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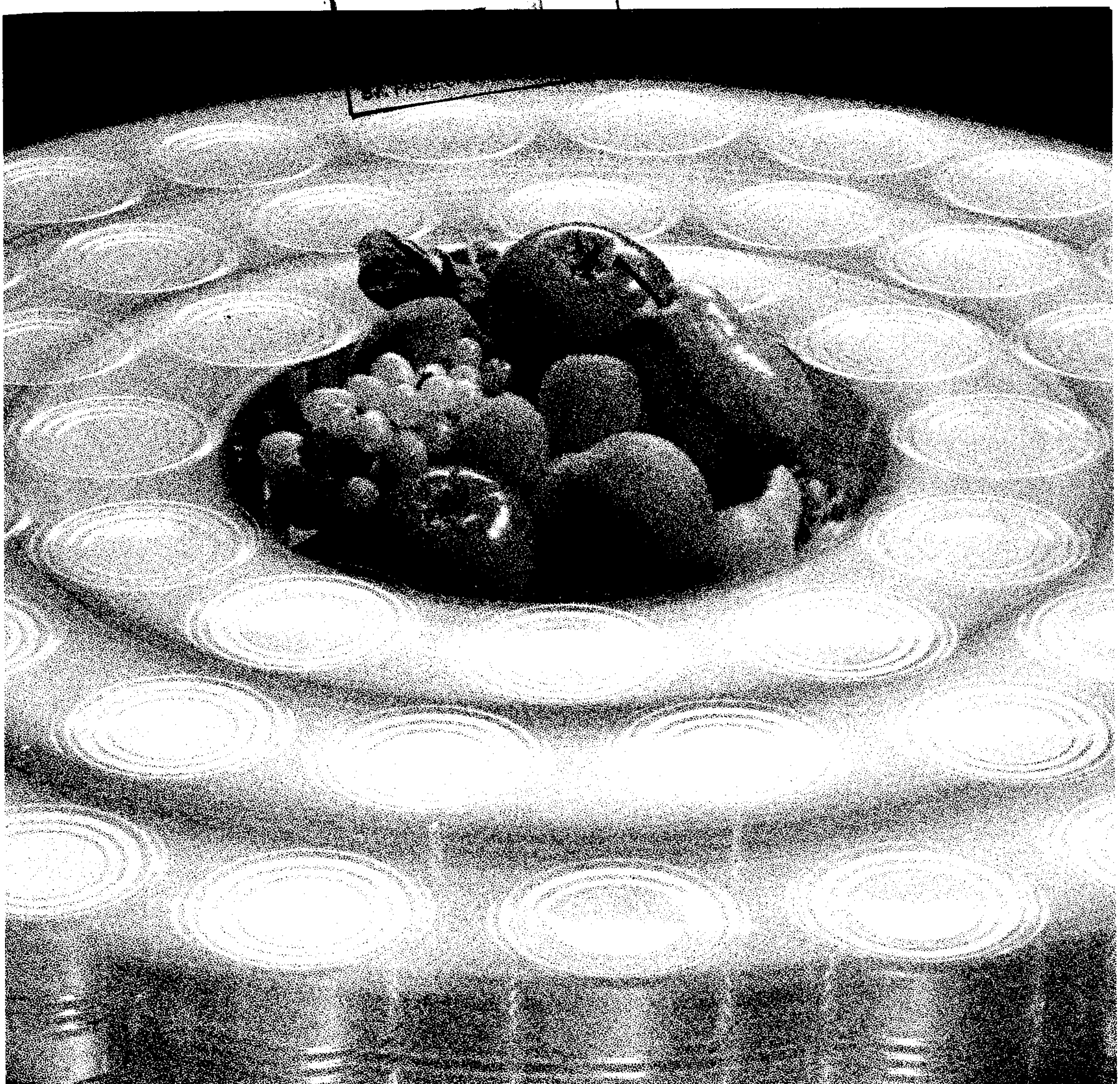
Operating Patterns of Fruit and Vegetable Processing Cooperatives



Operating Patterns of Fruits and Vegetable Processing Cooperatives, by Bruce L. Swanson. Cooperative Marketing and Purchasing Division; Agricultural Cooperative Service; U.S. Department of Agriculture. Agricultural Cooperative Research Report No. 5.

ABSTRACT

Growth of fruit- and vegetable-processing cooperatives slowed in the late seventies. High-growth cooperatives employed more full-time employees and more headquarters personnel than low-growth ones and organized their operations to minimize the impact of the peak season. The 14 cooperatives that were studied sold most of their products to chainstores, but the high-growth cooperatives sold a smaller proportion of their total product to chains and to Federal and State Government agencies than did the low-growth cooperatives.

Keywords: Associations, cooperatives, financial characteristics, fruits, operating features, organizational features, processing, vegetables.

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PREFACE

This report describes the results of a survey of selected organizational and operating features of 14 fruit- and vegetable-processing cooperatives. Comparisons between associations classified by size and growth differences are also presented. The associations accounted for almost 70 percent of the processed fruits and vegetables marketed by cooperatives.

Data were obtained from the sample organizations through personal interviews with top management officials. Additional information was obtained from annual reports and other records of the organizations. Because some associations requested that they not be identified, cooperatives participating in the survey are not named. Financial data were obtained for the 1972 through 1978 fiscal periods, the most recent for which data were available when the survey was conducted in mid-1979. Most of the organizational and operating data presented are for 1978.

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SUMMARY

High-growth fruit- and vegetable-processing cooperatives increased their sales by 159 percent from 1972 to 1978 and increased their sales-assets ratio by 28 percent. The corresponding figures for low-growth co-ops were 91 and 3 percent, respectively. Fixed assets increased by 128 percent for the high-growth cooperatives and 57 percent for the low-growth cooperatives. Growth among the 14 cooperatives studied slowed in the late seventies from the pace of the early seventies. Sales growth was down by 14 percent for the high-growth cooperatives and down by 41 percent for the low-growth cooperatives.

High-growth and low-growth designations were computed from a composite measure that included growth in sales, assets, and the sales-assets ratio. Some other differences observed between the high- and low-growth cooperatives are outlined below.

High-growth cooperatives:

— Employed more headquarters personnel and fewer part-time employees as a percentage of their work forces than the low-growth cooperatives and had higher employee turnover and less unionization among employees.

— Had more of a mix in the age and experience of managers and directors. The low-growth cooperatives employed mostly older (over 50) managers and directors with more than 10 years' experience.

— Introduced fewer new products on the market (an average of two per year) than the low-growth cooperatives (an average of 14 per year) but had a better percentage of successful new products (50 percent vs. 25 percent).

— Sold fewer products to chainstores and fewer products under their own labels than the low-growth cooperatives.

Most of the high-growth cooperatives were small (1978 sales less than $63 million) while most of the low-growth cooperatives were large (1978 sales more than $63 million).

Those conclusions are based on an analysis of 14 fruit- and vegetable-processing cooperatives, whose annual sales represented about 70 percent of all processing cooperatives' sales in 1978. Other characteristics discussed include marketing methods used, advertising methods used, union membership among employees, distribution of sales by product, use of brand names, and so forth.

Operating Patterns Of Fruit and Vegetable Processing Cooperatives

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This study examines organizational and operating features of cooperative fruit and vegetable processors to update and expand the information available on these organizations and to provide a basis for comparison with similar organizations in the noncooperative sector. To do that, a sample of 14 processing associations was selected and studied. Although some of these associations marketed fresh fruits or vegetables and some handled farm supplies or performed services, the predominant activity of all associations analyzed was the marketing of processed products. While general and financial characteristics of the associations were evaluated across the entire sample, seven associations were studied more intensively regarding their organizational arrangements. The other seven organizations were analyzed with more concentration on their operating activities. Some 40 farmer cooperatives annually process more than 50 types of fruits and vegetables in bottled, canned, dried, and frozen forms in more than 100 plants with a total annual pack value approaching $2 billion. The sample organizations, with a total processed business of amost $1.4 billion, represented about 70 percent of the dollar volume of fruit and vegetable processing handled by all cooperatives during their 1978 fiscal periods.

The organizations were selected to represent a cross section of processing activity, to be geographically diffuse, and to account for a sizeable proportion of processed fruit and vegetable volume handled by cooperatives. Among other reasons, this was done to provide selected data items that could be expanded, within reasonable confidence limits, to represent the overall cooperative fruit- and vegetable-processing sector.

SAMPLE ASSOCIATION FEATURES

Half of the 14 sample associations were located in the Southwest, mostly in California (table 1). While operational activities of associations located in this area were carried on to some extent in other parts of the country, there was only minimal activity in the Southwest by associations located in other areas. Dispersal of activities into other sections of the country was quite common, however, for associations located in other regions, particularly for some of those headquartered in the Northeast.

All but one of the associations handled processed fruit in 1978, four handled processed vegetables, and three handled both processed fruits and processed vegetables (see below). Seven associations specialized in their primary business activities and seven had diversified activities:

Primary business activity	Number of associations
Processed fruit only	7
Processed vegetables only	0
Fresh fruit and processed vegetables	3
Fresh vegetables and processed vegetables	1
Processed fruit and processed vegetables	3

Table 1—Numbers and location of principal operations, 14 associations, 1978

Location	Head-quarters	Raw product acquisition	Processing[1]	Distribution centers	Sales offices
		Number			
Northeast	4	4	5	6	6
Southeast	1	5	4	4	3
Southwest	7	7	8	8	8
Northwest	2	4	4	4	3
Canada	0	3	0	0	0
Mexico	0	1	0	0	0
Other	0	2	0	0	0

[1]Includes copacking or toll packing arrangements with other cooperatives or with proprietary packers.

Organizational Characteristics

The management of most of the seven associations covered in the organizational area was centralized; only infrequently were critical decisions, in either the staff support or operational areas, left to satellite units:

	Number of staff support units	Number of operational units
Completely centralized	6	5
More centralized than decentralized	1	1
More decentralized than centralized	0	1

Within organizational structures, reporting relationships and the decisonmaking process tended to be more formal than not:

Three associations adhered rigorously to the structure of their organizational chart; three followed the organization chart closely, but with many decisions made by committee or in conference; and one had patterns of responsibility and decisionmaking that bore little resemblance to the organizational chart.

The associations' organizational frameworks contained member, board of director, management, and employee components. Certain interactions of the components were examined in addition to their individual features.

Members

The memberships of the associations were relatively stable between 1975 and 1978:

— One co-op's membership declined by more than 10 percent,

— Two co-ops' memberships increased by 10 percent or less,

— One co-op's membership increased by more than 10 percent,

— Three co-ops' memberships remained virtually the same.

Most of the organizations had closed their memberships over long- or short-term periods because members were able to furnish any increases in volume necessitated by customer requirements.

While only some uniformity was apparent in member voting and payment procedures, methods used by associations in both areas tended to be firm, having remained the same for all associations during the last 3 years:

Basis for voting:	Number of associations:
One member, one vote	3
Volume of business generated	2
Both of above, with volume of business coming into play when an established minimum volume was surpassed	2
Basis for payment:	
Single pool	1
Multiple pool	4
Individual account	1
Multiple pool for some commodities and individual account for others	1

In the single pool, all commodities handled by the cooperative were treated as a composite commodity with returns to grower-patrons prorated on the basis of the total volume of commodities marketed by each in relation to the overall volume of marketings for the association during its yearly accounting period.

The multiple pooling method allowed each commodity to be pooled separately, with grower returns allocated according to their proportion of each commodity marketed.

Individual accounting provided for tallies of sales made for individual patrons.

Directors

More than 80 percent of the cooperatives' directors were over 40 years of age; 75 percent had 4 or more years of experience on the board:

Directors' age:	Percent of directors
30-39	16
40-49	18
50-59	39
60-69	21
70 or more	6
Board membership (years):	
Less than 1	9
1-3	16
4-6	14
7-9	20
10-20	37
More than 20	4

Outside directors, such as lawyers, bankers, or academicians, represented only 6 percent of the total directors covered in the survey. Board members with farming as a secondary profession accounted for 14 percent of the directors. Managers of two of the reporting associations also held director positions.

Boards and managements interacted closely, for the most part: seven associations had management attend each board meeting; six associations had management submit written reports to directors before board meetings; and seven associations had management report formally at monthly board meetings.

However, areas of responsibility were not always clearly defined or, if defined, not rigidly adhered to: three of the associations reported that the board of directors sometimes assumed responsibilities that were properly those of management; the other four associations indicated that discrete areas of responsibility were adhered to by both the board and management.

These survey questions however, were usually answered exclusively by representatives of management. For that reason, the result might have been different if directors had also been surveyed.

Managers

The group comprising the top five managers of each of the seven associations reporting in the organizational area showed age and experience distributions similar in many respects to those of the associations' directors. Sixty percent of the managers were 50 years or older, compared with 66 percent of the directors; 74 percent of the managers had more than 5 years of experience with their association, and 75 percent of the directors had 4 or more years of experience on their associations' board:

Managers' age (years):	Percent of managers:
30-39	9
40-49	31
50-59	49
60-69	11
Employment with association (years):	
5 or less	26
6-10	28
11-15	27
16-20	5
21-25	8
26-30	0
More than 30	6

Two of the associations entered into employment contract with their general managers, and one association had contracts with three of its top management officials; the other four associations did not contract for management services. Contracts covered terms of employment for 1 year or longer.

Management communication with members was handled primarily through annual, regional, or local meetings, or by a monthly or less frequent house organ or newsletter; management also used meetings most frequently to generate feedback from members.

Communication method use:	Number of associations:
Annual meeting	7
Local or regional meeting	5
House organ or newsletter	6
Periodic visits to facilities	4
Other unspecified	2

Method of generating member participation:	
Member input requested at meetings	7
Specific time block set aside weekly, monthly, or otherwise for meetings with management	1
Toll-free headquarteres telephone number	3
Other (unspecified)	1

Employees

Production seasons of the processing associations varied depending on crops handled, products marketed, and methods utilized to preserve or otherwise acquire raw products for processing. Some associations had level workflows and, therefore, relatively stable work forces throughout the year. Others had a peak operating season, requiring a considerable expansion in the number of their employees for a few months and necessitating the retention of certain skilled management and operating employees who were used at less than their potential during nonpeak parts of the year. Still other associations with diversified crop inputs and product outputs operated at both levels. Ratios of headquarters-to-plant and salary-to-wage employees for the reporting associations, along with their average annual personnel turnover rate, are:

Personnel ratios:	Peak season:	Non-peak season:
Headquarters to plant employees	1:17.5	1:3.7
Salary to wage employees	1:11.1	1:2.0
Personnel turnover:	Salary workers:	Wage workers:
	Percent	
Proportion of full-time employees replaced annually	11	18

The turnover rates pertain only to full-time employees voluntarily removed for retirement, transfer, or similar reasons or, in a few instances, involuntarily removed for disciplinary purposes. As might be expected, associations operating primarily in more isolated locations, where alternative employment opportunities tended to be meager, had comparatively light turnover of personnel.

Fringe benefits, excluding bonus payments, provided to their employees by the sample associations tended to be quite similar, at least in their general features. All the associations provided paid vacations, paid sick leave, paid holidays, and at least partially paid medical insurance, life insurance, and retirement programs to both salaried and wage employees. Six of the associations offered educational benefits to salaried workers, and five offered training incentives to wage employees. While only one of the associations paid a bonus to all salaried employees, four paid a bonus to a restricted group of their salaried workers. None of the associations reported paying a bonus to wage employees.

Five of the reporting associations had some union members (table 2). Only one of these reported unionization of some or all of their salaried work force while all five reported that some or all of their wage employees were union members.

New job slots established by the associations were primarily salaried positions—five of the associations reported adding one or more professional-type positions to their employment rosters during recent years. While the types of positions established were not uniform among the associations, jobs in the marketing, distribution, and data processing areas seemed to predominate.

Table 2—Union membership, seven associations, 1978

Percent of work force unionized	Type of work force: Salaried	Wage	All employees
	Number of associations		
None	6	2	2
1-10	1	0	0
11-25	0	0	1
26-50	0	1	1
51-75	0	0	3
76-100	0	4	0

Operational Features

The remaining seven associations, which were examined with particular regard to their operating procedures, engaged in diverse processing activities, handled almost the complete spectrum of major fruit and vegetable processing crops, and produced the wide variety of products necessary to satisfy requirements of the various marketing channels that they serviced.

Canned and frozen deciduous fruits, canned and frozen vegetables, and canned and bottled single-strength deciduous fruit juices were particularly significant in terms of the number of crops processed in these forms and also in the extensive variety of products in which they were marketed.

In terms of sale dollar allocations, deciduous fruits and single-strength deciduous fruit juices dominated the total sales volume of the seven associations (table 3). About 85 percent of sales volume was for canned or bottled products.

The associations reported no substantial variation in the pattern of products processed or the pattern of processed forms lutilized between 1975 and 1978.

Table 3—Sales volume, by product and processed form, seven associations, 1978

Item	Sales: *1,000 dollars*	*Percent*
Processed product:		
Citrus fruits (excluding juices)	15,937	2.4
Concentrated citrus juices	15,566	2.3
Single-strength citrus juices	27,479	4.1
Deciduous fruits (excluding juices)	374,489	55.5
Concentrated deciduous juices	39,519	5.8
Single-strength deciduous juices	167,999	24.9
Vegetables	33,698	5.0
Total	674,687	100.0
Processed form:		
Unprocessed	25,316	3.8
Canned	320,613	47.5
Frozen	76,501	11.3
Bottled	247,984	36.7
Dried	452	0.1
Other	3,821	0.6
Total	674,687	100.0

Plant and related facilities

Processing activities of some associations were concentrated in one plant while other associations operated or contracted for operations in as many as 10 plants. Some organizations handled as few as two or three types of processing in terms of commodities handled and processing methods utilized, while others engaged in more than 60 types. Most of the associations, however, involved themselves with fewer than 20 types of processing, taking into consideration duplications that could exist for the organizations having multiplant operations:

Number of types of processing in plant	Number of plants
1	11
2	5
3	2
4	4
5	3
6	2
7	0
8	1
9	5

Two of the seven associations indicated problems in recent years with capacity available in one or more of their plants during the peak part of the operating season. One of these organizations indicated that its markets were expanding so rapidly that capacity problems were also arising during the nonpeak season. Three of the associations reported in-adequate standby capacity available in nearby facilities of their own or those operated by other firms, if problems were encountered in their own plants.

A substantial majority of the associations' operating facilities were owned; only two associations reported leasing plants, and the leased facilities for each association were a minor part of its overall plant capacity.

For associations with multiplant operations, significant differences existed for most firms in the percentage of the total sales volume produced in each plant. Of four firms, the smallest plant produced only 1 percent of total sales while the largest plant of the same four firms produced 43 percent of total sales.

Only 4 of the 33 plants in the survey had been acquired through purchase or merger; 2 of these continued to operate largely independently while the other 2 had been assimilated into the associations' other operations.

Five of the processors indicated having problems in recent years with limited capacity in one or more of their distribution centers. While all associations owned their distribution facilities, three organizations reported that less than 100 percent of their shipments were directed through such centers, some shipments being routed directly from their processing plants. None of the associations reported using their plants or distribution facilities for production or storage of nonagricultural products during off-season periods.

Transportation of finished products in equipment owned, leased, or rented by the associations was relatively limited in terms of shipment from plants or distribution centers to outside disbursement points:

Percent of shipments in associations' equipment	Number of associations
None	2
1-5	1
6-10	1
11-15	1
16-20	0
21-25	2

Substantial amounts of product were shipped for many organizations through the services provided by interregional cooperative transportation associations, however.

Marketing Activities

When co-op processors were composed of parent and subsidiary organizations, marketing operations were usually the responsibility of the parent component. However, for one processor, a major subsidiary handled all sales activity, and for another processor, a substantial proportion of its total business volume was directly generated and handled by a subsidiary arm. None of the associations reported having subsidiaries involved in minor business activities.

Research and development for products and markets

Five of the seven associations had established research and development departments, and all these organizations reported having developed new products between 1975 and 1978. While the number of new products developed during the period ranged from 2 to 75 per association, four of the organizations reported developing fewer than 10 products each. The proportion of new products meeting success in the marketplace ranged from zero to 100 percent per association. Generally, the organizations developing the largest numbers of new products had relatively low percentages of success. In contrast, the organizations with a limited range of new products were more apt to encounter marketing success. While organizations with the largest numbers of new products generally devoted more resources overall to product development, allocations on a per unit basis were often less, resulting in less intensive focus on individual products for the fine adjustments needed for success in the market. Between 12 and 24 months were required between product conception and full-scale marketing; two associations reported the former figure and three the latter.

Consulting organizations were used only infrequently in the development of new products—two new products were developed by a consultant for one association, and one of the products became a success. Another association used a consulting firm to test newly developed products. Products developed by consultants also required between 12 and 24 months from conception to marketing.

Three of the seven associations also provided a market research section to perform such tasks as evaluating old markets, testing new markets, and conceptualizing new products or product changes that might enhance the associations' market shares. All associations gave major consideration to long-range market planning.

Member Involvement

All processors in the sample used marketing contracts to bind members' production, in whole or in part, for input to the associations' facilities. The contracts usually carried limitations concerning amounts required to be accepted from producers, such limitations involving acreage or production restrictions, or a combination of both, and, for some associations, the limitations varied among the crops handled. In addition, five associations handled one or more crops covered by Federal or State marketing orders.

The majority of the business volume of all but one association represented sales for individual producer-members of the co-ops. Sales of the remaining cooperative were composed entirely of volume handled for member co-ops. None of the sample associations handled sales for nonmember co-ops, but two associations handled some sales for proprietary firms.

Brand Usage

Two associations packed 5 percent or less of their total sales volume under their own labels; 50 percent or more of the sales volume of the remaining five associations was packed under co-op labels. The following tabulation shows the percentages of the associations' total sales represented by the different types of labels:

	Percentage of total sales volume
Co-op labels	61
Other processors' labels	8
Chainstore labels	14
Other buyers' labels	12
No labels	5

One association used one co-op label, three associations used two co-op labels, two associations used four co-op labels, and one association used five co-op labels. For the associations using multiple labels, the top brand predominated by a considerable margin over lesser labels in terms of sales share. The first ranked co-op label accounted for 97.7 percent of all sales under co-op labels. Associations using more than three labels reported that only a minuscule portion of their overall volume was handled under the additional labels.

Sales Features

Five of the associations reported contract or membership links with other organizations for joint sales operations. Participation in a joint sales program involved a number of different types of marketing arrangements:

One co-op delivered its total product output to a joint sales agency;

Two co-ops delivered a variable amount of their product output to a joint sales agency; and

Two co-oops delivered a fixed amount of their product output, but possibly less than their total output, to a joint sales agency.

A majority of the associations' output (52 percent) was marketed to chainstores; the volume moving to wholesalers amounted to about half of that (23 percent of the total). Volumes moving to other processors, institutions, and other outlets (for export and to government agencies) amounted to about 8 percent, 10 percent, and 7 percent, respectively, of the associations' total sales volume.

Sales through brokers dominated those handled directly (73 percent to 27 percent); export sales amounted to only 4 percent of total sales, the rest being sold in the domestic market.

While several associations expressed interest in the fast-food market, only two organizations could specify products from their lines that were marketed directly to fast-food outlets. The business in each case amounted to less than 5 percent of total sales volume.

Advertising

The amount spent annually on advertising ranged from less than $25,000 to over $1 million. Advertising ranged from less than 1 cent to 25 cents per $10 of sales volume:

Advertising expenditures	Number of associations
Total:	
$25,000 or less	1
$26,000-$50,000	1
$51,000-$100,000	0
$101,000-$500,000	2
$501,000-$1,000,000	2
More than $1,000,000	1
Per $10 of sales:	
Less than 1 cent	2
1-10 cents	2
11-20 cents	2
21-30 cents	1

Four organizations reported that advertising sums spent during their latest fiscal period were typical of those spent during recent years, while three organizations said their advertising was less than usual.

No single advertising medium prevailed among those used by the reporting associations, although general circulation magazines and newspapers, television, and coupon and merchandising promotions accounted in total for more than three-fourths of ad expenditures (table 4). Four of the associations indicated that the media pattern utilized was typical for recent years while three indicated the opposite. For the latter organizations, the shift primarily concerned larger expenditures for television.

Most advertising was directed at local and regional markets. Three associations advertised in local markets, five in regional markets, and two in national markets, with the percentage of total advertising expenditures being 62 percent, 31 percent, and 7 percent, respectively. No associations advertised overseas. This pattern of apportionment was typical of that during the last several years.

While associations with the largest advertising budgets directed major amounts to local market coverage, thus accounting for the predominance of local over regional ad expenditures, breakdowns for all of the sample associations showed 26 percent of the average budget going to local markets, 58 percent to regional markets, and 16 percent to national markets.

Table 4—Allocation of associations' advertising expenditures, by medium, seven associations, 1978

Medium	Associations	Total advertising expenditures
	Number	*Percent*
Newspapers:		
General circulation	2	21.8
Trade	1	.1
Magazines:		
General circulation	2	18.1
Trade	1	1.3
Television	3	21.3
Radio	2	8.5
Store allowance	3	7.2
Displays	3	4.3
Coupons, merchandise, and other promotions	4	17.4

Most associations used their advertising to promote the top brand name, or branded products in composite, rather than to focus on a number of individual items. However, the organizations with the largest advertising expenditures tended to concentrate on individual products to a greater degree. Considering all reporting associations, 54 percent of advertising dollars were spent on promoting the brand and 46 percent on advancing individual products. This pattern has prevailed during most recent years.

Exports

Of the six reporting associations with export activity, all indicated that such business was stable or rising during their latest fiscal period. The range of export business as a percentage of total business volume ranged from one-half of 1 percent to 25 percent, but for four associations was 5 percent or less. All organizations used in-house, U.S.-based personnel in conducting their export business. The duties of such personnel, however, were usually carried out only as an adjunct to major domestic marketing operations.

The associations' export markets were so diverse that only four countries were markets for two or more of the organizations: West Germany (four organizations), Japan (three), Canada (two) and Denmark (two). That export pattern was expected to remain pretty much the same for the next 3 years, with only one organization indicating a shift—toward more emphasis on the Japanese market.

Table 5—Selected financial measures, 14 associations, 1978 fiscal period

Item	Associations reporting	Item	Associations reporting
Million dollars	*Number*	*Million dollars*	*Number*
Sales volume:		Current liabilities:	
11-50	6	5 or less	3
51-100	3	6-10	2
101-250	4	11-25	4
251-500	1	26-50	3
Interest expense:[1]		51-100	0
Less than 1	4	More than 100	2
1-5	6		
6-10	1		
11-15	1	Long-term liabilities	
Current assets:		5 or less	6
5 or less	2	6-10	3
6-10	3	11-25	3
11-25	1	26-50	2
26-50	5	51-100	0
51-100	1	More than 100	0
More than 100	2	Total liabilities:	
Fixed assets:		5 or less	2
5 or less	4	6-10	2
6-10	0	11-25	3
11-25	6	26-50	4
26-50	2	51-100	1
51-100	2	More than 100	2
Total assets:		Net worth:	
6-10	3	5 or less	4
11-25	2	6-10	3
26-50	4	11-25	4
51-100	2	26-50	3
More than 100	3	51-100	0
		More than 100	0

[1]Only 12 of the 14 associations reported interest as an individual expense item.

The leading products exported were also diverse. In general, fruits predominated over vegetables with a considerable array of both solid and juice fruit products marketed overseas. Product export patterns, like those for the countries, were expected to remain about the same during the next few years.

Miscellaneous Operating Activities

Computers—The computer was considered an essential business tool by all associations surveyed. It was used in a wide variety of functions: to control and monitor processing, inventory, distribution, and other operating activities; for accounting, auditing, billing, and payroll and related personnel functions; and for analytical purposes. Computer expenses for personnel and equipment ranged from about $50,000 annually per association to almost $2 million. Computer expenses per sales dollar ranged from three-tenths of a cent to 1 cent. The level of unit costs appeared to be influenced more by the range of uses rather than by the efficiency with which the equipment was used, since the highest per unit costs were usually incurred by the larger associations using a more sophisticated range of equipment more intensively but for a wider range of purposes.

Production supplies and services—Five of the seven reporting associations handled production supplies for individual grower-members or for sale through association-members: seed (handled by three associations), containers (one), fertilizers (one), petroleum products (one), pesticides (one), other supplies (two). Most supply operations were limited in size and diversity, but one association handled a broad cross section of supplies with a volume approaching $5 million.

The following production services were also furnished to members by the reporting associations: fertilizing (provided by one), fieldmen (three), financing (two), harvesting (one), transportation (four), spraying and dusting (one). Again, a limited range of services, usually a single service, was performed by individual associations.

General—Four associations reported that efforts to develop markets for their products had been less successful than the efforts of their grower-members in increasing their crop yields. However, six of the organizations indicated that their financial position has been strong enough during recent years to support the acquisition or revamping of plant and equipment necessary to remain competitive. Furthermore, five associations reported that their operations had provided sufficient earnings opportunities and fringe benefits to attract new, young replacement personnel, and at the same time, satisfy the present complement of line and staff employees.

Financial Aspects

Financial records were obtained and analyzed for seven recent fiscal periods (1972-78). In contrast to the coverage of organizational and operating areas, which were each based on the reports of seven associations, analyses of financial data presented in this section pertain to all 14 organizations. Emphasis was placed on evaluating major measures which were standardized and could be compared among the associations.

Eight associations had sales of more than $50 million during their 1978 fiscal period (table 5). Interest expenses for most of the associations were less than $5 million during the period. Total assets ranged above $25 million for more than half of the associations as did total liabilities. The border figure for net worth was $10 million, with half of the associations on either side of this amount.

Those financial measures grew as follows between 1975 and 1978 (table 6): average annual sales increased more than 10 percent for eight associations; interest expenses increased more than 10 percent annually for seven associations; total assets grew more than 10 percent for four associations; total liabilities and net worth increased more than 10 percent annually for six associations; the sales-to-assets ratio increased for 11 associations, indicating that their sales volumes increased faster than the addition of assets.

Table 6—Average annual change in selected financial measures, 14 associations, 1975 to 1978 fiscal periods

Item	Percent decline: More than 20	Percent decline: 11-20	Percent decline: 1-10	Percent increase: 1-10	Percent increase: 11-20	Percent increase: More than 20
	Number of associations					
Sales volume	0	0	1	5	6	2
Interest expense	1	1	3	2	3	4
Current assets	0	0	4	5	3	2
Fixed assets	0	0	2	6	4	2
Total assets	0	0	3	7	2	2
Current liabilities	0	1	4	3	3	3
Long-term liabilities	1	0	1	4	4	4
Total liabilities	0	0	4	4	4	2
Net worth	0	0	0	8	5	1
Sales/assets ratio	0	0	3	6	5	0

Those same financial measures grew as follows between 1972 and 1975 (table 7): all associations increased their average annual sales volume; assets and liabilities increased more than 10 percent annually for most associations; the sales-to-assets ratio showed more variety, declining by more than 20 percent for three associations and increasing by more than 20 percent for another three associations.

Sales volume increased at a slower rate during the late seventies than in the early seventies for 11 of 14 associations (table 8). Compared with the early seventies, interest expenses grew faster for half of the associations in the late seventies and slower for the remaining half. Among major balance sheet items, only long-term liabilities showed a positive change in growth rate for a majority of the associations when the two periods were compared. For a majority of the organizations, however, the annual growth of the sales/assets ratio for the later period increased in relation to annual growth of the ratio for the earlier period.

Sums and means of selected financial data provided by the sample associations are presented in table 9 to indicate trends from 1972 to 1978. The total sales figures adjusted for price changes are also shown. The latter figures indicate that during the 1972-78 period real sales growth amounted to 30 percent compared with 112 percent computed from the unadjusted data.

The increase in total assets over the period amounted to 96 percent, while 109 percent and 72 percent increases were the changes for total liabilities and net worth, respectively. The unadjusted sales/assets ratio ended the period about 8 percent higher than the figure at which it began.

Table 7—Average annual change in selected financial measures, 14 associations, 1972 to 1975 fiscal periods

Item	Percent decline			Percent increase		
	More than 20	11-20	1-10	1-10	11-20	More than 20
	Number of associations					
Sales volume	0	0	0	4	6	4
Interest expense[1]	0	0	0	0	0	0
Current assets	0	0	0	0	6	8
Fixed assets	0	0	1	6	4	3
Total assets	0	0	0	2	9	3
Current liabilities	0	0	0	1	5	8
Long-term liabilities	0	0	2	2	4	6
Total liabilities	0	0	0	1	6	7
Net worth	0	0	0	8	5	1
Sales/assets ratio	3	1	1	6	0	3

[1]Reported by too few associations to allow complete distribution.

Table 8—Change in average annual growth rate of selected financial measures, 14 associations, 1975-78 compared with 1972-75

Item	Percent lower			Percent higher		
	More than 20	11-20	1-10	1-10	11-20	More than 20
	Number of associations					
Sales volume	9	2	0	0	0	3
Interest expense	7	0	0	0	0	7
Current assets	11	0	0	1	0	2
Fixed asstes	5	2	3	0	0	4
Total assets	10	2	0	1	0	1
Current liabilities	10	1	1	0	0	2
Long-term liabilities	4	0	2	1	0	7
Total liabilities	11	0	0	0	1	2
Net worth	5	1	2	0	1	5
Sales/assets ratio	5	0	0	0	0	9

Table 9—Selected financial measures, 14 associations, 1972-78 fiscal years

Item	1972		1973		1974		1975		1976		1977		1978	
	Total	Mean	Total	Mean	Total	Mean	Total	Mean	Total	Mean	Total	Mean	Total	Mean
	Million dollars													
Sales volume (actual) ..	657	47	758	54	937	67	1,028		731,139	81	1,231	88	1,394	100
Sales volume (adjusted)[1]	549	39	585	42	606	43	605	43	669	48	657	47	713	51
Interest expense	12	0.9	11	0.8	17	1.2	23	1.6	21	1.5	28	2.0	31	2.2
Current assets.........	244	17	243	17	297	21	406	29	479	34	487	35	526	38
Fixed assets	180	13	185	13	197	14	241	17	273	20	293	21	307	22
Total asset	424	30	428	30	494	35	647	46	752	54	780	56	833	60
Current liabilities......	216	15	206	15	232	17	324	23	394	28	401	29	436	31
Long-term liabilities ...	74	5	78	6	96	7	127	9	150	11	165	12	169	12
Total liabilities........	290	20	284	21	328	24	451	32	544	39	566	41	605	43
Net worth	134	10	144	10	165	12	195	14	208	15	214	15	231	17
	Ratio													
Sales/Assets ratio:														
Actual sales	1.55:1		1.77:1		1.90:1		1.59:1		1.51:1		1.58:1		1.67:1	
Adjusted sales.........	1.29:1		1.37:1		1.23:1		0.94:1		0.89:1		0.84:1		0.86:1	

[1]Sales adjusted to constant 1967 dollars on the basis of annual producer price indexes for fruit and vegetable processors.

COMPARISONS AMONG ASSOCIATIONS

For purposes of analysis, the sample associations were classified by two measures: (1) 1978 sales and (2) a 1972-78 composite growth indicator that included sales growth, assets growth, and growth in the sales/assets ratio, with each equally weighted in the composite figure.

1978 Sales

The 14 associations were divided into two groups of seven—those with sales below $63 million and those with sales above $63 million in 1978. Average sales for organizations in the smaller and larger groups amounted to $31 million and $168 million, respectively. The range of volume between the smallest and largest of the small processors amounted to $48 million, while a similar range for the large processors amounted to $198 million.

Some of the more striking contrasts between small and large organizations are pointed out below—those seemingly influenced to a minimal extent by the small number of associations in each group studied.

The larger organizations were almost twice as likely as the smaller to have dispersed their processing facilities, distribution centers, and sales offices in distant locations from their primary operational centers.

The average interest expenses of the smaller associations amounted to less than $1 million in 1978 and more than $1 million for the larger associations. Net margins amounted to less than $5 million annually for most of the smaller processors but more than $10 million for most of the larger organizations. Total assets ranged between $5 million and $25 million for most of the smaller associations and from above $50 million to more than $100 million for most of the larger associations. Total liabilities were never more than $25 million for the smaller associations and never less than that figure for the larger associations. Most of the smaller processors had a net worth of less than $10 million while most of the larger processors had a net worth larger than that amount.

During the peak processing season, the average ratio of headquarters to plant personnel was almost 44 percent greater for the larger processors than the smaller (1:16 vs. 1:23, respectively). In slack periods, the ratios were about equal (1:4 for large associations, 1:3 for small). The average ratio of peak part-time to peak full-time plant workers (5:1 for large associations, 8:1 for small) indicates that the smaller processors used a mix composed of 60 percent more part-time workers.

Due, perhaps, to the more isolated location of many of the smaller processors and the accompanying lack of alternative employment opportunities, their replacement ratios for headquarters employees (1:17) and plant employees (1:28) were much less than those of the larger associations (1:9 and 1:5, respectively).

The larger processors were more likely to provide salaried employees with bonuses in addition to their normal pay—75 percent of the larger associations made such payments compared with 33 percent of the smaller associations. Bonus payments for both groups, however, tended to be restricted to a limited group of salaried employees rather than to the entire salaried work force.

Unionization was more prevalent among the larger organizations—75 percent of which had 50 percent or more of their work force unionized. Among the smaller associations, only 33 percent were unionized to any degree, and usually a smaller proportion of their work force was unionized than was the case with the larger unionized organizations. Seventy-five percent of the larger associations also had employment contracts with one or more of their top management; none of the smaller associations had such contracts.

The five highest ranking managers of all the larger processors tended to be older and have more years of experience with their organizations than their counterparts in the smaller associations. Two-thirds of top management of the larger orgnaizations were over 50 years of age while only about half of the smaller organizations' top management had reached this age. Over half of the top managers of the larger associations had more than 10 years of experience, while only a third of the smaller associations' top managers had that much experience.

Almost half of the members of the boards of directors of the smaller associations were less than 50 years of age compared with about one-fourth of the directors for the larger organizations. The majority of the smaller associations' directors had served on their boards for 6 years or less while most of the larger associations' directors had served for more than 6 years. Outside directors, such as lawyers, bankers, or academicians, were seldom used, and then only by the larger processors.

Members' voting rights followed the traditional one-member, one-vote pattern for two-thirds of the smaller associations; three-fourths of the larger organizations included a volume of business provision, sometimes alone and sometimes in conjunction with the one-member, one-vote general voting rule.

Juice products and canned and bottled solid fruit items accounted for most of the business of the larger associations. The total business output of the smaller organizations was composed of a more balanced mix of juice, fruit, and vegetable products with no particular item(s) in a dominating position.

While canning, bottling, and freezing predominated as methods utilized by the larger associations in processing products, with each accounting for a closely equivalent share of the total value of sales volume handled, canning accounted for a majority of the smaller associations' total sales volume with bottling a quite distant second and amounting to only about half of the canned volume.

Export volume amounted to about 6 percent of total sales for both the larger and smaller processors. Competition between larger and smaller associations, or within either group, for export markets was uncommon. Such competition, when it occurred, usually involved a major market, like Canada, Japan, or West Germany.

While a product research and development section was provided by all of the larger processors, only 50 percent of the smaller processors had established such a section. Reflecting, in part, the greater emphasis on research and development by the larger associations, the number of new products developed by this group was about four times greater than that developed by the smaller associations. However, the product success ratio of amost 1:3 for the smaller organizations was somewhat better than the 1:4 ratio for the larger cooperatives.

Two-thirds of the larger, and one-fourth of the smaller, co-ops engaged in market research activities to analyze old and new markets and to improve market shares by developing new products or changing old products.

Small associations sold less of their product to chainstores and to Federal and State Government agencies than did large associations, and more of their product to other processors and to institutions (table 10).

Almost three-fourths of sales volume was marketed through brokers for both the larger (74 percent) and smaller (71 percent) associations.

Volume processed directly by the associations to fast-food organizations' specifications was relatively small with the business being engaged in by only a limited number of the processors. About 3 percent of the total sales of the larger processors, and one-half of 1 percent of those of the smaller group, went to fast-food outlets.

The number of their own brands used by the larger associations was generally fewer than the number used by the smaller associations. The majority of the larger organizations used three or fewer labels of their own, while most of the smaller organizations used four or more of their own labels.

Sixty-six percent of the larger processors' total sales volume moved under their top label, while the top label accounted for 47 percent of the total volume of the smaller processors. Their other brands accounted for no more than 1 percent of sales for the larger associations and no more than 5 percent of sales for the smaller associations.

Most of the larger associations' sales under outside labels were handled under chainstore labels, while most of the smaller associations' outside labels were those of other processors (table 11).

Table 10—Market channels, seven associations, 1978

Market channel	Large associations	Small associations
	Percent of sales	
Chainstores	54	43
Wholesalers	23	23
Other processors	7	14
Institutions	7	19
Other (Federal and State Government agencies, and export)	9	1

Table 11—Brand usage, seven associations, 1978

Type of brand	Large associations	Small associations
	Percent of sales	
Co-ops' labels	67	52
Other processors' labels	4	22
Chainstore labels	15	10
Other buyers' labels	11	16
No labels	3	0

The larger processors spent almost seven times the amount on advertising that the smaller processors spent ($3.5 million versus about $500,000). Advertising expenditures per unit of sales volume, however, were virtually the same for the two groups: for each $10 of sales, the larger associations spent an average of about 8 cents for advertising, and the smaller associations about 9 cents. The allocation of advertising expenditures among advertising media also varied between the two size groups (table 12).

The dominant portion of the larger associations' advertising budgets was used for coverage of regional markets, while the average budget of the smaller organizations split almost equally among local, regional, and national market coverage (table 13). Promotion of branded products in composite (that is, the brand name) was the usual strategy of the smaller processors and was also used more frequently by the larger organizations. However, the larger organizations, and particularly those that had become quite adept in employing sophisticated advertising techniques, increased their emphasis on promotion of individual products.

Half of the larger associations had problems in obtaining funding for capital projects at some time during the 1975-78 period. Only a third of the smaller associations had such problems. While either one or the other of individual banks for cooperatives (BC) or commercial banks tended to be the lending source for most of the smaller processors, a majority of the larger processing organizations were dependent on both the BC and commercial banks or insurance companies for necessary operating and capital funding. Half of the larger, and a third of the smaller, processors also reported that, during the 1975-78 period, they had tried to involve commercial banks or insurance companies to a greater degree in their borrowing efforts.

Computer personnel and equipment expenditures were about $650,000 for the larger associations and $150,000 for the smaller associations in 1978.

Three-fourths of the larger associations had not developed markets as rapidly as their members had increased yields during recent years. Two-thirds of the smaller associations reported similar problems.

Changes in financial measures between 1972 and 1978 were more pronounced for the larger associations than for the smaller (table 14). The growth rates for most financial categories slowed dramatically for both the larger and smaller associations in 1975-78 compared with 1972-75.

Table 12—Advertising expenditure pattern, seven associations, 1978

Advertising or promotional medium	Large associations	Small associations
	Percent of advertising dollars	
Newspapers:		
General circulation	18	0
Trade	0	8
Magazines:		
General circulation	12	0
Trade	1	0
Television	10	25
Radio	8	0
Store allowances	13	28
Displays	6	12
Other advertising and sales promotions (coupons, merchandise, etc.)	32	27

Table 13—Market and product advertising, seven associations, 1978

Item	Large associations	Small associations
	Percent of advertising dollars	
Market:		
Local	21	34
Regional	76	33
National	3	33
Overseas	0	0
Product:		
Branded products individually	28	0
Branded products in composite	72	100

Table 14—Changes in financial measures, 14 associations, 1972-78

Measure	Change, 1972 to 1978 Large associations	Small associations	1975-78 growth compared with 1972-75 growth Large associations	Small associations
		Percent		
Sales	118	86	-7	-44
Interest expense ...	175	54	-63	-30
Total assets: .	107	56	-34	-59
Current .	127	68	-38	-69
Fixed ...	78	43	-47	43
Total liabilities ..	120	50	-48	-75
Current .	111	52	-37	-92
Long-term- ..	148	46	-49	31
Net worth ...	75	64	-32	-6
Sales/assets ratio ...	11	52	79	26

Composite Growth

The 14 associations were divided into two additional groups of seven—a high-growth group and a low-growth group—on the basis of a composite measure that included sales growth, assets growth, and growth in their sales/assets ratio during 1972-78, with each item weighted equally in the overall measure. Four of the seven associations in the high-growth group were in the smaller sales group of the previous section. Similarly, four of the seven associations in the low-growth group were in the larger sales group.

Some of the more striking contrasts between the high-growth group and the low-growth group are discussed below. As before, the discussion is limited to those items that appear to be minimally biased by the small number of associations in each group.

Most of the associations' major financial measures increased during 1972-78, with increases for the high-growth group generally outpacing those for the low-growth group (table 15). For most of the associations, their growth was greater in 1972-75 than in 1975-78.

Most of the high-growth associations had sales of less than $100 million in 1978; most of the low-growth associations had sales above $100 million. Similarly, most of the high-growth

Table 15—Average change in financial measures, 14 associations, 1972-78

Measure	Change, 1972 to 1978 High-growth associations	Low-growth associations	1975-78 growth rate Compared with 1972-75 growth rate High-growth associations	Low-growth associations
		Percent		
Sales	159	91	-14	-41
Interest expense	418	124	-85	260
Total assets:	124	88	-52	-30
Current	121	113	-60	-42
Fixed	128	57	-39	46
Total liabilities	146	97	-70	-24
Current	118	95	-76	-28
Long-term	296	103	-14	-42
Net worth	86	67	26	-51
Sales/assets ratio	28	3	513	-53

organizations had less than $50 million in assets, while most of the low-growth organizations had more than $50 million in assets. High-growth associations had liabilities and net worth less than $25 million and less than $10 million, respectively; the low-growth associations' liabilities and net worth were greater than those amounts.

Sales increased at an average annual rate of more than 10 percent for most of the high-growth associations between 1975 and 1978. Sales of the low-growth associations increased less than that. The sales-to-assets ratio increased more than 5 percent in the same period for most of the high-growth associations but less than that for most of the low-growth associations. In 1972-75, both sales and assets grew by more than 15 percent for most of the high-growth associations and less than 15 percent for most of the low-growth associations.

Most of the high-growth co-ops' interest expense declined by more than 20 percent in 1975-78 compared with 1972-75; most of the low-growth co-ops' interest expenses rose by more than 20 percent in the same period. The high-growth co-ops increased their net margins by more than 15 percent in the same period, while most of the low-growth co-ops' net margins declined by more than 20 percent. The sales-to-assets ratio increased more than 20 percent for the high-growth co-ops, and decreased more than 20 percent for the low-growth co-ops in the same period.

At the seasonal peak, the average ratio of headquarters-to-plant personnel was almost four times larger for the high-growth co-ops (1:7) than the low-growth co-ops (1:26). Efficiencies, connected with highly automated operations requiring relatively small numbers of operating personnel, and inefficiencies, connected with some small plant operations requiring relatively large numbers of supervisory personnel, both raised the ratios for the high-growth co-ops. In the off-season, the ratios for the two groups were closer (1:4 for the high-growth and 1:3 for the low-growth).

The average ratio of part-time to full-time plant workers during the processing season (2:1 for the high-growth and 10:1 for the low-growth) indicated that the low-growth co-ops employed five times as many part-time workers as the high-growth co-ops. Much of the difference was due to the fact that many of the high-growth co-ops had adjusted their processing operations to allow operations year around with a mostly full-time work force. This was accomplished both by product diversification and preservation of raw product inputs to stretch out periods over which plant facilities could be utilized.

The high-growth processors were somewhat more prone to provide bonuses to their salaried employees—80 percent of these associations reported such payments compared with 50 percent of the low-growth associations. For both groups, however, the payment was usually made only to a restricted segment of the salaried work force.

Turnover of headquarters employees was about 40 percent higher for the high-growth co-ops (1:5) than for the low-growth co-ops (1:7). Turnover of full-time plant personnel was about 133 percent higher for high-growth co-ops (1:3) than for the low-growth co-ops (1:7).

Forty percent of the high-growth associations had no union employees, while all the low-growth organizations were at least partially unionized. None of the associations in the high-growth category had salaried union members, and only one of the low-growth associations had employees in this category. Forty percent of the high-growth organizations had no unionized wage employees, while all the wage employees of all of the low-growth processors were unionized. The managers of 60 percent of the high-growth associations had employment contracts; none of the low-growth processors had managers under contract.

The top management personnel of the high-growth organizations tended to be somewhat younger and have fewer years of experience with their organizations than top management in the low-growth associations. Of the top five managers in all the associations, 56 percent from the high-growth groups were over 50 compared with 70 percent from the low-growth group. Sixty percent of the high-growth associations' management had less than 10 years' experience with their organizations, while 60 percent of the top managers of the low-growth organizations had more than 10 years' experience.

Sixty percent of the members of the boards of directors of the high-growth associations were over 50 years of age compared with about 80 percent of the directors of the low-growth organizations. The majority of the directors of both groups had served on their boards for 6 years or more, although the majority was somewhat larger for the low-growth co-ops. Outside directors were more likely to be on the boards of associations in the low-growth group, while only a few directors with nonfarming primary professions were on the boards of the high-growth associations.

Management representatives of 60 percent of the high-growth organizations indicated that the board sometimes assumed responsibilities assigned to management. None of the low-growth organizations reported this problem.

Sixty percent of the high-growth associations had increased their membership between 1975 and 1978, while virtually none of the low-growth associations had membership increases.

Juice products, canned and bottled solid fruit items, and frozen vegetables accounted for a significant share of the business of the high-growth associations. The output of the low-growth associations was composed primarily of canned and bottled fruit products and canned and frozen vegetable items.

Domestic sales accounted for a somewhat larger share of the total sales volume of the high-growth associations (98 percent) than the low-growth associations (93 percent).

The high-growth associations tended to operate fewer plants, but the low-growth associations reported more problems with limitations in processing capacity during peak periods and with inadequate standby capacity in their operating areas.

Product research and development were conducted by 50 percent of the high-growth organizations and 80 percent of the low-growth associations. The high-growth associations developed two new products, on average, during 1975-78, while the low-growth associations developed an average of 18. Half of the new products developed by the high-growth co-ops were successful, however, compared with about a fourth of the new products developed by the low-growth groups. None of the high-growth associations used consulting organizations in developing new products; 40 percent of the low-growth organizations used consultants. Brand development was given major consideration by 50 percent of the high-growth, and 75 percent of the low-growth associations.

Chainstores were the primary market for both the high- and low-growth associations, but the low-growth associations sold proportionally more of their product to the chains than did the high-growth co-ops (table 16). Sales to wholesalers and institutional buyers were proportionally more important for the high-growth associations.

The low-growth associations tended to handle more sales directly (36 percent of their total volume) than the high-growth associations (17 percent).

Four or more of their own labels were used by most of the high-growth associations, while the low-growth associations used two or fewer of their own labels. Volume moved under the top label accounted for the vast majority of co-op brand sales for both groups. However, as a percentage of total sales volume, top brand sales varied markedly for the two groups—62 percent of the total sales volume of the low-growth associations was handled under their top co-op label, on average, versus only 27 percent of total volume under the top label for the average high-growth association.

Among outside brands under which the associations packed, other processors' labels predominated for the high-growth associations, while the low-growth associations' products were packaged about equally under the labels of other processors, chainstores, and other buyers (table 17).

Advertising expenditures averaged $456,000 for the high-growth associations and $918,000 for the low-growth associations. Sixty percent of the high-growth associations made substantial change, usually a reduction, in amounts spent on advertising between 1975 and 1978. None of the low-growth associations reported significant changes in spending for advertising during that period.

Table 16—Market channels, seven associations, 1978

Market channel	High-growth associations	Low-growth associations
	Percent of sales	
Chainstores	38	53
Wholesalers	29	20
Other processors	12	12
Institutions	21	9
Other (Federal and State Government agencies, and export)	0	6

Table 17—Brand usage, seven associations, 1978

Type of brand	High-growth associations	Low-growth associations
	Percent of sales	
Co-ops' labels	28	66
Other processors' labels	47	10
Chainstore labels	8	12
Other buyers' labels	17	8
No labels	0	4

Advertising expenditures among the media varied for the two groups (table 18). Sixty percent of the high-growth associations reported having shifted their advertising patterns sometime between 1975 and 1978, with larger amounts usually budgeted for television coverage. Only minor, if any, shifts were reported by the low-growth associations.

The high-growth associations concentrated on regional markets, while the low-growth co-ops had a more balanced mix of advertising involving local and regional markets (table 19). Promotion of a brand name (branded products in composite) was the strategy followed overwhelmingly by the high-growth associations, whereas the low-growth co-ops tended to spend almost equal amounts in promoting brand names and individual products.

Eighty percent of the high-growth associations and 50 percent of the low-growth associations used a financing source in addition to a bank for cooperatives when arranging for operating or improvements funding.

High-growth co-ops had average computer expenses (both personnel and equipment) of approximately $200,000 annually; low-growth co-ops had similar expenses averaging almost $1.1 million. Computer expenses per sales dollar were about equal for both groups, averaging 0.8 cent.

Exports rose for 40 percent of the high-growth associations and all the low-growth associations. Three countries were exported to, on average, by the high-growth organizations and five by the low-growth organizations.

Only 20 percent of the high-growth associations were able to develop markets as rapidly as their grower-members increased yields; none of the low-growth associations reported problems in balancing production and marketing.

Eighty percent of the high-growth, and 50 percent of the low-growth co-ops reported that their organizations provided sufficient earning opportunities to attract and retain skilled personnel.

Table 18—Advertising expenditure pattern, seven associations, 1978

Advertising or promotional medium	High-growth associations	Low-growth associations
	Percent of advertising dollars	
Newspapers:		
General circulation	10	12
Trade	5	0
Magazines:		
General circulation	5	12
Trade	0	2
Television	20	7
Radio	5	3
Store allowances	12	38
Displays	7	13
Other advertising and sales promotions (coupons, merchandise, etc.)	36	13

Table 19—Market and product advertising, seven associations, 1978

Item	High-growth associations	Low-growth associations
	Percent of advertising dollars	
Market promotion:		
Local markets	15	55
Regional markets	63	45
National markets	22	0
Product promotion:		
Branded products individually	2	50
Branded products in composite	98	50

EXAMINATION BY DISCRIMINANT ANALYSIS

The statistical technique of discriminant analysis was used to derive characteristics distinguishing the high-growth co-ops from the low-growth co-ops.[1] The method involved selecting a collection of discriminating variables that measured characteristics on which the study groups were expected to differ. Combinations of the discriminating variables were analyzed and then formed in such a way as to maximize separation of the groups.

The number of variable items covered in the survey far exceeded the processing capabilities of the computerized discriminant analysis procedure utilized. Therefore, the variables were sorted into organizational, operational, and financial groups, with the procedure being applied to each grouping. Variables with the strongest discriminating power from each group were run through an additional discriminant analysis to determine the most powerful set of classifiers that would emerge when cross-ties of the three groups were taken into effect since many variables could not be placed strictly in an organizational, operational, or financial classification but rather were related in some manner to two or all three.

In evaluating the results of each analysis, it should be noted that variables were selected as the best discriminators for a group of associations; individual associations within the group could, of course, display characteristics opposite to some or all of those indicated by the classifying variables.

Financial Variables

The financial variables displayed the strongest discriminating power of the three groups mentioned above, with 11 of the variables in the group exhibiting major or minor discriminating ability.[2] Three discriminating variables in the financial group were identified in a major sense with the high-growth organizations. Three other variables had a major identification with the low-growth associations. The variables in each case are presented below in descending order based on classification strength.

High-growth associations:

1. Sales-to-assets ratio, average annual rate of change, 1972-75.

2. Cost of sales, average annual rate of change, 1975-78 as a percentage of 1972-75.

3. Fixed assets, average annual rate of change, 1975-78 as a percentage of 1972-75.

Low-growth associations:

1. Long-term liabilities, average annual rate of change, 1975-78 as a percentage of 1972-75.

2. Interest expense, average annual rate of change, 1975-78 as a percentage of 1972-75.

3. Current liabilities, average annual rate of change, 1975-78 as a percentage of 1972-75.

The variable selection indicated that the high-growth associations tended to generate sales momentum in relation to their asset bases in the early seventies. Later, ever greater emphasis was placed on more efficient use of plant capacity and elimination of those facilities for which efficiency could not be increased to the minimum standards. Payments for raw product increased to draw the necessary quantities and qualities of inputs for processing and to be assured of their delivery. This, in turn, allowed organizations to maintain favorable sales-assets balances. Development of markets and the capacity to service them were hallmarks of the high-growth associations throughout the seventies.

Growth rates for short-term, long-term, and total debt decreased for both the high- and low-growth associations in the later seventies compared with those earlier. While the decline in long-term debt growth was greater for the low-growth associations, declines in growth of both short-term and total debt were much greater for the high-growth associations. This, along with the large rate of increase in interest expenses for the low-growth associations, indicated that those co-ops were having some problems in controlling and reducing borrowings for operating purposes. Inadequate working funds, a derivative of this problem area, hampered or delayed several associations in taking the initiatives and making the breakthroughs necessary for marketing success.

Operating Variables

Variables associated with operating activities of the associations were slightly weaker than the financial variables in their discriminating ability but considerably stronger than the variables related to the associations' organizational features. Eight of the variables in the operating group displayed major or minor discriminatory power, with three variables identified in a major degree with the high-growth

[1]Survey data furnished by the cooperatives were processed through subprogram DISCRIMINANT of the SPSS statistical package for computers. For a discussion of this analytic procedure, see Nie, Hull, et al., ***SPSS (Statistical Program for the Social Sciences)***, second edition, McGraw-Hill, New York, 1975, pp. 434-467.

[2]Variables with the strongest discriminating characteristics, and accounting for at least a simple majority of the total sorting power of the entire set of discriminating variables selected, were identified as major in each analysis performed in this section of the report. The remaining discriminating variables usually only had a minor role in the sorting process and for all practical purposes could be disregarded. Focus on the major discriminators also simplified interpretation of the results, the characteristics of the discriminant analysis routine requiring that such interpretation be based primarily on subjective evaluation.

organizations and two variables showing major association with the low-growth co-ops. The major variables associated with each group are shown below in descending order based on classifying ability.

High-growth associations:

1. Proportion of processing volume composed of frozen products.

2. Proportion of processing volume composed of deciduous fruit products.

3. Affirmative response concerning problems in developing markets as rapidly as producers were increasing yields.

Low-growth associations:

1. Proportion of marketing volume produced in major plant facility.

2. Proportion of processing volume composed of vegetable products.

High-growth associations were more strongly inclined toward major processing activities involving frozen products and deciduous fruit items. In addition, the production expansion capabilities and desires of their grower-members were a constant spur to these associations in attempting to develop and promote expanded or additional markets for their products.

Major proportions of processing volume produced in single-plant facilities appeared to be an identifying feature of many of the low-growth associations. Geographic diversification was thus limited, aggravating problems associated with climatic adversities and outbreaks of disease and pestilence. Product diversification possibilities were narrowed, and the range of standby facilities more limited in case of capacity overload or breakdown. Operational problems connected with labor, utilities, and the environment were also more likely to be exacerbated when production was concentrated in a single facility.

Higher proportions of processed vegetable volume in the marketing mix also appeared to have a negative effect on growth, although this relationship was not as strong as that related to single-plant dominance in the output of processed product.

Organizational Variables

The organizational variables were considerably weaker as discriminators of the high and low-growth associations, compared with the operational and financial variables. While seven of the organizational variables were identified as having some discriminating ability, only three were of much significance—two associated with the high-growth organizations and one with the low-growth group.

High-growth associations:

1. Proportion of top five management personnel with 11-15 years of experience.

2. Proportion of top five management personnel with five or fewer years of experience.

Low-growth associations:

1. Number of peak-season, part-time employees utilized in plant facilities.

A mix of both well-experienced and newer, usually younger, personnel at top management levels was often associated with the high-growth co-ops. Larger numbers of part-time, peak-season employees were utilized by many of the low-growth organizations, particularly by those whose major operations were active only on a part-year basis.

Selected Discriminant Variables

Discriminating variables chosen in the above analyses of financial, operational, and organizational groups, were evaluated in aggregate by an additional discriminant analysis. This allowed determination of those variables which were most powerful when cross-ties between the groups were considered. Of the total 26 variables selected in the original three discriminant routines, 11 exhibited some degree of discriminating ability in the final routine. Two of the variables were strongly associated with the high-growth associations, and two were closely connected to the low-growth organizations. The final overall group of discriminant variables provided the strongest classifying routine among the four performed.

High-growth associations:

1. Cost of sales, average annual rate of change, 1975-78 as a percentage of 1972-75.

2. Percentage of board of directors 30-39 years old.

Low-growth associations:

1. Interest expense, average annual rate of change, 1975-78 as a percentage of 1972-75.

2. Net returns, average annual rate of change, 1975-78 as a percentage of 1972-75.

In addition to representing larger rates of increase in overall volume of raw product purchased for processing by the high-growth associations, increases in the cost of sales measure for several of the organizations also reflected increasing up-front payments to individual grower-members for their product. Increasing immediate payment amounts favorably affected quantities and qualities of inputs furnished for processing in cooperative facilities. This, in turn, helped improve the efficiencies with which such facilities could be operated, and, ultimately, the effectiveness of marketing efforts in disposing of the processed product. An increasing rate for the cost of sales was the strongest discriminator of the high-growth associations. Larger proportions of their boards of directors in the younger-age category was an additional highly significant feature of associations in the high-growth group.

Rising interest expense ranked as the strongest classifier of the low-growth associations. Associations saddled with heavy current or long-term debt loads were less able to respond quickly to changing market conditions and thus tended to be more sluggish in their growth. Increasing net returns, almost as influential a discriminator as interest expenses for the low-growth associations, would normally result primarily from either decreasing costs of sale or decreasing operating expenses, or both. Since there was no evidence that operating expenses of the low-growth associations were falling significantly relative to those of the high-growth organizations, the primary causal factor was presumed to be lower rates of increase for the cost-of-sale category. Much of this was due to a slower rate of increase in prices paid for input commodities purchased for processing. Another factor was the result of lower rates of increase in initial payouts to growers for raw commodity furnished as some associations retained larger than usual margins to cover the risk of inflationary rises in certain operating expense items.

CONCLUSIONS

For a number of years, cooperatives in fruit and vegetable processing have been in the forefront in developing new grower payment methods, advanced production technologies, product changes and refinements, sophisticated marketing and advertising strategies, and joint operating activities to foster closer cooperation between associations in activities of mutual benefit. Some processing associations have, of course, been more active than others in enhancing their opportunities for immediate growth or in attempting to ensure their prospects for growth in the future. In this study, few associations appeared to be lax in the way they were operated or to be unaware that testing in the marketplace was continuously becoming more rigorous.

While the analysis provides for study of a considerable number of the major organizational and operating features of the processing associations and identification of strong contrasts between associations classified in opposing size and growth groups, the results must be appraised carefully. This is due not only to the small number of organizations included in the sample surveyed and the fact that a selected, rather than random, sample was used in order to provide the diverse product and geographic coverage desired but also because a relatively small population existed from which to draw the sample organizations. The latter feature alone may indicate that the processing co-ops have become specialized to the extent that attempts to link differences in organizational or operating characteristics with size or growth disparities may be prone to error. What is clear, however, is that most associations, no matter how characterized in terms of organizational or operating structure or classified in terms of size or growth characteristics, realized that increased attention would have to be paid to the financial, marketing, and joint activity areas if their organizations were to expand, or in some cases, even survive.

Considerable attention by management of the processors was being directed toward enhancing sales, improving market share, coping with constantly inflating operating expenses, and attempting to blunt the effects of high interest costs. In comparison, much less attention appeared to be directed toward return on investment. Awareness of relationships between income and assets or equity was only partial at best for several of the processors. In view of expected continued high costs for capital and the apparent dampening effect of escalated interest costs on the growth prospects of many associations, much more attention will be required in evaluating payouts on resources in the future. This will likely include increases in the financial expertise presently available only in limited amounts on the management staffs of a number of co-ops.

While the servicing of traditional markets with traditional products was, and will probably continue to be, the focus of most association activity, several of the cooperative processors have been active in expanding their product lines. In some instances, this has involved the acquisition of smaller "name" packers. Such acquisitions provided opportunities for strengthening or expanding their market niche through stronger brand identification. In other cases, associations emphasized product development, market identification, and creative advertising to stimulate sales.

With the high risk inherent in the normal day-to-day processing business, other associations have been reluctant to expose themselves to additional hazards offered by new business undertakings. This explains, in part, the limited efforts made to service fast-food and export markets, two markets in which rapid growth has occurred and which will likely offer above-average business opportunities in the future.

In addition to more refined financial management and the development of new marketing modes, it is also likely that processing associations will engage in more joint processing, sales, and distribution activities among themselves to realize efficiencies in using their plants and personnel. As more refined procedures are developed to assure fairness and maintain confidentiality in linked dealings and as a greater atmosphere of trust evolves in such arrangements, they will likely be used in increasing fashion by the processor associations.

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