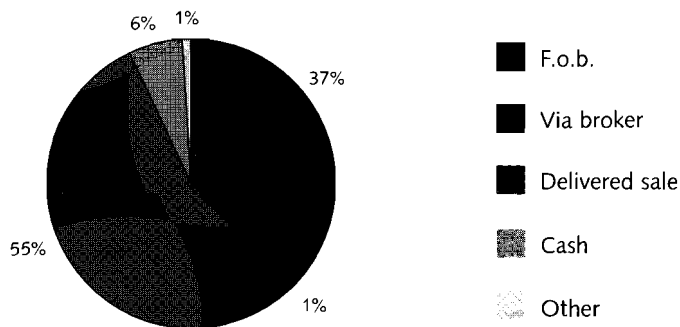
Produce can be purchased using various terms of trade—f.o.b. (free on board), delivered sale, price-after-sale, via broker and cash sales. Typically, an f.o.b. sale includes only produce cost, freight is not included. In contrast, the price quoted for a delivered sale includes both the cost of the produce as well as all freight and handling charges. This is typical of how wholesalers conduct business with their foodservice customers.

Foodservice executives report that over half (55%) of all produce purchases are negotiated via a delivered price (Figure 5.9). F.o.b. sales account for 37% of produce purchases while cash is used for 6 percent and brokered sales describe just 1 percent of produce purchases.

This relatively high percentage of purchases transacted via delivered sales is consistent with earlier findings indicating that almost two-thirds of produce is supplied by wholesalers/distributors, who often prefer to price via a delivered sale transaction.

FIGURE 5.9

Terms of Trade: Foodservice



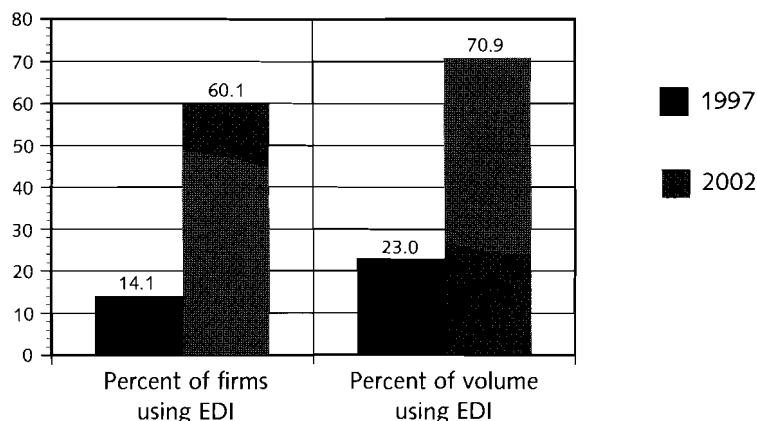
Technology

In all facets of the food industry, technology is changing the face of business. Today, buyers and sellers have the ability to gain system-wide efficiencies through electronic data interchange (EDI) of a myriad of accounting, inventory and procurement functions.

Foodservice executives were asked about their current and expected use of EDI relating to two separate but related functions. First, they were asked, “with what percent of your suppliers do you use EDI.” Currently, just 14.1 percent of supplier-transacted business is conducted via EDI with foodservice companies (Figure 5.10). However, the range in responses to this question was broad — ten

FIGURE 5.10

Current and Projected Use of EDI



companies do not currently use EDI while three firms transact business via EDI with over 70 percent of their suppliers.

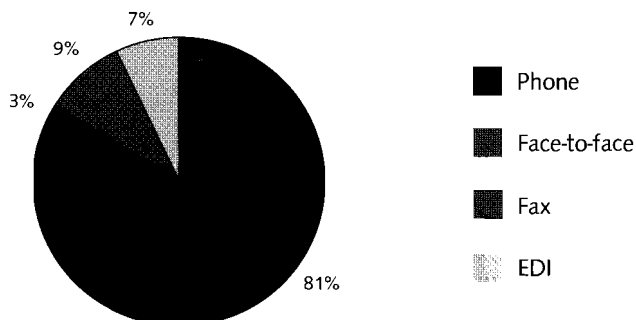
As these executives look toward the future, they expect the use of EDI to increase dramatically. By 2002, these foodservice executives expect to be transacting business via EDI with over 60 percent of their suppliers (Figure 5.10).

These same executives were asked a second, related question, specifically, “what percentage of their produce volume is transacted via EDI.” Less than one-quarter (23%) of produce volume is currently transacted using an EDI transaction (Figure 5.10). Again, the range is broad as ten companies do not currently use EDI while five companies are transacting over 60 percent of their purchases via EDI. Once again, these executives are very optimistic about the potential for EDI in the future. They project that by 2002, over 70 percent of their produce volume will be negotiated via EDI.

Technology is also affecting the way produce is purchased. Today, buyers have a number of options available to them for procuring produce—phone, fax, EDI, face to face and e-mail. By far, the most common method of ordering produce is over the telephone as 81 percent of produce purchases made by foodservice executives are negotiated over the phone (Figure 5.11). Nine percent of purchases are made via a fax while 7 percent is transacted via EDI. Just 3 percent of purchases are made in person.

FIGURE 5.11

Method of Ordering Produce: Foodservice



Summary

The overarching goal of this foodservice focused survey is to build a foundation of benchmark indicators for the procurement functions of foodservice companies. Results of this survey can be captured in three broad categories; Technology, Pricing, and Supply and Supplier Attributes.

Technology

- The use of technology, particularly EDI, is modest at present, however, foodservice executives responding to this survey expect the use of EDI to increase dramatically in just a few years.
- Despite this potential surge in the use of EDI, foodservice executives do not currently consider EDI capability an important attribute for a supplier to possess.
- Although various forms of technology exist for placing produce orders, the time honored telephone is still relied upon by the vast majority of foodservice executives, perhaps a testimony to the importance of human interaction.

Pricing

- Contract pricing for produce is extensive among foodservice executives.
- Typically, the majority of produce is negotiated and priced via a delivered sale transaction.

Supply & Supplier Attributes

- The familiar scenario of the chef visiting the local produce market or farm in search of the freshest, highest quality produce appears to be a myth, at least for large firms. Only 3 percent of produce is purchased face to face, one indication of the new trust and confidence foodservice executives place with their preferred suppliers. To a great extent, the large size of their organizations require such volume purchases, and the technology they employ enables it.
- In general foodservice executives rely on wholesalers to supply their produce needs. However, there is a tendency for larger, national firms to turn toward grower/shippers directly for their produce supply.
- Produce procurement appears to be very decentralized for many foodservice companies as evidenced by the vast supplier network reported by a number of companies. Often, produce procurement is the responsibility of the management of an individual outlet, not a headquarter function.
- Foodservice executives appear to utilize local suppliers for individual commodities and selected specialty items, and national full-line produce suppliers for a broad spectrum of high volume products.
- Foodservice executives rely heavily on a supplier's reputation when selecting a "preferred" supplier. Apparently implicit within the definition of "reputation" is "quality."
- One stop shopping is not nearly as important to foodservice executives as a firm's ability to provide adequate supplies to meet immediate demand.

Grower/Shipper Benchmarks: Empirical Results and Perspectives

In this section, benchmarks are provided for the growing (and packing) and shipping components of the fresh produce system. Since crop production information and pricing statistics are already well documented in various federal reports and state departments of agriculture, the main focus of our grower/shipper inquiries is on looking forward to “the market:” retail, wholesale and foodservice customers.

Profile of Respondents

Firms are grouped by size into small, small-medium, medium-large, and large using sales categories to provide additional insights into the responses to the FreshTrack survey. Based on size, companies responded differently to a number of questions and issues.

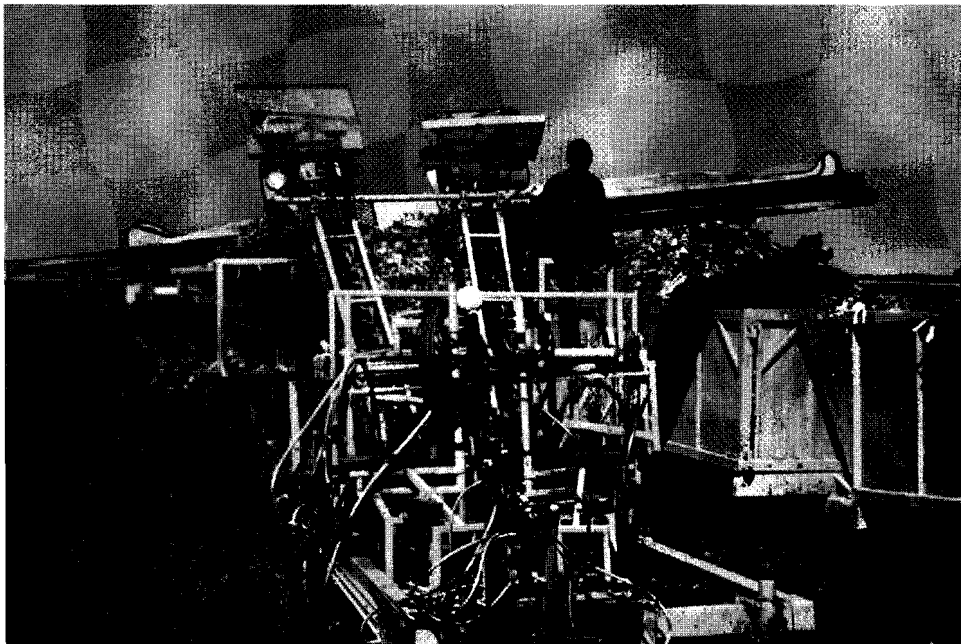


TABLE 6.1

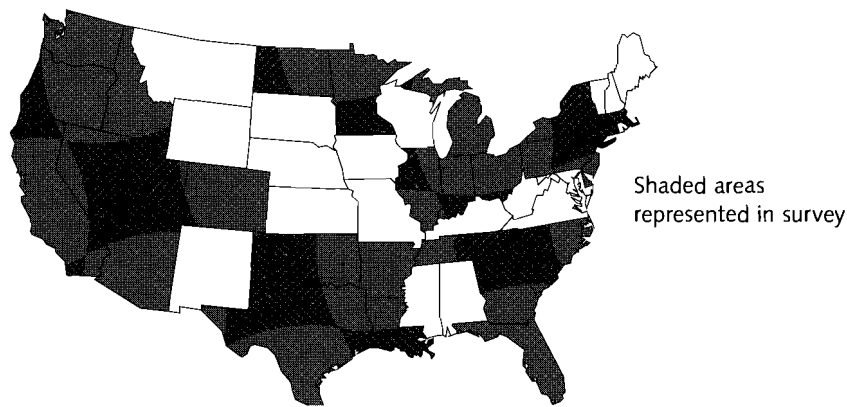
Response to FreshTrack 1997 Grower/Shipper Mail Survey

| | Mailed | Received | Response rate (%) |
|-----------------|--------|----------|-------------------|
| Grower/shippers | 577 | 255 | 44 |

Grower/shippers responded enthusiastically to the project sending in a total of 255 completed surveys for a response rate of 44 percent (Table 6.1). These firms represent all the major growing regions in the U.S. A total of 28 states are represented in addition to 3 Canadian provinces (Figure 6.1)

FIGURE 6.1

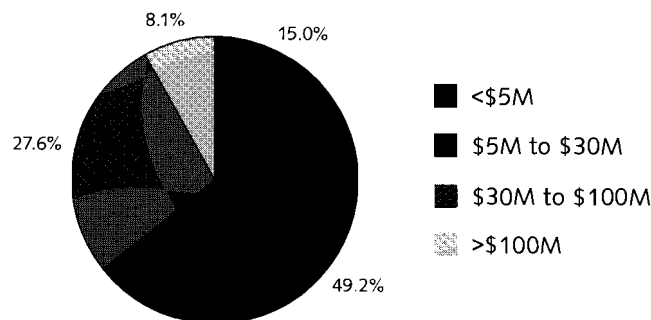
States Represented by Grower/Shipper Respondents



For the purposes of this study, grower/shippers have been segmented into their firm sizes. Half of the respondents indicated their company sales are from \$5 to \$29 million (Figure 6.2). The category with the next largest proportion of responses, 27.6 percent, is \$30 to \$100 million in company sales. Of the remainder, 15 percent of grower/shippers report annual sales below \$5 million and 8 percent with annual sales over \$100 million.

FIGURE 6.2

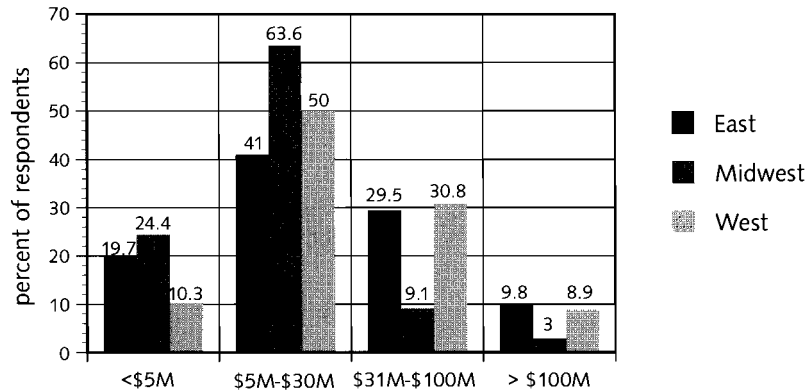
1996 Grower/Shipper Company Sales



Firms in the Midwest, a category which is comprised of all states between the east and west coastal regions (see Appendix B for geographical definitions), report smaller company sales: 88 percent have annual sales of less than \$30 million (Figure 6.3).

FIGURE 6.3

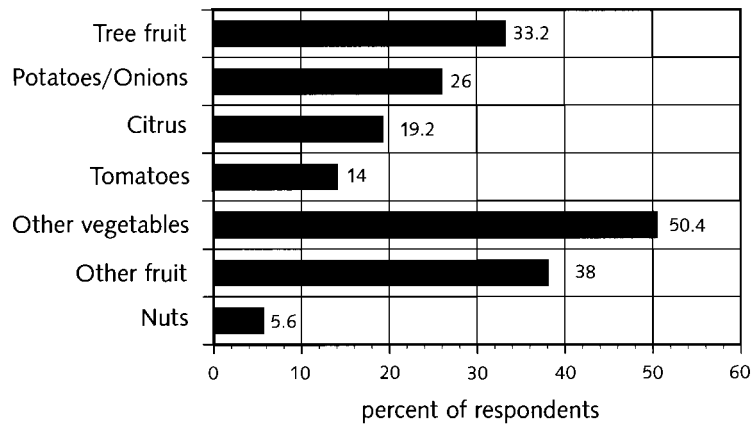
Grower/Shipper Company Sales, by Region and by Firm Size



All general classes of commodities were also represented by respondents. Sixty-three percent of firms sell fruit and 61 percent sell vegetables. Thirty-three percent of respondents indicate they specifically sell tree fruits, while 26 percent sell potatoes or onions (Figure 6.4). Citrus is sold by 19.2 percent of firms. Tomatoes are sold by 14 percent and nuts by 5.6 percent of grower/

FIGURE 6.4

Commodities Sold by Grower/Shipper Respondents



shippers. The commodity category “other vegetables” includes some of the major commodities such as lettuce and other wet vegetables along with melons and represents the category with the highest response of 50.4 percent of grower/shippers. The category “other fruit” was also checked by a large number of respondents, 38.0 percent, most likely as a result of containing grapes, the largest fruit crop produced in the U.S..

Not only do FreshTrack respondents represent all fruit and vegetable commodity classes, but many also sell produce from more than one commodity class and therefore represent firms with broad product lines. Grower/shippers selling tree fruits may also sell citrus or may sell grapes or even nuts. While 56.4 percent of the respondents sell commodities within one class only (i.e., limited-line suppliers), the remainder, 43.6 percent, sell from more than one class (i.e., multi-product suppliers).

In general, shipping point firms are less specialized. Respondents who sell both vegetables and fruit comprise 24 percent of our total sample, whereas the National Commission on Food Marketing in 1966 reported that in 1965, only 17 percent of shipping point plants handled both vegetables and fruit (Table 6.2).

TABLE 6.2

Shipping Point Plants Handling Fruit and Vegetables, 1955-1997

| Year | Percent handling fruit and vegetables |
|-------------------|---------------------------------------|
| 1955 | 19 |
| 1960 | 18 |
| 1965 | 17 |
| 1997 ¹ | 24 |

Source: National Commission on Food Marketing, *Organization and Competition in the Fruit and Vegetable Industry*. Technical Study No. 4, June 1966.

¹FreshTrack 1997 study.

Larger firms on the whole are less specialized than smaller firms judging from the percent of sales coming from the “top three commodities.” Combined, grower/shippers report an average of 82.1 percent of sales from their top three commodities. Only 72.8 percent of sales from the largest firms, however, are from the top three commodities, while 90.4 percent of sales from the smallest firms come from the top three commodities (Figure 6.5).

As grower/shippers grow in size and take on more packaging responsibilities, the number of items they carry increases as they handle more commodities, varieties, and package sizes. The average number of items carried by grower/shippers as a group is 49.6, however, the smallest firms only carried 21.7 items (Figure 6.6). The number of items carried increases with firm size, however, among the top three size categories, the number does not vary greatly.

Sales and Product Mix

Sales out of the packing shed historically were in bulk commodity form often in large, wooden or corrugated packing crates. Even currently, most sales to grocery stores are in a form that will require some handling by wholesalers or store

FIGURE 6.5

Percent of Grower/Shipper Sales from Top Three Commodities, by Firm Size

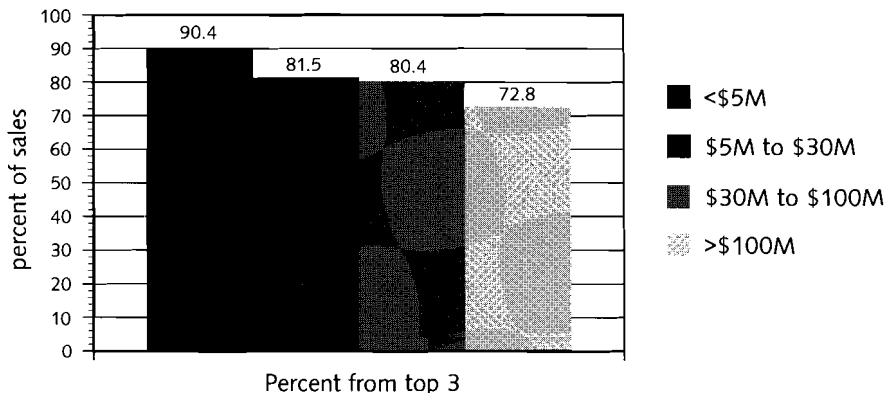
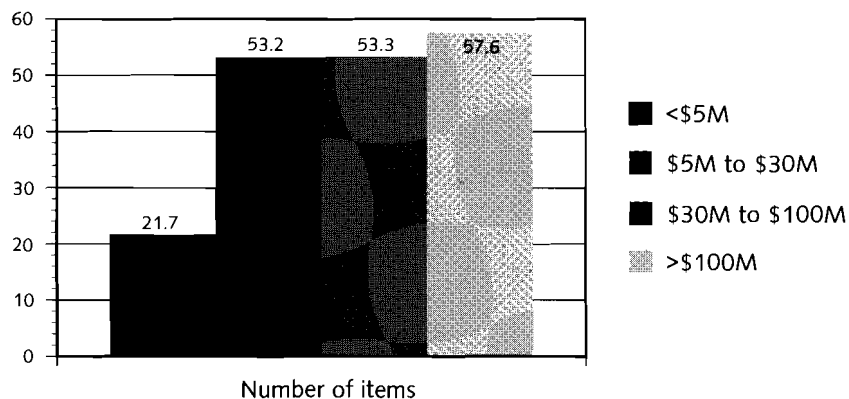


FIGURE 6.6

Number of Items Carried by Grower/Shippers, by Firm Size



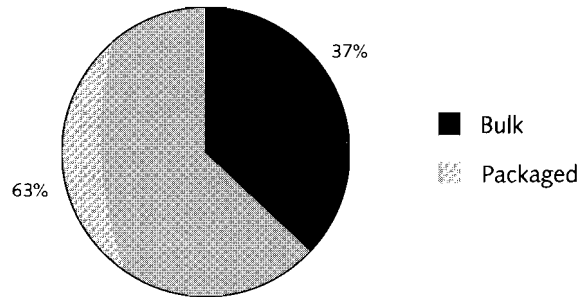
clerks to put on display on a retail shelf. However, more of the final consumer packaging displayed and sold on retail shelves is being performed at the shipping point.

Bulk sales constitute 36.9 percent of respondent sales with the remaining 62.8 percent from packaged sales: often these commodities are now washed and packed at shipping point with minimal future handling required (Figure 6.7).

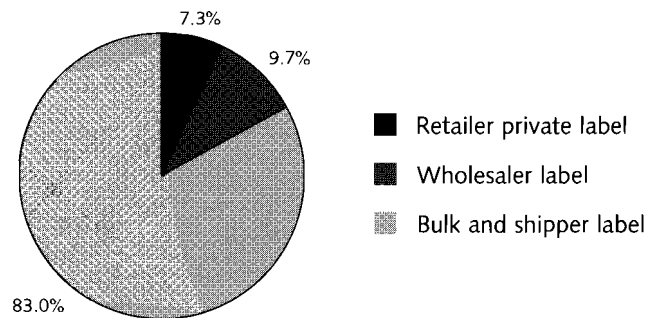
Produce items from the shipping point are sometimes labeled with either a retailer's private label or a wholesaler label. Interest in labeling as a means of identifying and distinguishing a product is somewhat controversial. Private labeling is often used by retailers to enhance the supermarket image while offering the shopper a better value. At shipping point, 7.3 percent of sales were already packed as retailer private label produce, while 9.7 percent of sales were packed and sold with wholesaler labels (Figure 6.8). All other sales are unlabeled bulk produce and shipper labeled.

FIGURE 6.7

Grower/Shipper Sales, Bulk Versus Packaged

**FIGURE 6.8**

Grower/Shipper Sales by Label Type



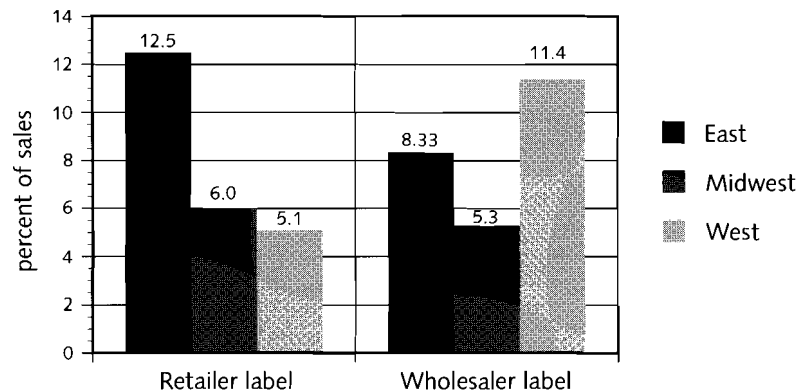
East coast shippers report that retailer private label is 12.5 percent of their total sales, more than the Midwest or West regions of the country which reported retail private label as being 6.0 and 5.1 percent of total sales respectively (Figure 6.9). Grower/shippers in the East region tend to ship mainly to markets in the eastern part of the country. Thus the greater percentage of their sales in private label can probably be explained by the relatively greater emphasis given to private label programs in the Eastern region of the country compared to the West and Midwest.

In the same vein, grower/shippers in the West region sell relatively more wholesale label (11.4%) than do the other regions of the country.

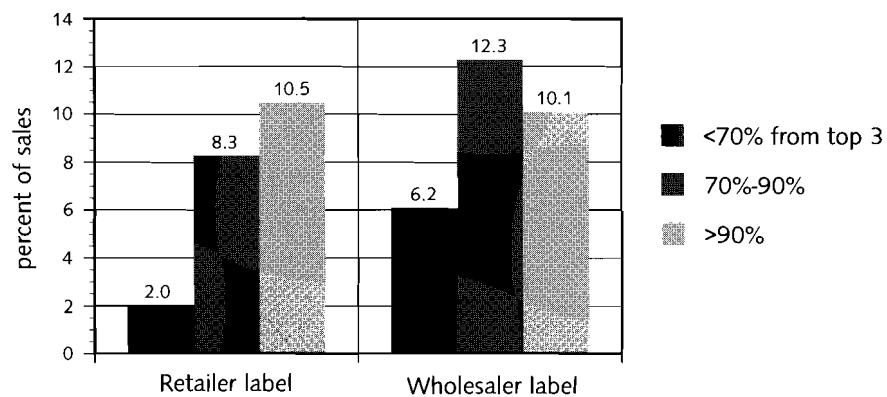
The amount of retailer and wholesaler labeling also appears to depend on the degree of product specialization. Companies which report greater specialization, or most of their sales from their top three commodities, also report selling a greater proportion of labeled product, both private label and wholesaler label than did the firms with broader product lines (Figure 6.10). In contrast, multi-product suppliers whose top three commodities represent less than 70 percent of their total sales, are branding their own products.

FIGURE 6.9

Grower/Shipper Sales of Labeled Produce, by Region

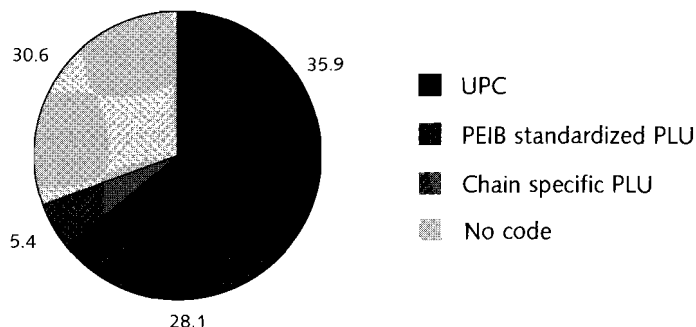
**FIGURE 6.10**

Grower/Shipper Sales of Labeled Produce, by Product Specialization

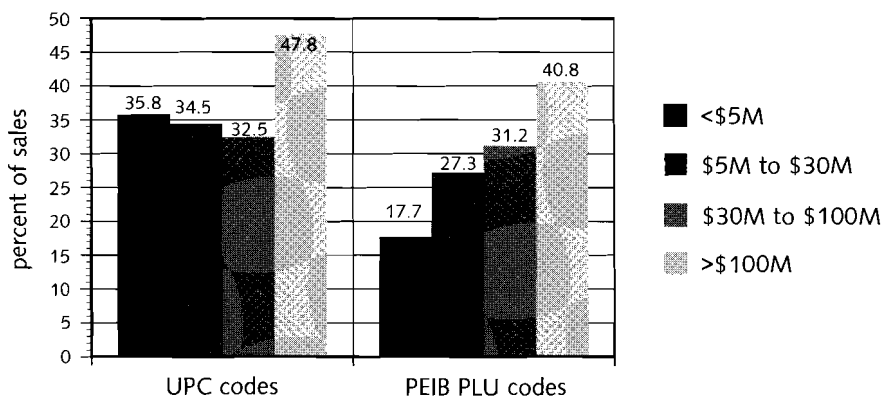


Much of today's retail UPC codes and almost all of PLU sticker codes are applied at shipping point. PLU coding challenges are compounded by the inventory management of the myriad of stickers in the system. Retailers and wholesaler customers often specify stickers identified with their own name and logo, with extra bold type for ease of data entry, or advertising and promotional stickers when placing an order. In addition, currently too few PLU numbers exist for the number of sizes, varieties, and grades of produce in the marketplace. So one retailer may ask for one particular PLU code on one size of produce item, while another retailer will request the same code on a different size or grade of the same product.

UPC codes are applied by grower/shippers more than other coding methods and comprise 35.9 percent of their sales (Figure 6.11). PEIB standardized PLU codes are applied to 28.1 percent and retail chain specified PLUs to only 5.4 percent of sales. Grower/shippers report that less than one-third of all sales today are not coded.

FIGURE 6.11**Grower/Shipper Sales by Coding Type**

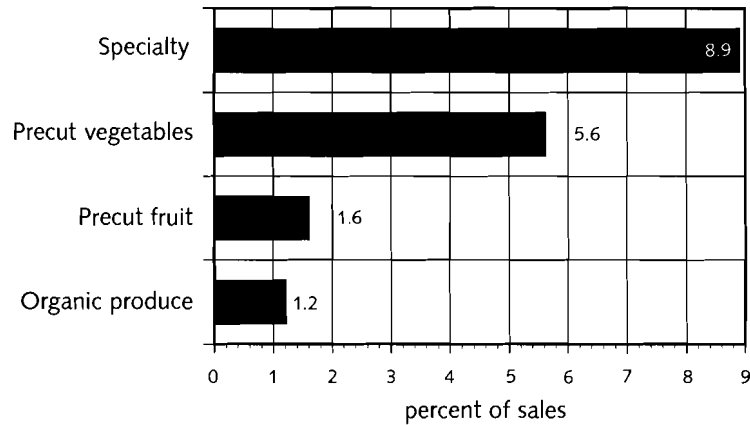
The added management and labor required for applying codes may inhibit smaller grower/shippers from competing with larger firms. Companies in the largest sales category report a greater portion of sales of UPC and PEIB PLU coded produce than do smaller firms (Figure 6.12). The ability of the larger firms to perform coding services more efficiently may not be the only reason for this trend. Larger firms may also be supplying more of the clientele demanding these services, primarily larger retail chains.

FIGURE 6.12**Grower/Shipper Sales of Coded Produce, by Firm Size**

Consumer demand for more variety and greater convenience has percolated through the industry, and grower/shippers are taking advantage of the attendant marketing opportunities. New consumer friendly packages along with certain non-traditional produce such as organics and specialty produce are now part of grower/shipper production and sales departments. The largest proportion of these non-traditional produce items are from specialty produce which are reported to be 8.9 percent of total produce sales (Figure 6.13). Precut vegetables are the next largest segment of non-traditional items. Other sales are: 1.6 percent precut fruit and 1.2 percent organic produce.

FIGURE 6.13

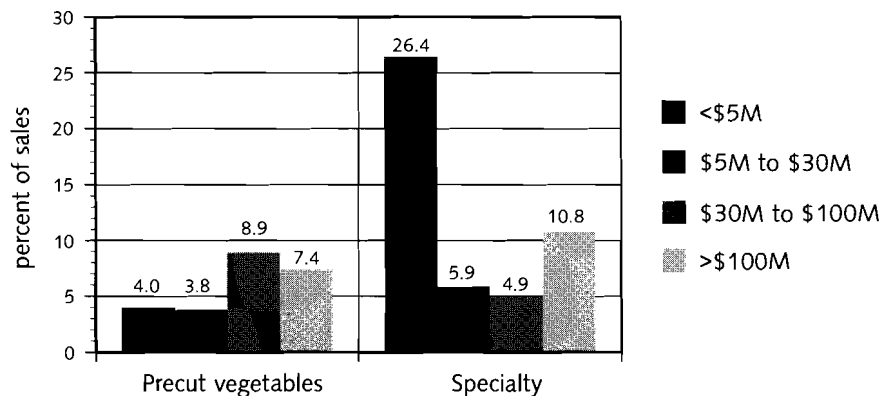
Grower/Shipper Sales of Non-Traditional Produce



Sales of certain non-traditional produce items is a function of firm size. Precut vegetables require considerable added equipment and labor. It is therefore not surprising that respondents with medium-to-large and large sales report greater precut sales than other respondents (Figure 6.14). Specialty sales also depend on firm size but the relationship is the reverse of that between precut and firm size. Small firms report more specialty sales (26.4% of total produce sales)

FIGURE 6.14

Precut Vegetable and Specialty Produce Sales, by Firm Size



than did any of the other size firms (Figure 6.14). The small volume requirements of specialty items appear to create opportunities for these smaller grower/shippers, as the advantages of economies of scale that accompany many large volume commodities do not appear to be as great with producing and marketing specialty produce.

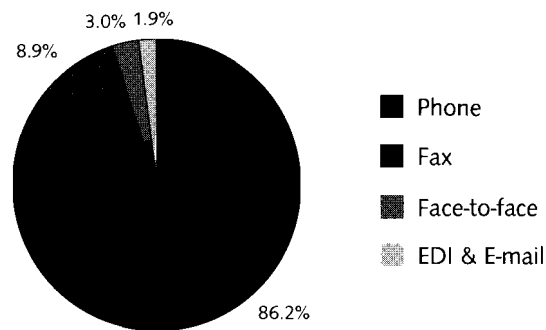
Operations

Sales

Grower/shippers still rely on the telephone as their primary method of sales transaction. FreshTrack 1997 respondents report using the phone for 86.2 percent of their sales with an additional 8.9 percent of their sales transacted by fax (Figure 6.15). Face to face sales are still used 3.0 percent of the time, and EDI and e-mail combined are used approximately 2 percent of the time.

FIGURE 6.15

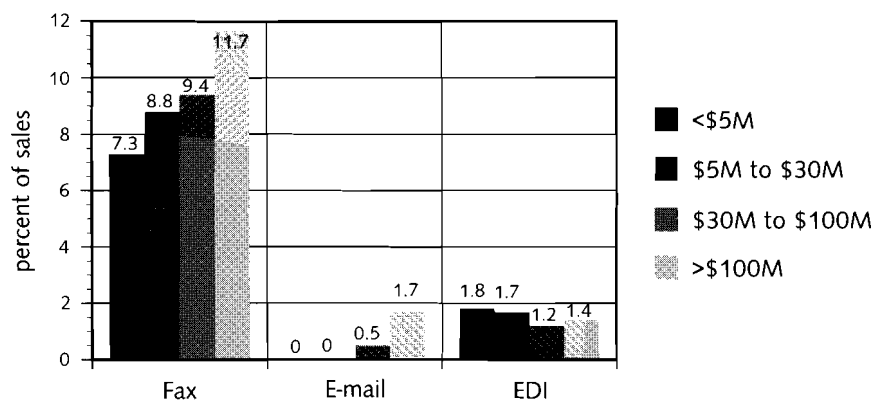
Methods of Grower/Shipper Sales Transactions



The use of fax, EDI and e-mail vary somewhat according to firm size. As firm size increases, the use of fax to transact sales increases (Figure 6.16). In addition, the use of e-mail increases modestly, perhaps due to the increased use of computers and computer marketing within the larger firms. Interestingly, although not well adopted by any grower/shipper group, EDI is used as frequently by smaller firms as by larger firms.

FIGURE 6.16

Alternative Grower/Shipper Sales Methods, by Firm Size



The use of EDI by relatively smaller firms may be explained by firm specialization. In general, the smaller the firm, the more specialized. It is logical that a more limited range of product makes standardization and EDI easier to implement. EDI is also used more frequently by more specialized firms than less specialized firms (Figure 6.17).

FIGURE 6.17

EDI as Grower/Shipper Sales Method, by Product Specialization

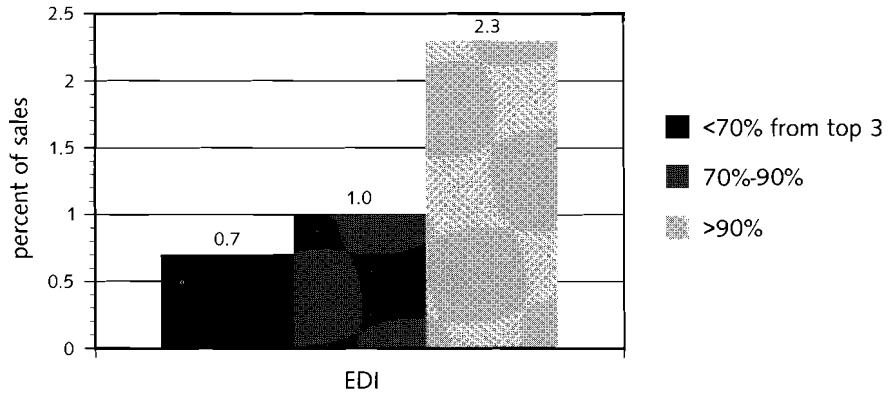
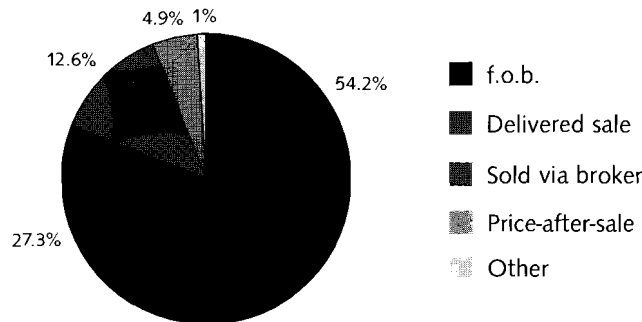


FIGURE 6.18

Grower/Shipper Terms of Sale



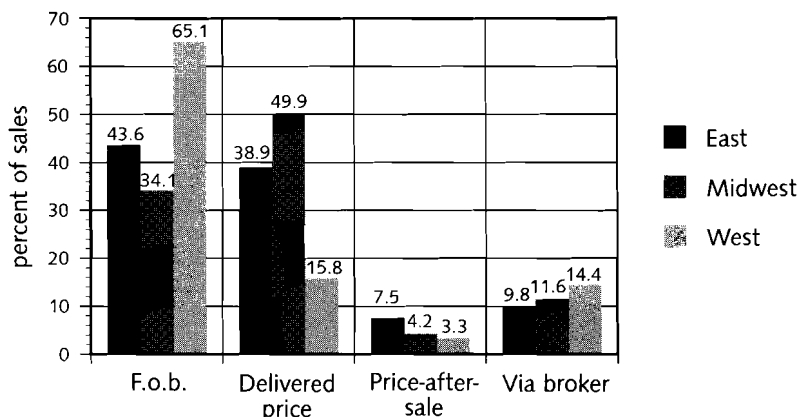
Sales Terms

Grower/shippers report the majority of sales (54.2%) were made employing f.o.b. pricing where all responsibility for transportation cost and, in general, for arranging for transport belongs to the buyer. Delivered sales, where the sellers are responsible for transport charges and quality assurance to the buyers' docks, account for an additional 27.3 percent of grower/shipper sales. Sales made through brokers account for 12.6 percent of sales, and price-after-sale pricing accounts for 4.9 percent of sales.

Preferences for terms of sale vary by region. In general, firms in the West region appear to employ f.o.b. pricing more than other regions (Figure 6.19). This may be due to the fact that some shippers in the West do not want to take the risk and responsibility for trucking long distances to Midwestern and East-

FIGURE 6.19

Grower/Shipper Sales Terms, by Region



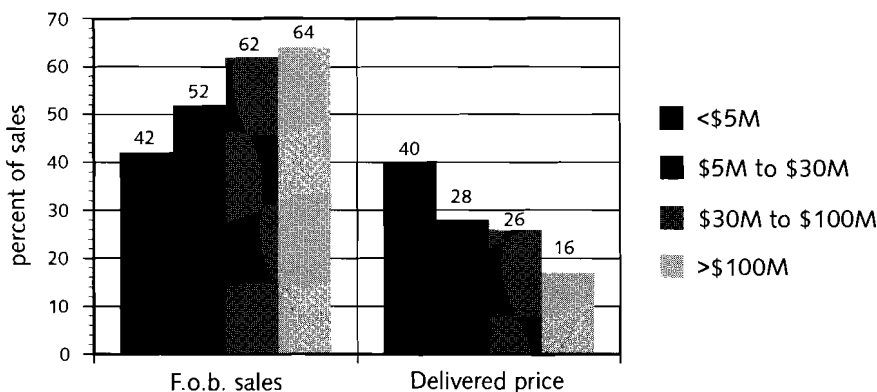
ern markets which account for the majority of their sales. This disinclination for taking responsibility for transport charges and quality assurances is also illustrated by the fact that Western grower/shippers use delivered price less frequently than other regions.

Western firms also utilize brokers more than other regions, using them for 14.4 percent of their sales. Again, because Western shipping points are located across the country from many major markets, brokers, often familiar with local markets, may be used more heavily in order to facilitate shipments from distant production areas.

Preferences for f.o.b. sales versus delivered price sales also appear to vary by firm size. Smaller firms report using more delivered price sales than do larger firms, and conversely, larger firms report using more f.o.b. sales than do smaller firms (Figure 6.20). Although it is not clear why these preferences exist, some

FIGURE 6.20

Grower/Shipper Sales Terms, by Firm Size

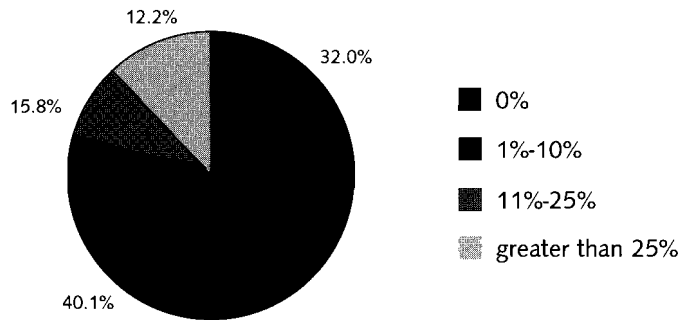


in the industry have suggested that one explanation may lie in larger suppliers' tendency to take fewer risks with the dramatic swings in transport prices that can exist as a function of the seasonal supply and demand of trucks.

Selling arrangements can also include the use of price contracts which generally employ an agreed price and/or quantity often at specified quality conditions for a specified length of time. Although thirty-two percent of grower/shippers report not using contracts at all, 40.1 percent report using them for between 1% and 10% of their sales (Figure 6.21) and another twenty-eight percent said they use them for more than 10 percent of their sales.

FIGURE 6.21

Grower/Shipper Sales Made by Contract Pricing

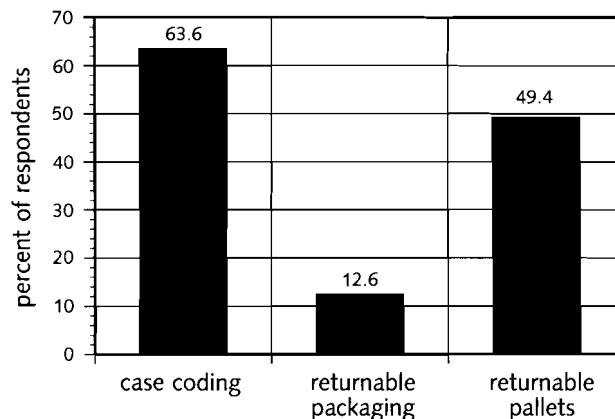


Distribution

Distribution efficiency and logistics are critical components of the fresh produce system. One example of a logistics mechanism is, case coding, used to facilitate handling and inventory flow management. Case coding is currently being implemented in the fresh produce industry, and according to industry responses, the grower/shipper sector is in the process of embracing case coding. Well over half (63.6%) of grower/shipper respondents use case coding (Figure 6.22).

FIGURE 6.22

Grower/Shipper Use of Case Coding and Returnables

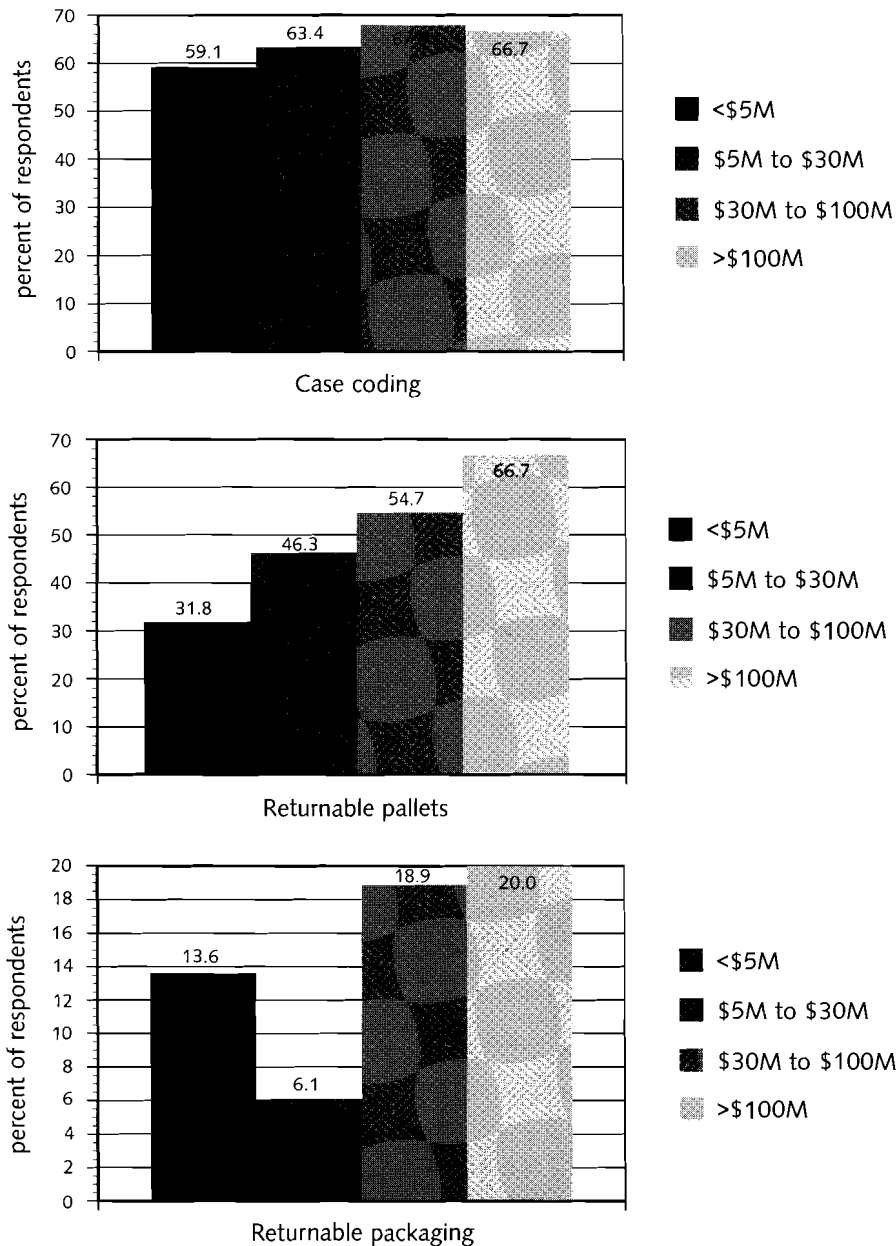


Returnable pallets and returnable packaging offer advantages to the industry by offering standardized sizes and forms or by offering durable packaging which can be returned to shipping point and reused. Returnable pallets have apparently been accepted more successfully by the industry—perhaps because of their ease of handling—than returnable packaging. Forty-nine percent of grower/shippers use returnable pallets while only 12.5 percent said they use returnable packaging (Figure 6.22).

The acceptance of case coding, returnable pallets and returnable packaging appears to be dependent on firm size. Larger firms, in general, use the newer distribution materials more than smaller firms (Figure 6.23).

FIGURE 6.23

Grower/Shipper Use of Case Coding and Returnables, by Firm Size

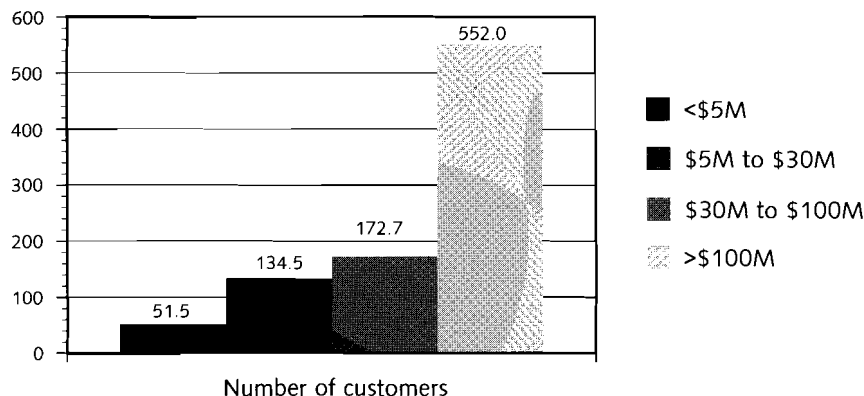


Customers

Knowing the value of individual customers has become increasingly necessary for effective strategic marketing. The grower/shipper sector reports an average of 166 customers per company. But this number varies considerably depending upon the size of the firm. The number of customers per company range from 52 for small firms to 552 for large firms (Figure 6.24).

FIGURE 6.24

Number of Grower/Shipper Customers, by Firm Size

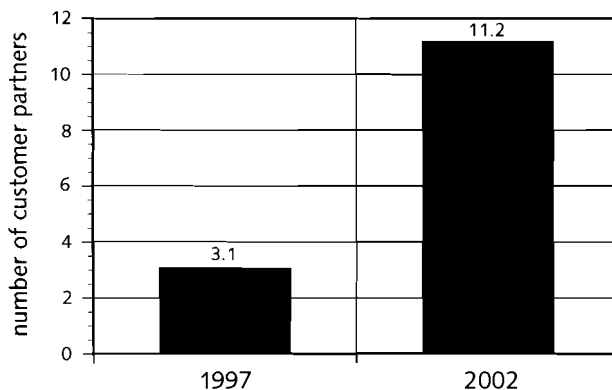


Grower/shippers report 57.5 percent of their total sales go to their top ten customers. This number does not vary significantly by firm size, specialization or region.

Partnerships are being defined and developed between supermarket retailers and their suppliers to streamline logistics and coordinate efficient responses to consumer demands. In this study, a partnership is defined as a “formalized business commitment with joint objectives where confidential information is shared.” Our respondents say that in 1997 they have an average of 3 partnerships with their customers (Figure 6.25). By 2002, however, they forecast this number to increase to 11 partnerships.

FIGURE 6.25

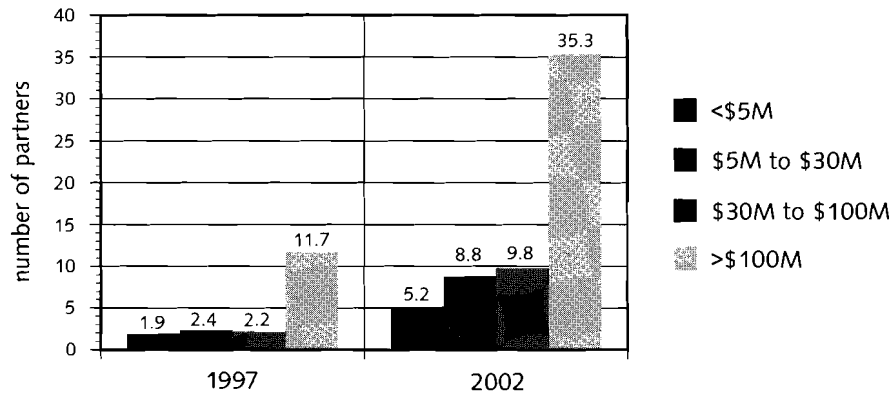
Number of Grower/Shipper Partnerships with Customers



In general, the number of customer partnerships increases as the size of firm increases (Figure 6.26). One reason may be that larger firms have more customers and therefore more opportunities to establish partnerships. In addition, larger firms have more resources with which to commit the time and energy to

FIGURE 6.26

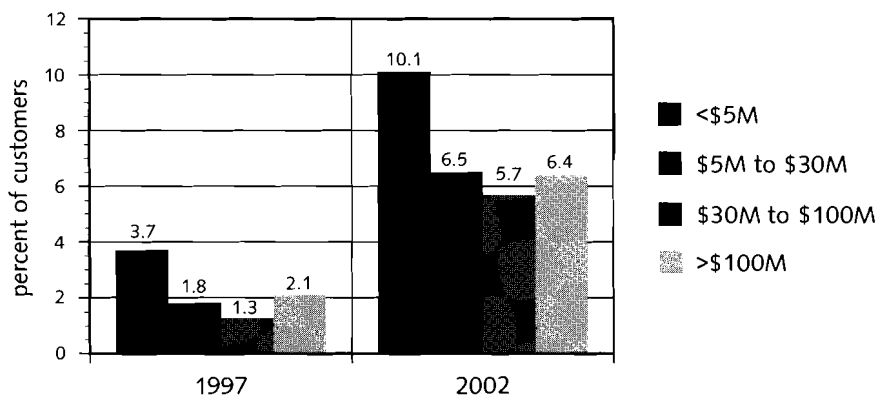
Grower/Shipper Partnerships, by Firm Size



implement and maintain partnership arrangements with other firms. However, when the number of partnerships is divided by the number of total customers and put on a percentage basis, smaller firms actually have a greater relative number of partners than larger firms (Figure 6.27).

FIGURE 6.27

Grower/Shipper Partnerships by Percentage of Customers, by Firm Size



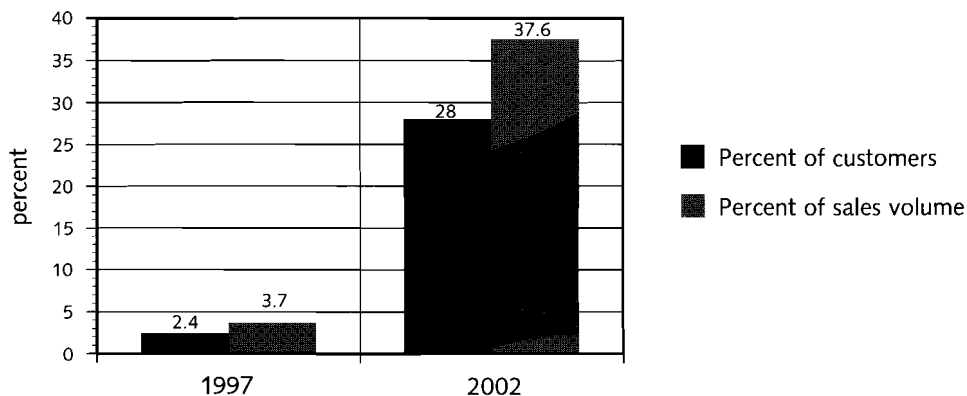
Electronic Data Interchange (EDI) is the exchange of data with suppliers or customers for purchasing, invoicing, inventory control, forecasting, and/or deliveries that is made through a computer to computer interchange. This system of information exchange can be used to increase speed and productivity, elimi-

nate paperwork, duplicate entries, and errors. Partnerships and EDI are both used to help streamline the costs of making produce purchases and, in many cases, are used in tandem with each other.

Grower/shippers report that they currently use EDI with only 2.4 percent of their customers but anticipate using it with 28.0 percent by 2002 (Figure 6.28).

FIGURE 6.28

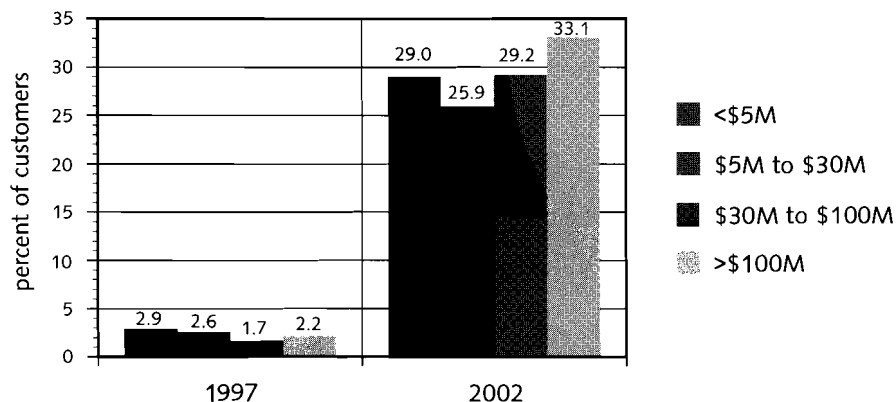
Grower/Shipper Customers and Sales Volume Using EDI, 1997 and 2002



The percentage of volume of sales using EDI is slightly higher than the customer rate, indicating that the customers using EDI in conjunction with grower/shippers in general will be the larger customers (Figure 6.28). Larger companies are currently implementing EDI at a greater rate than smaller companies, however, by 2002, companies of all sizes anticipate using EDI at similar levels (Figure 6.29).

FIGURE 6.29

Grower/Shipper Customers Using EDI in 1997 and 2002, by Firm Size



Evaluation of Customer Characteristics

Grower/shippers' customers possess certain characteristics which may vary according to the type of business the customer is in. These characteristics are important to grower/shippers who may then plan their sales strategies according to which characteristics are performed well by which customers. To understand these characteristics and how customers perform according to the type of business they are in, respondents were asked to rank each customer firm type on various customer characteristics. Respondents ranked the customer types from 1 to 5; where 1 is the customer type with the "poorest performance" and 5 is the "best."

For convenience, characteristics are grouped into four categories: business conduct, product movement, market knowledge and innovation, and prices and payment. In general, grower/shippers appear to express a higher level of satisfaction with the performance of large chains and smaller retailers than with other buyer categories.

Large chains and small retailers ranked very well in business conduct characteristics. Conversely, brokers are ranked poorest in terms of business conduct (Table 6.3). Wholesalers perform well in product movement, offering the abil-

TABLE 6.3

Evaluation of Customer Characteristics, by Firm Type¹

| Customer Characteristic | Large chain | Small retailer | Food-service | Wholesaler | Broker |
|---|-------------|----------------|--------------|------------|--------|
| Business Conduct | | | | | |
| Easy to conduct business with | 3.35 | 3.69 | 3.07 | 3.28 | 3.03 |
| Contributes to my firm's profits | 3.78 | 3.60 | 2.91 | 3.04 | 2.63 |
| Offers EDI | 3.96 | 2.76 | 2.69 | 2.15 | 1.93 |
| Provides regular orders | 3.90 | 3.63 | 3.23 | 3.41 | 2.90 |
| Product movement | | | | | |
| Ability to move surplus product | 3.00 | 2.74 | 2.09 | 3.79 | 3.51 |
| Willing to accept multiple quality standards | 2.05 | 2.71 | 2.51 | 3.82 | 3.28 |
| Market knowledge and innovation | | | | | |
| Innovative | 3.57 | 3.72 | 2.93 | 2.65 | 2.43 |
| Willing to try new ideas/products | 3.34 | 3.72 | 2.98 | 3.04 | 2.65 |
| Knowledgeable about product care and handling | 3.47 | 3.39 | 3.36 | 3.60 | 2.65 |
| Knowledgeable about local markets | 3.18 | 3.58 | 2.83 | 3.98 | 3.35 |
| Prices and Payment | | | | | |
| Flexibility in ad pricing | 3.27 | 3.86 | 2.55 | 3.03 | 2.83 |
| Pays good price | 3.59 | 3.79 | 3.45 | 2.76 | 2.45 |
| Pays promptly | 3.80 | 3.73 | 3.35 | 3.00 | 2.76 |

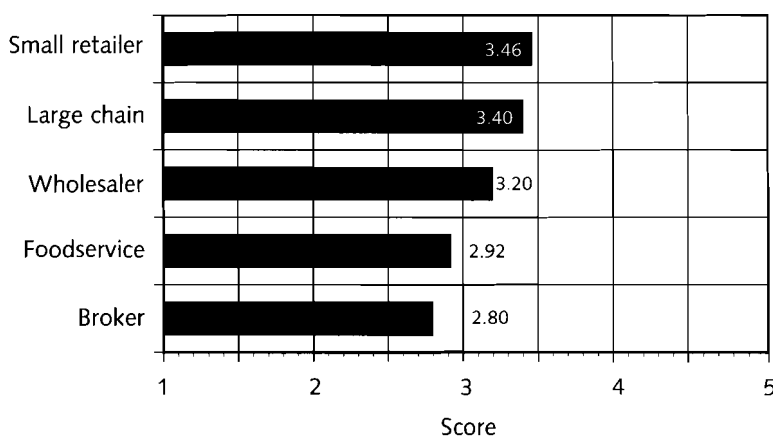
¹ Firm types ranked from 1 to 5; where 1 = "poorest performance" and 5 "best performance."

ity to handle surplus product and multiple quality standards, while foodservice does not perform as well in this category. Small retailers are perceived as the most innovative while wholesalers are most knowledgeable about product care and handling and also about the local market. Prices and payments are seen as being handled best by retailers, both large chains and small retailers.

Individual characteristic rankings are averaged by firm type, and the differences in rankings among firms are not large. The firm type that grower/shippers rank with the overall best performance, according to the characteristics provided in this survey, is small retailers with an overall ranking of 3.46 (Figure 6.30). Large chains are ranked second with a score of 3.40, with wholesalers ranking 3.20, foodservice 2.92, and brokers 2.80. Interestingly, brokers rank last among customer types in 10 out of the 13 characteristics assessed in this study.

FIGURE 6.30

Average Rankings for Customer Characteristics by Customer Type



Summary

The growing, packing and shipping sector of the fresh produce industry is composed of companies producing and selling a variety of crops. Their market sales, operations and activities vary depending on firm size, specialization, and region of production. Therefore, averages reported here need to be considered according to respondent type.

Grower/Shipper Profile

- The largest portion of grower/shipper respondents have 1996 annual sales of \$5 million to \$29 million with 63 percent of these firms selling fruit and 61 percent selling vegetables. Midwest firms are smaller in general than East coast or West coast firms.
- Producers and shippers are becoming less specialized. Many grower/shippers today are multi-product suppliers that sell produce from more than one commodity class. Larger grower/shippers are less specialized on aver-

age than the smaller firms as perhaps the opportunities for growth have been in product line expansion rather than increases in production of individual crops.

- More of the packaging function is being performed at the shipping point to the extent that bulk sales, traditionally in commodity form often in large, wooden or corrugated packing crates, only constitute 36.9 percent of grower/shipper sales. The rest of the sales are packaged in some form of final consumer packaging or in display ready cartons.
- Produce branding is currently subject to much debate. Retailers have not yet extended many of their private label programs into the produce department. Therefore only a small part, 17 percent, of grower/shipper sales are labeled with something other than the grower/shipper label or with no label at all. Eastern grower/shippers sell more private label than their counterparts in the Midwest or West due presumably to the greater emphasis in private label programs in Eastern retail stores.
- Despite the difficulties inherent in current UPC and PLU coding, grower/shippers report that less than one-third of all sales today is uncoded. Compliments go to this sector of the fresh produce industry for implementing the challenging task of managing label inventories and applying labels, often by hand, to the variety of products, varieties, sizes and grades, and packages.
- While UPC codes are often printed on bags or shrink wrapped produce, PLU numbers are often applied by sticker to individual product or by twist ties around certain wet vegetables. The added labor and management for coding may inhibit smaller firms from competing with larger firms. Smaller firms reported fewer sales of coded product than larger firms, and this was particularly apparent with sales of PEIB/PLU coded product.

Operations

- Technology has infiltrated many segments of grower/shippers' operations. Larger firms are increasingly implementing fax and e-mail for some sales transactions, and interestingly, even smaller firms have begun to implement EDI, although very few companies of any size have adopted it to a great extent.
- EDI, or electronic data exchange, is only used with 2.4 percent of grower/shipper customers, however, by 2002 companies forecast using it with up to 28 percent of their clientele. Although larger firms are currently implementing EDI with more of their customers than smaller firms, this difference is forecast to disappear by 2002 with all size firms forecasting use of EDI at similar levels.
- In addition, EDI will be used more likely with larger customers as grower/shippers report that sales volume use is slightly greater than customer use.
- Preferences for terms of sale vary both by firm size and by region. In general, smaller firms appear to prefer more delivered price sales than do larger firms, whereas, conversely, larger firms reported using more f.o.b. sales than do smaller firms. Western firms employ f.o.b. sales more than other regions, possibly due to the fact that Western shippers' preferences for minimizing risk and responsibility for shipping long distances to Mid-

western and Eastern markets. Western firms also utilize brokers more frequently, again possibly due to the long distances between production areas and the Midwest and East coast markets with which local brokers are often more familiar.

Customer Relationships

- Over fifty percent of grower/shipper sales are accounted for by their top ten customers pointing to the importance of customer relationships necessary for effective marketing and sales. In general, the number of partnerships increases as firm size increases possibly due to the fact that larger firms have more customers and more opportunities to establish partnerships but also due to the fact that larger firms may have more resources to commit to developing and maintaining partnership arrangements.
- When viewing the *proportion* of customers with which firms have partnerships, smaller firms actually have proportionately more formalized customer partners than larger firms.
- Grower/shippers evaluated specific customer characteristics as they relate to grower/shipper needs for sales and profitability. Respondents indicate that particular customer groups or business types satisfy different grower/shipper needs and therefore are preferred customers under certain situations. Overall, the performances of large chains and small retailers are preferred over those of wholesalers, foodservice and brokers. Brokers rank last among customer types in 10 out of the 13 characteristics assessed in the study.

Systemwide Implications and Conclusions

This study has reported on one of the most comprehensive primary data collection efforts ever conducted in the fresh produce industry. In the preceding sections, research findings were presented individually for four separate segments of the fresh produce industry: retailer, wholesaler, foodservice and grower/shipper. Produce professionals from over 540 different companies completed a mail survey designed to document a series of operational, marketing and performance benchmarks for the fresh produce industry. In addition, dozens of produce industry members were interviewed to elicit their views, perspectives and interpretation of the survey results.

It is the intent of this project to monitor these benchmark measures over time to assist managers at all levels of the produce industry in gauging where their firms stand in relation to their customers, suppliers and competitors. Such information is essential in the development of business plans for the future.



In this section of this report, a number of themes, isolated in earlier sections for individual companies or segments of the industry, will be integrated into a more cohesive systemwide view. Moreover, major issues and conclusions from the study will be highlighted.

Systemwide Product Management

The number of produce items carried by virtually all firm types has expanded dramatically in recent years. FreshTrack 1997 data indicate, for example, that retailers today carry 507 different items in the average supermarket produce department, up from only 65 items in the 1960's (Table 7.1). Although, on average, produce wholesalers carried slightly fewer items than did retailers, the range of wholesaler's response range was broader: several produce wholesalers reported over 2000 different products, with one extreme respondent reporting 4233 produce SKU's (Table 7.1). While geography, climate and other cultural production constraints generally limit the breath of offerings of grower/shippers relative to their broader-line customers, they still report an average number of 50 distinct product offerings. Several reported over 500 SKU's in their product lines, hardly a profile of the limited-line grower/shipper of a generation ago.

TABLE 7.1

Number of Products Carried, by Firm Type

| Firm Type | Total Produce Items | Range | Locally Sourced Produce |
|----------------|---------------------|---------|-------------------------|
| Foodservice | 62 | 4-250 | 28 |
| Retailer | 507 | 55-1100 | 84 |
| Wholesaler | 429 | 1-4233 | 109 |
| Grower-Shipper | 50 | 1-950 | — |

Of course, fueling the growth of product lines at wholesale-retail level are the new products introduced by various types of suppliers. In 1996, retailers added an average of 58 produce items to their retail produce shelves, an increase of 13.4 percent over the preceding year (Table 7.2). Wholesalers were more aggressive than retailers: they added 119 new products to their existing lines for an increase of slightly over 30 percent.

New Products. Moreover, retailers have, at least since 1990, continued to add fresh products at the expense of non-fresh. In 1996, for example, while nearly 60 percent of retailers' new products were in the fresh form, only about 47 percent of wholesalers' new product additions were fresh. (Table 7.2). Some have suggested that wholesalers' addition of non-fresh products might be a natural attempt to extend their businesses in new directions in response to the gradual decline in their traditional business base selling to grocery retailers.

TABLE 7.2

New Item Introduction by Firm Type

| Firm Type | Fresh Produce | Other Non-Fresh | Total |
|------------|---------------|-----------------|-------|
| Retailer | 34 | 24 | 58 |
| Wholesaler | 24 | 27 | 51 |

Labeling. All firms were asked about their produce labeling practices. The industry results may be found in Table 7.3. Here several systemwide trends are evident. (First, “unlabeled” and shipper-label produce, including other “brands,” still dominate the commodity-based industry.) Firms report between approximately three-quarters to over 80 percent of all their sales have either no label at all or a shipper brand only. The remaining sales are split roughly between about 5 to 6 percent of sales in retailer labels and 21 to 22 percent in various wholesaler labels, including the labels of some general-line grocery wholesalers, thus while considerable trade press has been generated about the rapid growth in retail private label sales of fresh produce, as an industry, retail private label sales still only account for a small fraction of overall industry sales.

TABLE 7.3

Produce Labeling by Firm Type

| Firm Type | Retail Label | Wholesaler Label | Grower/Shipper and No Label | Total |
|----------------|--------------|------------------|-----------------------------|-------|
| Retailer | 6.4 | 21.5 | 72.1 | 100 |
| Wholesaler | 5.5 | 21.8 | 72.6 | 100 |
| Grower/Shipper | 7.3 | 9.7 | 82.9 | 100 |

Retail private labels can, theoretically, be applied almost anywhere in the distribution system. This statement appears to be borne out by the evidence in Table 7.3 where the same range of retailer, wholesaler and grower-shipper sales are “retail label.” That is, about 7 percent of grower/shipper sales have already been packed in the private label packages of their retail customers. However, this practice appears to be less true for wholesaler labels. Less than half of what is ultimately generated as wholesale label sales at retail levels is actually packed by grower/shippers, indicating that wholesalers do most of the packaging for their own labels. This may be explained by relative labor rates between the three sectors and it may also have to do with wholesaler efforts to develop more of a controlling interest in creating their own brand “consumer franchise,” a strategy generally out of reach for all but the largest grower/shippers.

Package Type. A decade ago, industry pundits were quick to attribute the surge of produce sales to the emphasis being placed on “bulk” produce in retail merchandising across the country. Today, the industry appears to have re-evaluated the wisdom of the bulk strategy, perhaps with the advent of new, high-performance packaging technology. Retailers, for example, report less than three-quarters of all their sales in bulk form and wholesalers only a little more than half, as a growing percentage of both of their sales are in packaged and precut forms (Table 7.4). Indeed, nearly two-thirds of grower/shipper sales are in some form of “package.” Of course, it is important to point out that some of what grower-shipper respondents meant when they checked “packaged sales” on our research survey may well have been “packaged in a secondary shipping carton,” not in retail packages.

TABLE 7.4

Produce Sales, by Package, by Firm Type

| Firm Type | Bulk | Packaged/Precut | Total |
|--------------------------|------|-----------------|-------|
| Foodservice ¹ | 65.0 | 35.0 | 100 |
| Retailer | 72.8 | 27.2 | 100 |
| Wholesaler | 53.6 | 46.4 | 100 |
| Grower/Shipper | 36.9 | 62.8 | 100 |

¹Data for foodservice refer to purchases, not sales.

Pricing. Product pricing practices tend to differ widely by industry sector as a function of package size, display practice, labor structure, the ways by which value added features and services are calculated and the ultimate allocation of fixed and variable costs. The standards of industry pricing differ such that comparisons of certain sectors, e.g., foodservice and agricultural production, are meaningless. This is all the more true as product identity changes dramatically between the two sectors. In an approximate way, however, the gross margin calculations of produce wholesalers and retailers may be compared. Table 7.5 illustrates that the mean gross margin as a percent of total sales for produce in the supermarket department is 32.5 percent, after accounting for shrinkage and loss. This is nearly twice as high as gross margin of produce wholesalers.

Several important qualifications must be made before concluding that, based on this single statistic, retailers are twice as profitable as wholesalers. First, gross margin is the difference between what retailers charge consumers for a particular product and what they pay suppliers for the same product. All costs, fixed and operating, must be covered by this difference. It is no secret that retailers' fixed costs are far greater than that of the average wholesaler when considering such cost centers as numbers of personnel, operating hours, expense of refrigerated coolers, size of distribution centers, real estate, liability insurance, advertising and public relations and consumer research. Secondly,

TABLE 7.5**Gross Margin Comparison**

| Firm Type | Average Gross Margin | Range |
|--------------|---------------------------|-------|
| | <i>-percent of sales-</i> | |
| Retailer | 32.4 | 11-43 |
| Wholesaler | 15.0 | 1-90 |

most wholesalers, by definition, must re-sell their produce to some type of retailer who, in turn, marks up the product again before the final consumer sale. Margins, and therefore prices, are constrained from rising further without dampening consumer demand and sales.

Further, while on average, retailers have gross margins higher than the average wholesaler, the ranges of reported margins differ considerably. Supermarkets tend to have margins relatively tightly clustered around the mean (32.4 percent) with a dispersion from only 11 to 43 percent. Some wholesalers, by contrast, have margins far in excess of 50 percent of their final sales. These wholesalers tended often to engage in a significant amount of processing (eg. juice making). Finally, it is especially misleading to examine wholesale and retail gross margins and compare them to gross margins of grower/shippers. Not only do the cost structures, and time horizon differ radically but also wholesalers and retailers use an accounting convention where gross margin is reported as a percentage of sales whereas most production agriculture enterprises reports gross margin as a percentage of cost. Of course, this practice understates growers' percentage margins compared to those of wholesalers and retailers.

Issues of Systemwide Coordination

Despite enormous leaps in quality improvement in the produce industry in recent years—assisted both by better management methods and improved technologies—several proximate measures for systemwide quality continue to be disturbing. First, operators report that shrinkage ranges between 3.6 percent and nearly 12 percent of their sales (Table 7.6). These estimates are consistent with prior research conducted over the past twenty years. Although it is incontestably true that the volumes of products moving through the distribution channels have expanded greatly over the last two decades, it is perhaps surprising not to see these shrinkage numbers decline. Calculating the approximate dollar values of shrinkage losses produces a number that nears \$12 billion annually. This is without counting losses at grower/shipper level or plate losses in the home. Clearly this dilemma points to an area where remedies are needed. Are there lessons to be learned, for example, from retailers' distribution centers where loss levels are apparently significantly below the warehouses of others in the produce distribution channels?

TABLE 7.6

Produce Shrinkage and Rejection by Firm Type

| Firm Type | Shrinkage | | | Rejections |
|-------------|---------------------------|--------|-------|------------------|
| | Warehouse | Retail | Total | |
| | <i>-percent of sales-</i> | | | |
| Foodservice | 4.9 | 6.2 | 11.1 | 6.8 |
| Retailer | 1.2 | 6.7 | 7.9 | 3.5 |
| Wholesaler | 3.6 | — | 3.6 | 5.3 ¹ |

¹ Reconsignments.

Shrinkage/Rejection. Table 7.6 also documents the rejection of produce arrivals by type of receiver. The conclusion is largely the same as above: although earlier estimates are approximate only, the current figures appear to be either the same or modestly lower than rejection figures in the past, despite the improvements in quality. Do rejections persist because of increasingly discriminating buyers and consumers? That is, have improvements in quality served to simply raise buyer expectations further? Or do market power and control factors play a greater role? These are not problems that can be resolved by individual firms; again, systemwide remedies are necessary.

Sourcing. The complexity of the produce industry renders any simple description of systemwide product flows impractical. Nevertheless, produce firms were asked to specify the source from which their produce purchases originated. Their responses are contained in Table 7.7. Although conventional industry wisdom holds that most supermarket chains now “go direct” for their fresh produce, it appears that at least for the “average” firm, this is not always true.

TABLE 7.7

Produce Sourcing by Firm Type

| Firm Type | Grower/Shipper | Via | Wholesalers | Other ¹ | Total |
|-------------|---------------------------|--------|-------------------|--------------------|------------|
| | Direct | Broker | | | |
| | <i>-percent of sales-</i> | | | | |
| Foodservice | 35.3 | 2.6 | 62.1 | 3.4 | 100 |
| Retailer | 41.1 | 24.6 | 30.2 ² | 4.1 | 100 |
| Wholesaler | 67.2 | 18.5 | 6.2 | 8.1 | 100 |

¹ Includes non-banana imports, and some cash purchases² Purchsed from general line grocery wholesalers (15.8%) and produce wholesalers (14.4%) combined.

What is true, is that compared to times past, few retail purchases actually pass through a terminal market or an off-market wholesaler’s warehouse. Today little more than a third of all produce purchased by retailers actually moves “directly” from packing shed to a retail DC; the rest is handled or transacted in some fashion either by brokers, wholesalers, importers or other forms of produce distributors.

“Going direct” is, however, the primary procurement practice for the group of retailers in the largest sales size category. In fact, over 90 percent of all produce procured by firms whose annual sales are greater than \$1.5 billion moved directly in a real physical sense from grower/shipper to retailers, whether the sale was transacted by a retailer buyer, his agent or by an intervening broker. Produce wholesalers actually buy almost twice the relative amount from grower/shippers directly as do both foodservice operators and supermarket retailers. However, this is to be expected since, except for brokers, there is normally no other channel player who would intervene between grower/shipper and wholesaler.

Terms of sale. As quality standards and business relationships in the produce industry have both improved, terms of sale employed for most transactions are either f.o.b. sales or delivered sales for the great majority of all firm types (Table 7.8). Whereas a great deal of produce sales were consignment thirty

TABLE 7.8

Produce Terms of Sale by Firm Type

| Firm Type | fob | Delivered | Consignment/ Price After Sale | Via Broker | Other ¹ | Total |
|---------------------------|------|-----------|----------------------------------|---------------|--------------------|-------|
| <i>-percent of sales-</i> | | | | | | |
| Foodservice | 37.1 | 55.3 | 0.0 | 1.1 | 6.5 | 100 |
| Retailer | 42.5 | 41.4 | 0.2 | 13.4 | 2.5 | 100 |
| Wholesaler | 49.0 | 29.0 | 14.1 | 7.1 | 0.8 | 100 |
| Grower/Shipper | 54.2 | 27.3 | 4.9 | 12.6 | 1.0 | 100 |

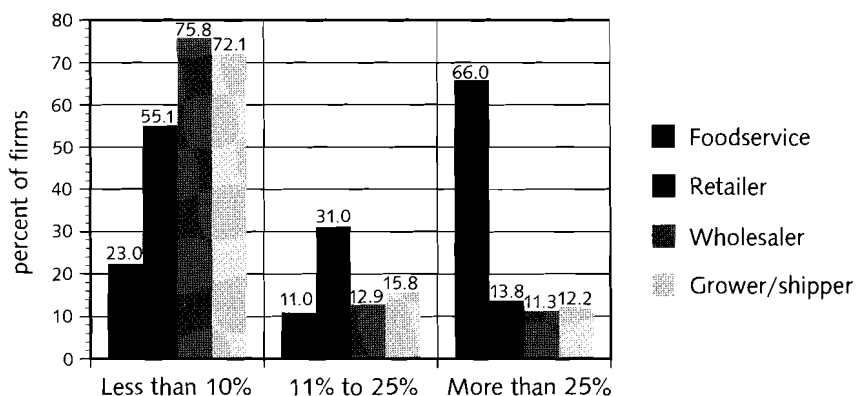
¹ Often refers to “cash sale.”

years ago, now, with the exception of the terminal market type of wholesaler, consignment sales are no longer the factor that they once were. All wholesalers report about 14 percent of all their purchases are by consignment (or price after sale), while terminal market operators report nearly 40 percent of all their purchases are still by consignment.

The use of various types of contracts between produce buyer and seller appears to be growing. Although still employed by relatively few firms overall, several firm types, foodservice operators in particular, report a growing interest in and use of contracting. Figure 7.1 reveals that most firms currently use contracts for less than 10 percent of their overall sales. However, more significant is the small proportion of produce firms that are beginning to view contracting as a serious sales technique. Some firms prefer to contract a specified portion of their sales far in advance—over a year in a few cases—in order to plan more effectively for planting, harvesting and promotional activities. Over 25 percent of produce sales are now contracted in some form by two-thirds of foodservice operators. Nearly half of all supermarket retailers use contracts for over 10 percent of their purchases and 14 percent use them for over 25 percent. Many firms interviewed expressed the desire to see continued increases in the proportion of sales which are contracted because they see it as a stabilizing influence in an otherwise often unpredictable industry.

FIGURE 7.1

Produce Contracting by Firm Size
-percent of sales purchased or sold on contract-



Although new electronic technologies are making inroads in limited cases in the trading of fresh fruit and vegetables, the telephone remains the primary vehicle with which sales are transacted by all firm types (Table 7.9). Even in the case of foodservice operators and retailers where we have documented the use of fax and e-mail transactions, managers explained that these are generally employed only to confirm sales already initiated on the telephone. Further when retailers report that 25 percent of their transactions are by means of EDI, it is important to recognize that slightly more than half of this amount refers to the electronic ordering between independent stores and their general line grocery wholesaler, not between retailer and produce grower/shipper.

Concentration. A fact of economic life in the 1990s is greater concentration and consolidation in virtually every industry. Although historical data are spotty, the same appears to be true for the produce industry at most levels of business. It is quite clear, for example, that retail consolidation continues to take place, reducing the total number of buyers available to grower/shippers but generally resulting in a greater importance for each of those larger accounts. The consoli-

TABLE 7.9

Means of Sales/Purchase Transactions by Firm Size

| Firm Type | Phone | Fax | EDI ¹ | Face to Face | Total |
|--------------------|-------|------|------------------|--------------|-------|
| -percent of sales- | | | | | |
| Foodservice | 80.7 | 9.4 | 7.4 | 2.5 | 100 |
| Retailer | 60.1 | 14.4 | 25.5 | — | 100 |
| Wholesaler | 85.2 | 8.8 | 2.5 | 3.6 | 100 |
| Grower/Shipper | 86.2 | 8.9 | 1.9 | 3.0 | 100 |

¹ Includes e-mail.

dition of general-line grocery wholesalers over the past decade has been even more rapid. Table 7.10 illustrates the importance of the largest customers and suppliers for the four major industry segments of the fresh produce industry. The buying groups are fairly consistent in indicating that their top ten suppliers

TABLE 7.10

Sales Share of Top 10 Supplier/Customers by Firm Type

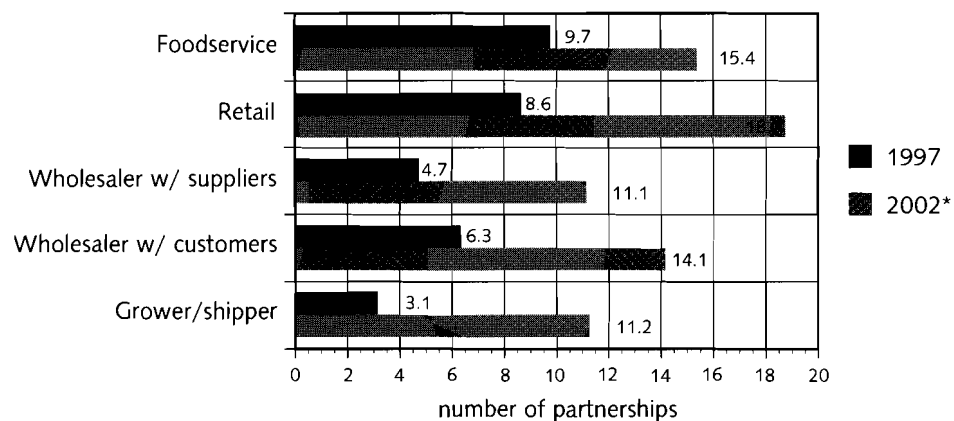
| Firm Type | Top 10 Suppliers <i>-percent of purchases-</i> | Top 10 Customers <i>-percent of sales-</i> |
|----------------|---|---|
| Foodservice | 69.6 | — |
| Retailer | 67.9 | — |
| Wholesaler | 71.8 | 61.3 |
| Grower/Shipper | — | 57.5 |

account for about 70 percent of all their business. On the selling side, produce wholesalers and grower/shippers report somewhat lower sales concentration; their top ten customers account in general for about 60 percent of sales. Thus although the supply-side of the produce industry is considerably more fragmented than the demand-side, it appears that the very largest suppliers account for a greater share of their customers' business than customers do of suppliers' business.

Of course, when each customer and supplier becomes more critical, firms at every level endeavor to add greater value to their products and services in order to sustain the business relationship. Various forms of partnerships and strategic alliances are often the outcome. Foodservice operators and retailers, in particular, have already begun by 1997 to forge partnerships—formalized business commitments with joint objectives where confidential information is shared—with their suppliers in order to improve performance. Moreover, they forecast these partnerships will double by the year 2002 (Figure 7.2). Whole-

FIGURE 7.2

Industry Partnerships, 1997 and 2002*
-number of supplier/customer firms-



* Forecast

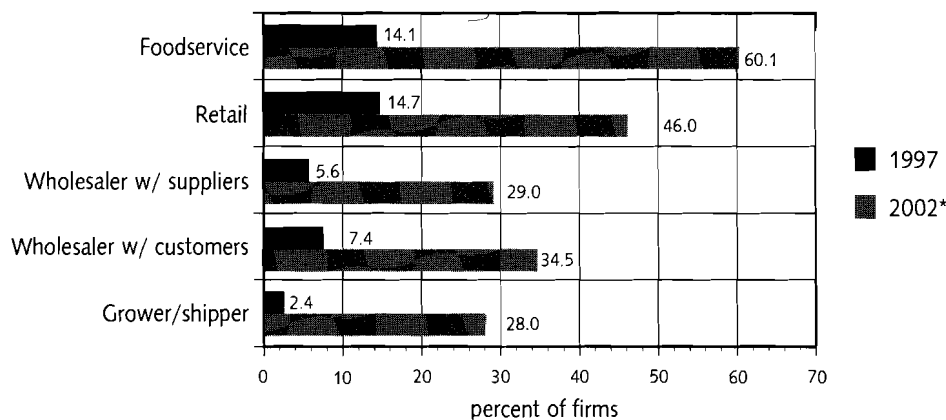
salers currently have fewer partnerships but also predict substantial increases in the future. Grower/shippers report the fewest partnerships today but forecast a threefold increase over the next five years. Some have suggested that fewer partnerships reported by grower/shippers may reflect the higher level of mistrust with various buyers and markets that still prevails in many production areas.

Technology Use

The grocery industry announced the Efficient Consumer Response (ECR) initiative in January 1994. This initiative is intended to encompass a wide variety of programs to drive unneeded costs—estimated to be as much as \$30 billion—out of the grocery distribution system. Virtually all four of the main platforms of that initiative rely on Electronic Data Interchange (EDI) as their “enabler.” Retailing companies reported that various types of EDI had already accounted for over half of all their grocery volume by 1996, and, moreover, they expected them to account for nearly 90 percent by the year 2000 (McLaughlin, Perosio and Park 1997). Produce industry firms lag considerably behind their grocery counterparts with respect to EDI use. Perhaps to be expected, in 1997 foodservice operators and retailers employ EDI most often and grower/shippers very little. However, all firm types expect significant increases in the near future (Figure 7.3). By the year 2002, between one-third and one-half of all produce firms estimate that they will employ EDI methods.

FIGURE 7.3

EDI Usage by Firm Type, 1997 and 2002*



* Forecast

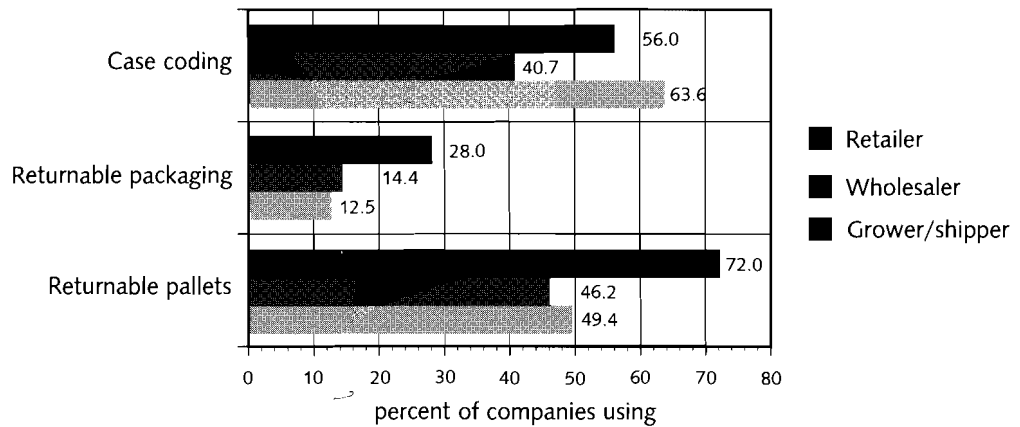
More efficient distribution is a goal of virtually every company. A number of potential efficiency-enhancing devices and systems are currently being employed by the produce industry with varying degrees of commitment. Case coding on secondary shipping cartons, for example, is employed by roughly half of all companies, and, significantly, grower/shippers report applying codes more often than their counterparts in other parts of the system. Returnable

pallets are also employed by about half of all companies, except for retailers, nearly three-quarters of whom report using them (Figure 7.4). Forms of returnable packaging, like plastic shipping cartons appear to be less acceptable. Although about a quarter of all retailers use them, they are only employed by about half that number of grower/shippers and wholesalers.

Since the early 1970s, one technology that has been responsible for tremendous productivity improvements at retail levels is electronic checkouts in supermarkets. Although retailers capture the immediate benefits of this increase in checkout efficiency, the systemwide advantages are manifold when considering the reductions in overall systemwide costs passed along to consumers as well as the wealth of consumer information collected by these electronic systems. In principle, these new data assist not just retailers but all system participants in their quest to better understand consumer demand.

FIGURE 7.4

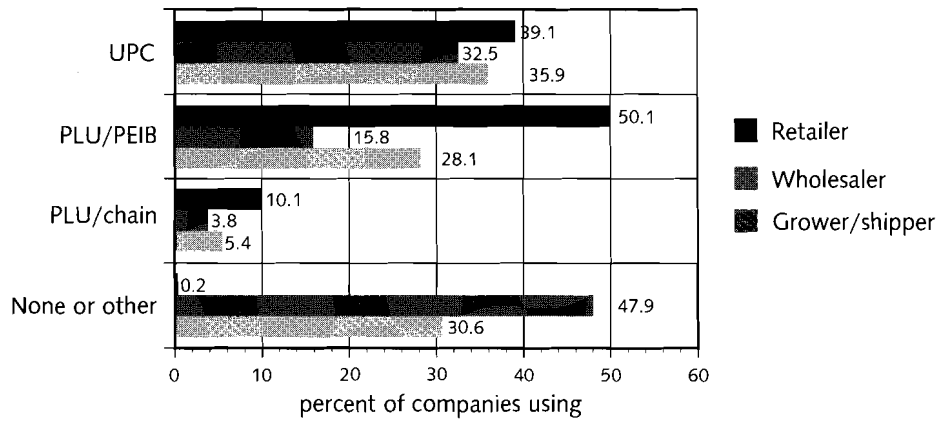
Use of Selected Logistics Devices by Firm Type



Retailers lead the way with the application of the various produce coding options. Currently almost 100 percent of all retailers' sales are coded for check-out in some electronic format: about 40 percent of sales are UPC coded, 50 percent of sales are PEIB/PLU coded and nearly all the remaining sales are chain-specific PLU coded (Figure 7.5). Although wholesalers are often considered closer to retail operations than grower-shippers, a significantly higher proportion of grower/shippers' sales are coded than that of wholesalers: over two-thirds of grower/shipper sales carry some retail code whereas this is only true with about half of wholesalers' sales.

FIGURE 7.5

Produce Sales by Coding Technique by Firm Type



APPENDIX

APPENDIX A

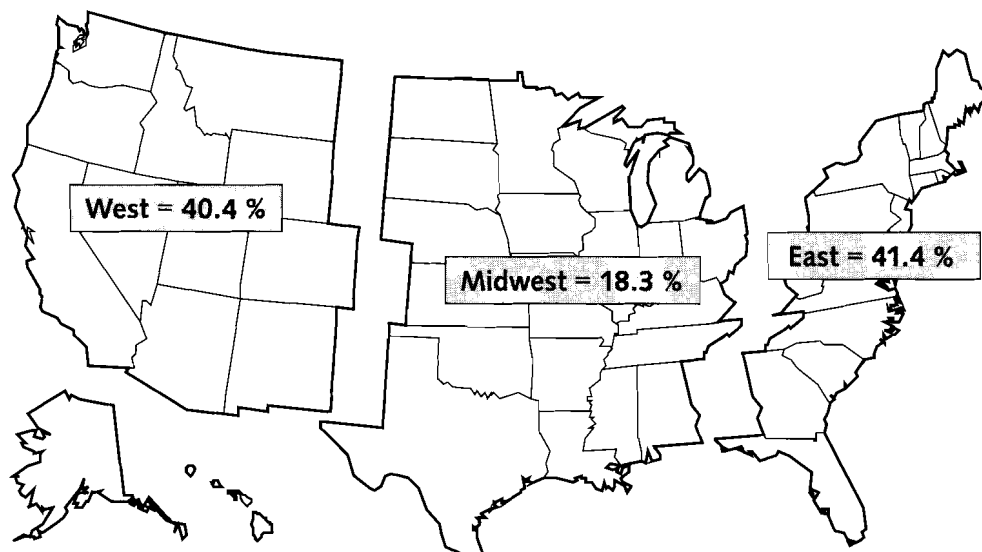
Survey Response¹ by Month by Industry Segment

| Segment | Pretest | May 12-13 | June 1-20 | July 1-25 | Total |
|-------------------|-----------|------------|------------|-----------|------------|
| Grower/shipper | 2 | 113 | 111 | 29 | 255 |
| Wholesaler/broker | 4 | 82 | 86 | 33 | 205 |
| Retailer | 4 | 22 | 24 | 8 | 58 |
| Foodservice | 1 | 12 | 8 | 2 | 23 |
| Total | 11 | 229 | 229 | 72 | 541 |
| (percent) | (2.1%) | (42.3%) | (42.3%) | (13.3%) | (100%) |

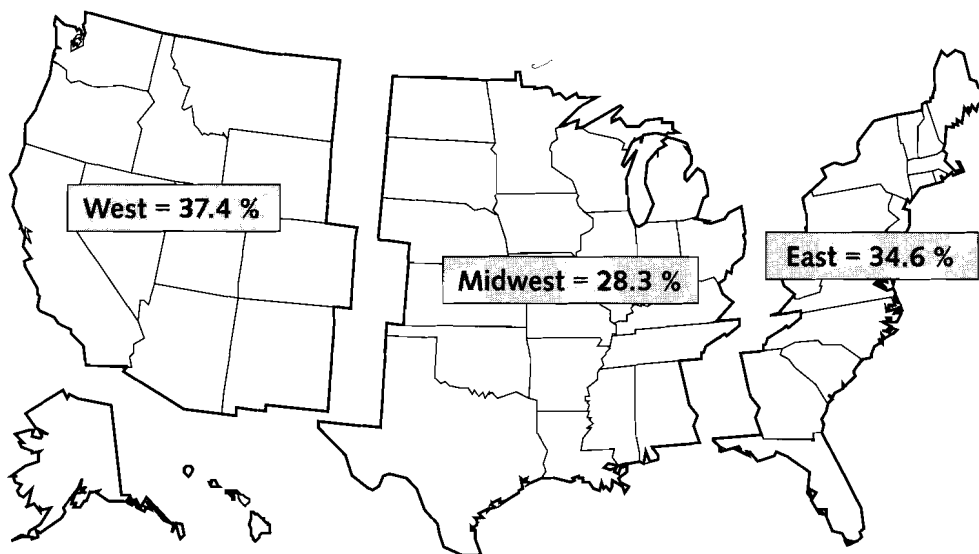
¹Surveys mailed between May 9 and June 13, 1997.

APPENDIX B-1

Location of Produce Brokers by Region, 1997. Percent of Total Brokers

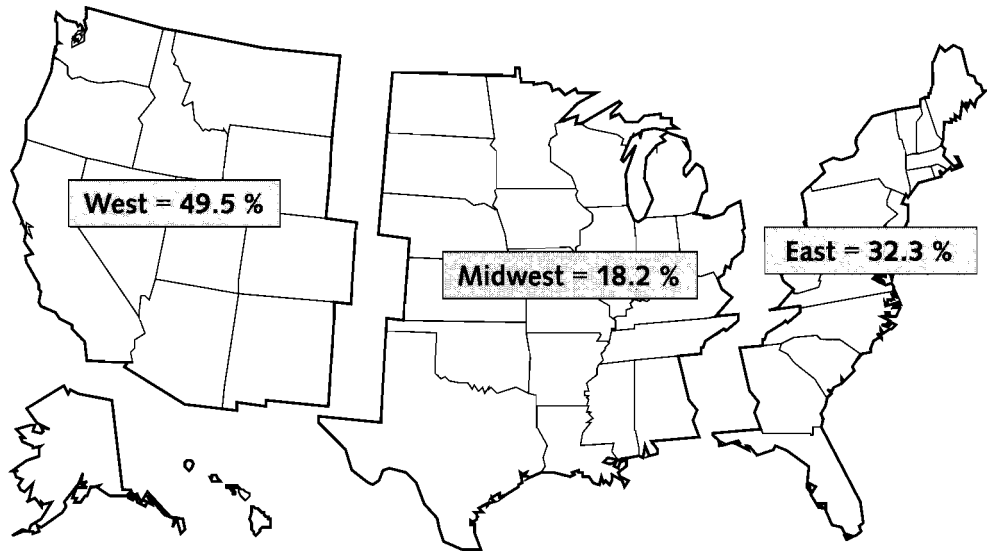
**APPENDIX B-2**

Location of Produce Wholesalers, by Region, 1997. Percent of Total Wholesalers



APPENDIX B-3

Location of Produce Shippers by Region, 1997. Percent of total shippers.



Source: Produce Reporter Co. (1996) *The Blue Book*.

REFERENCES

- U. S. Bureau of the Census (1994), *1992 Census of Agriculture*. Bureau of the Census, U. S. Government Printing Office, Washington, D.C.
- Food Marketing Institute (1997), *Trends in the United States: Consumer Attitudes and The Supermarket 1996*. Food Marketing Institute, Washington, D.C.
- U. S. Bureau of the Census (1996), *Statistical Abstract of the United States 1995*. Bureau of the Census, U. S. Government Printing Office, Washington, D.C.
- U.S. Department of Agriculture (1970-1996), *Situation and Outlook for Vegetables*. Economic Research Service, U. S. Government Printing Office, Washington, D.C., various years.
- U.S. Department of Agriculture (1970-1996), *Situation and Outlook for Fruits and Nuts*. Economic Research Service, U. S. Government Printing Office, Washington, D.C., various years.
- Progressive Grocer* (1997), "Supermarket Sales Manual." July.
- Supermarket Business* (1996), "Annual Consumer Expenditure Study." September.
- Dillman, Don A. (1978), *Mail and Telephone Surveys: The Total Design Method*. John Wiley & Sons, New York, NY.
- McLaughlin, E.W., D.J. Perosio, and J. L. Park (1997), *Optimal Practices in Order Fulfillment*. Cornell University, Ithaca, N.Y.
- McLaughlin, E.W., D.J. Perosio (1994), *Fresh Fruit and Vegetable Procurement Dynamics: The Role of the Supermarket Buyer*. Cornell University, Ithaca, N.Y.
- U. S. Department of Agriculture (1964), *The Structure of Wholesale Produce Markets*. Agricultural Economic Report No. 45, Economic Research Service, U. S. Government Printing Office, Washington, D.C.
- U.S. Bureau of the Census, *Wholesale Trade-Subject Series (1972-1982)*, U. S. Government Printing Office, Washington, D.C., various years.
- National Association of Produce Market Managers (no date), *Green Book: Produce Market Information Directory*.
- Produce Reporter Co. (1996), *The Blue Book*. Produce Reporter Co., Blue Book Services, Carol Stream, IL. Fall.
- National Commission on Food Marketing (1966), *Organization and Competition in the Fruit and Vegetable Industry*. Technical Study No. 4, National Commission on Food Marketing, Washington, D.C.



The Produce Marketing Association

The Produce Marketing Association is a nonprofit trade organization serving 2,500 members who market fresh fruits, vegetables, and floral products worldwide. The association's mission is to create a favorable, responsible environment that advances the marketing of produce and floral products and



services for North American buyers and sellers and their international partners. PMA offers a variety of reference and training materials. For more information, contact: PMA, 1500 Casho Mill Road/PO Box 6036, Newark, DE 19711-6036; Telephone: (302) 738-7100; Fax: (302) 731-2409; WWW: <http://www.pma.com>.

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