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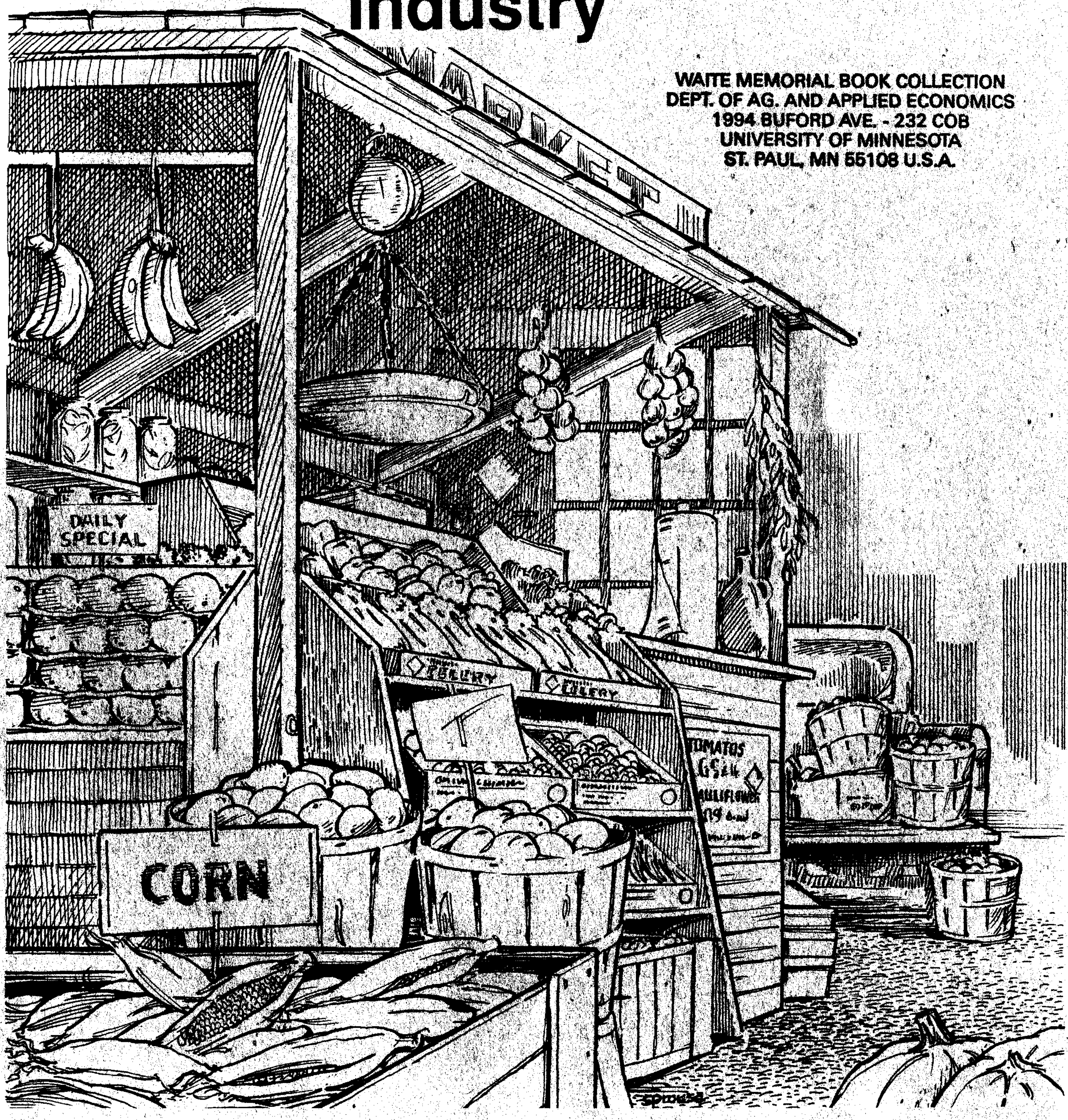
Cooperatives' Position in the Fresh Vegetable Industry



Abstract

Cooperatives' Position in the Fresh Vegetable Industry
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Seventy-three fresh vegetable marketing cooperatives handled 57 different fresh vegetable commodities weighing 1.6 billion pounds; these vegetables are valued at more than $218 million. In 1986, cooperatives handled more than 4 percent of the total volume of nine principal fresh vegetables produced in the United States.

Important concerns of fresh vegetable marketing cooperatives were competition from domestic and foreign areas, overproduction, labor shortage and high costs, marketing, quality, and transportation.

Although associations were using their facilities to 71 percent of capacity, 58 percent planned expansion over the next 5 years to provide facilities for handling the expected increase in new members and increased volume of current members.

Keywords: Cooperatives, vegetable, fresh marketing, organization, grower payments, selling arrangements

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Preface

Production of ten principal fresh market vegetables and melons in 1986 was 216 million cwt. The crop was harvested from 1.07 million acres having a value of $3.22 billion. The five leading States in order of importance were California, Florida, Arizona, Texas, and Oregon, accounting for 78 percent of production. California, the most important vegetable producing State, accounted for more than half of fresh vegetables and well over half of vegetables for processing in 1986. The value of fresh market vegetables greatly exceeded the value of vegetables produced for processing.

This report presents a brief overview of the U.S. fresh vegetable industry but focuses on the role of cooperatives in the industry. It examines the functions these associations perform, number of members served, organization and operation, and problem areas faced by the associations and their members.

There were 73 fresh vegetable marketing associations in the United States in 1986. These associations handled 57 different fresh vegetable commodities, weighing 1.6 million pounds and having a total value in excess of $218 million. This represents more than 4 percent of the total volume of nine principal fresh vegetables produced.

Indepth interviews were held in 1986 with managers of 19 fresh vegetable marketing cooperatives, accounting for 52 percent of the dollar volume of associations included in the study. The 73 associations served 7,994 grower members, 20 member cooperatives, and 3,122 nonmember growers.

Acknowledgment is made to the managers of the fresh vegetable marketing associations, leaders in the fresh vegetable industry, and other State and USDA agencies for their assistance in the preparation of this report.

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Highlights

Seventy-three fresh vegetable marketing cooperatives marketed 57 different fresh vegetable commodities weighing 1.6 billion pounds with a total value in excess of $218 million. Cooperatives handled just over 4 percent of the total volume of nine principal fresh vegetables produced in the United States in 1986. Indepth discussions were held with managers of 19 cooperatives that accounted for 52 percent of the dollar volume.

The most important service was providing outlets for growers' fresh vegetables. More than 75 percent of the cooperatives had their own sales offices. Associations in the Northeast and Midwest had their own sales offices, while those in the West and South used some private sales agents, federated sales agents, and brokers. Grading and packing services were provided by more than half of the associations, with the highest proportion being offered in the West and the lowest in the Northeast.

The 73 cooperatives served 7,994 grower members, 20 member cooperatives, and 3,122 nonmember growers in 1986. Seventy-one percent had open membership. Membership fees were more important than stock purchases as an investment requirement for new members. Fifty-five percent of the associations had marketing contracts. Almost two-thirds of the associations required delivery of growers' total tonnage or acreage, while the other one-third required delivery of a specified tonnage or acreage. The average size of the board of directors was 7, but ranged from 3 to 15. The associations responding employed 353 full-time persons and 1,852 part-timers.

Four methods of paying producers were used: pooling, individual grower account, individual association account, and growers paid directly by buyer. Individual grower accounts are the most common with 63 percent of the total.

Marketing charges varied depending upon services rendered by the individual association. Associations assessing charges for harvesting, packing, and selling averaged $3.02 per box.

Although many cooperatives had their own sales offices, 20 percent of the volume was sold through brokers. Ninety-one percent of the sales were f.o.b., whereas 9 percent was delivered. Associations shipped 96 percent of their volume by truck and 4 percent by rail. Thirty-five percent of the volume was inspected by the cooperatives. Seventy-seven percent of the volume was sold under their own labels.

Most associations used flexible, informal pricing policies relying on information from Federal-State market news, trade contacts, and private news sources.

Forty-five percent relied entirely on per-unit retains for equity capital during the last fiscal year and 41 percent, on retained patronage. The most frequent revolving period was 5 years. Only two associations had special plans for returning members' equity at retirement.

Major problems included competition from other areas, including both domestic and foreign areas, overproduction or excess supply, labor shortages and high costs, marketing, quality, and transportation.

Although responding associations utilized their facilities to 71 percent of capacity, 58 percent planned expansion over the next 5 years to provide facilities for handling the expected increase in new members and increased volume of current members.

Cooperatives' Position in the Fresh Vegetable Industry

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OVERVIEW

Production of the 10 principal fresh market vegetables and melons for 1986 was 216 million cwt. This included asparagus, broccoli, carrots, cauliflower, celery, sweet corn, honeydews, lettuce, onions, and tomatoes. The crop was harvested from 1.07 million acres and had a value of $3.22 billion dollars. [1]

The five leading States in production of fresh vegetables and melons during 1986 in order of total output were California, Florida, Arizona, Texas, and Oregon accounting for 78 percent of the production (table 1). California, Florida, Arizona, Texas, and Michigan accounted for 74 percent of the harvested area. California, Florida, Arizona, Texas, and New York accounted for 80 percent of the value of the 10 fresh market vegetables and melons produced in the United States.

California is by far the most important vegetable producing State, accounting for more than half of the fresh vegetables and well over half of the vegetables produced for processing in 1986 (table 2). Florida and Arizona rank second and third in fresh vegetable production; however, Wisconsin and Minnesota rank second and third in vegetables produced for processing.

During the 15-year period from 1972 to 1986, fresh vegetable production exceeded production for processing in 9 of the first 10 years (appendix table 1). Fresh tonnage in the first 10 years varied between 11.6 and 13.9 million tons. In the last 5 years of the 15-year period, processed vegetable production exceeded fresh production by an average of over three-quarters of a million tons (fig. 1).

Value of vegetables produced for the fresh market, however, greatly exceeded the value of vegetables produced for processing during this 15-year period (fig. 2).

Per Capita Consumption

In 1986, per capita consumption of lettuce was over 23 pounds; tomatoes, 17 pounds; carrots, almost 8 pounds; celery and sweet corn, about 7 pounds each; broccoli, 3.5 pounds; cauliflower, 2.7 pounds; and asparagus, only 0.6 pound (table 3). Per capita consumption of fresh vegetables has trended upward in recent years as consumers place more emphasis on nutritional value.

Over the period 1976 to 1987, there have been dramatic differences in the growth in per capita consumption of these fresh vegetables. Broccoli and cauliflower have shown the greatest increase (fig. 3). Per capita consumption of broccoli increased from 1.1 pounds in 1976 to 3.6 pounds in 1987, while cauliflower consumption increased from 1.0 to 2.7 pounds during the same period.

Consumption of three fresh vegetables increased moderately during the period 1976-87 (fig. 4). Asparagus reached a peak of 0.6 pound per capita from a low of 0.3 pounds. Data were not available for asparagus for the years 1982 and 1983. For tomatoes the increased was from 12.6 pounds to 16.8 pounds. Carrot consumption increased from 6.4 pounds to 8.5 pounds per capita during this period.

There was a slight decline in per capita consumption of celery, sweet corn, and lettuce during the period 1976-87 (fig. 5).

[1] National Agricultural Statistical Service, U.S. Department of Agriculture, Vegetables 1986 Summary, Vg 1-1(87) June 1987, page 3, paragraph 1.

Table 1—Leading fresh market vegetable States in 1986

Rank	Harvested area		Production		Value	
	State	Percent of total	State	Percent of total	State	Percent of total
1	California	46.7	California	51.3	California	49.0
2	Florida	12.5	Florida	12.5	Florida	18.8
3	Arizona	5.0	Arizona	6.0	Arizona	5.2
4	Texas	4.9	Texas	4.6	Texas	3.8
5	Michigan	4.6	Oregon	3.5	New York	3.3

Source: Vegetables 1986 Summary, National Agricultural Statistics Service, U.S. Department of Agriculture Vg 1-1(87), June 1987, p. 3.

Table 2—Vegetables, commercial: Production of principal crops, by States, 1986

State	For fresh market		For processing		Total	
	Production	Value	Production	Value	Production	Value
	Tons	*1,000 dols*	*Tons*	*1,000 dols*	*Tons*	*1,000 dols*
Alabama	29,000	7,970	3,960	815	32,960	8,785
Arizona	656,600	169,801	—	—	656,600	169,801
Arkansas	20,000	8,960	4,310	784	24,310	9,744
California	5,422,950	1,554,407	6,564,120	420,408	11,987,070	1,974,815
Colorado	308,600	53,827	25,390	2,755	333,990	56,582
Connecticut	17,950	6,283	—	—	17,950	6,283
Delaware	—	—	58,540	7,599	58,540	7,599
Florida	1,345,350	654,743	39,140	7,923	1,384,490	662,666
Georgia	13,500	5,319	6,900	1,253	20,400	6,572
Hawaii	7,800	5,252	—	—	7,800	5,252
Idaho	185,500	26,252	174,140	12,933	359,640	39,185
Illinois	16,650	3,943	218,590	16,861	235,240	20,804
Indiana	8,750	4,391	159,440	13,655	168,190	18,046
Iowa	—	—	37,590	2,598	37,590	2,598
Louisiana	1,900	1,368	—	—	1,900	1,368
Maine	—	—	—	—	—	—
Maryland	24,150	7,920	93,970	9,245	118,120	17,165
Massachusetts	45,850	20,810	8,500	1,054	54,350	21,864
Michigan	256,500	71,776	326,320	37,722	582,820	109,498
Minnesota	35,200	6,180	851,570	64,718	886,770	70,898
Missouri	—	—	—	—	—	—
New Jersey	124,150	38,734	76,290	8,491	200,440	47,225
New Mexico	122,900	26,665	—	—	122,900	26,665
New York	361,300	111,194	233,060	24,450	594,360	135,644
North Carolina	22,850	6,316	82,000	15,953	104,850	22,269
Ohio	145,500	43,959	441,060	39,298	586,560	83,257
Oklahoma	—	—	—	—	—	—
Oregon	371,100	61,980	517,960	55,904	889,060	117,884
Pennsylvania	69,950	22,468	73,650	6,411	143,600	28,879
South Carolina	60,000	19,800	47,600	8,822	107,600	28,622
Tennessee	52,500	21,000	7,580	1,508	60,080	22,508
Texas	494,000	121,513	59,940	10,526	553,940	132,039
Utah	23,450	3,034	3,330	496	26,780	3,530
Virginia	37,300	18,934	5,320	514	42,620	19,448
Washington	303,200	76,098	368,240	41,787	671,440	117,885
West Virginia	—	—	—	—	—	—
Wisconsin	101,750	14,298	1,071,760	105,624	1,173,510	119,922
Other States	—	—	25,360	4,866	25,360	4,866
Total U.S.	10,686,200	3,195,195	11,585,630	924,973	22,271,830	4,120,168

Source: Compiled from Agricultural Statistics 1987, United States Department of Agriculture, tables 199 & 200, pp 147 & 148.

Figure 1—Fresh and Processed Vegetable Crop Utilization, 1972-86

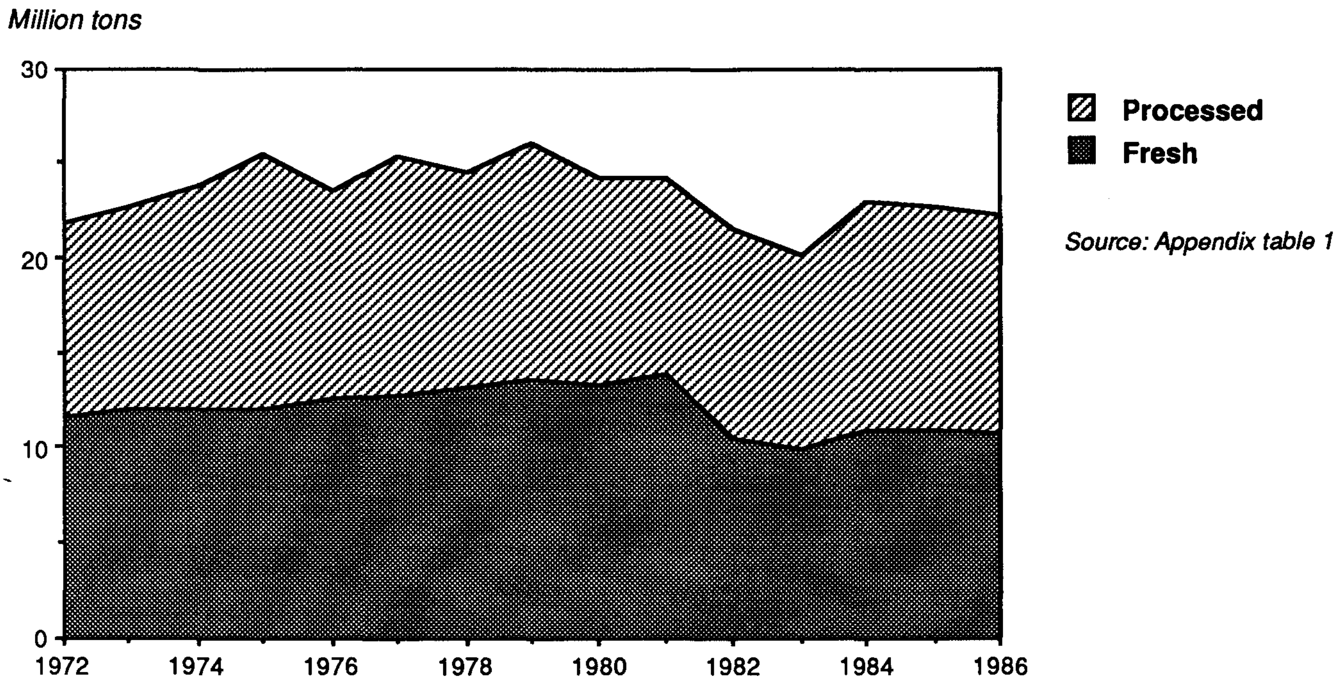

Figure 2—Value of Fresh and Processed Vegetable Crops Utilized, 1972-86

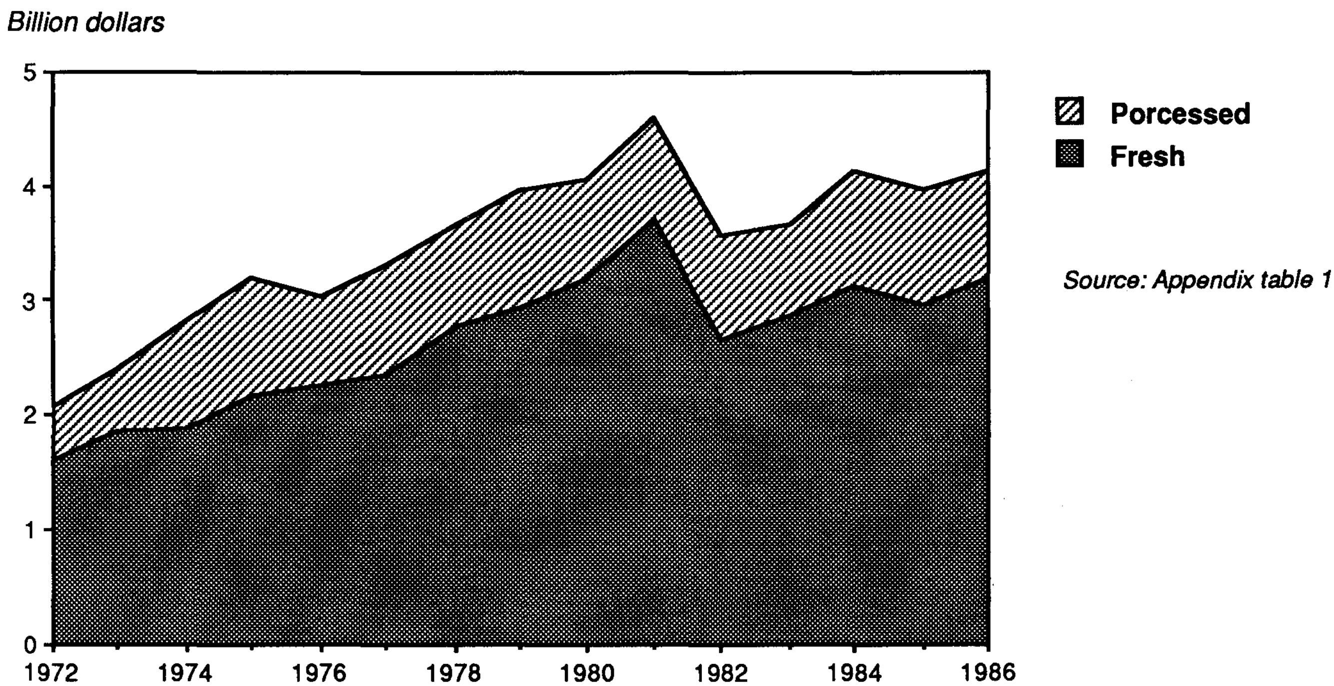

Figure 3—Per Capita Consumption of Fresh Vegetables, Greatest Increase

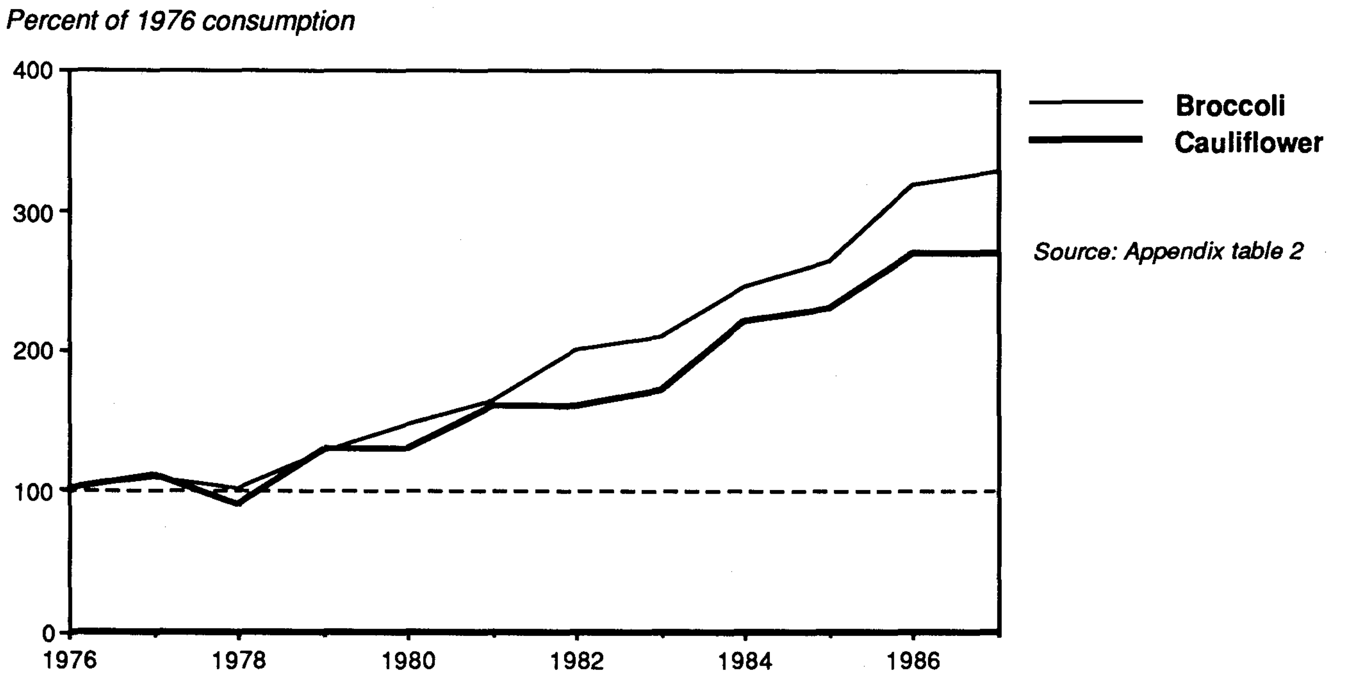

Figure 4—Per Capita Consumption of Fresh Vegetables, Moderate Increase

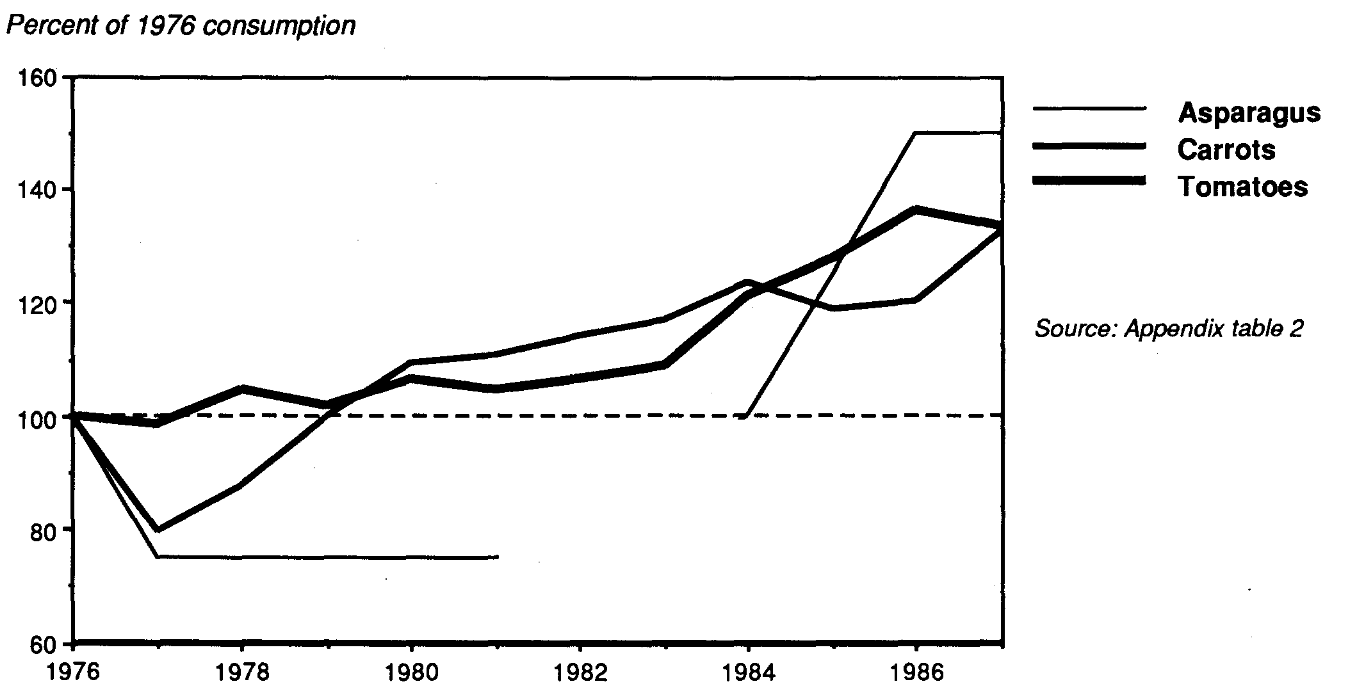

Figure 5—Per Capita Consumption of Fresh Vegetables, Slight Decline

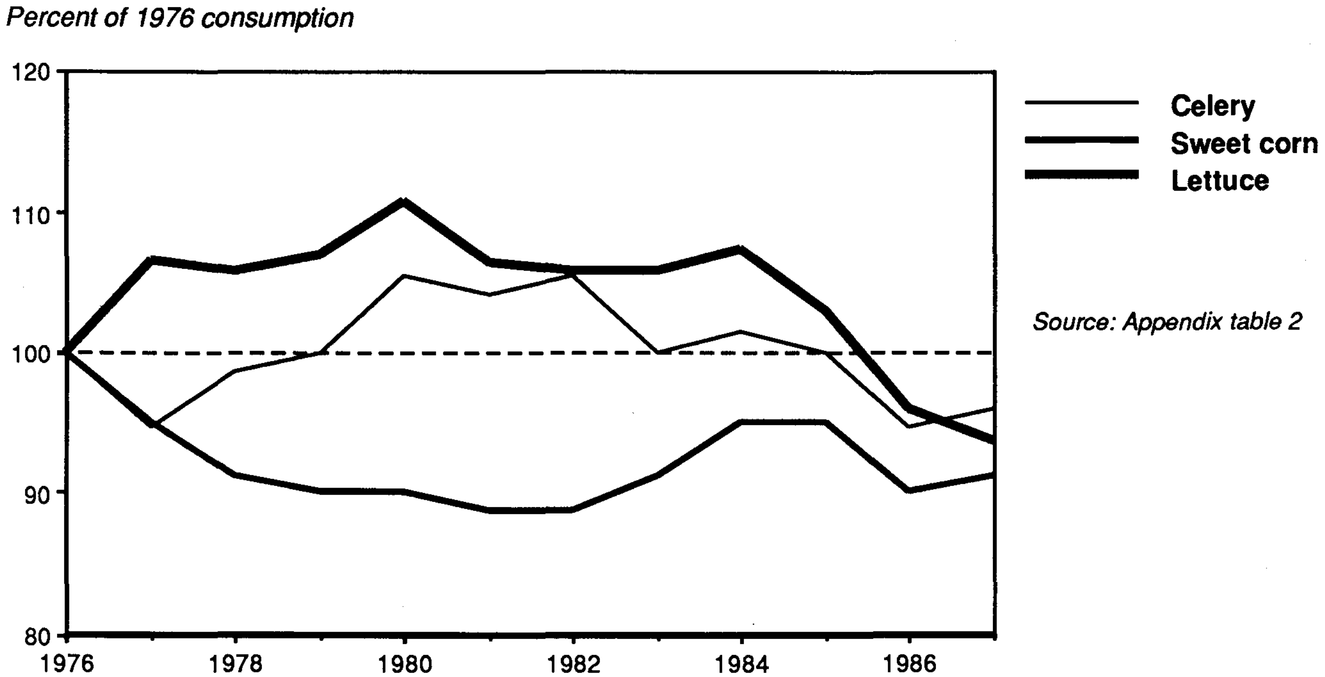

Table 3—Per capita consumption, selected commercial fresh vegetables, United States, 1976-87

Year	Asparagus	Broccoli	Carrots	Cauli-flower	Celery	Sweet corn	Lettuce	Tomatoes
				Pounds farm weight				
1976	0.4	1.1	6.4	1.0	7.4	8.0	24.2	12.6
1977	.3	1.2	5.1	1.1	7.0	7.6	25.8	12.4
1978	.3	1.1	5.6	0.9	7.3	7.3	25.6	13.2
1979	.3	1.4	6.4	1.3	7.4	7.2	25.9	12.8
1980	.3	1.6	7.0	1.3	7.8	7.2	26.8	13.4
1981	.3	1.8	7.1	1.6	7.7	7.1	25.7	13.2
1982	NA	2.2	7.3	1.6	7.8	7.1	25.6	13.4
1983	NA	2.3	7.5	1.7	7.4	7.3	25.6	13.7
1984	.4	2.7	7.9	2.2	7.5	7.6	26.0	15.3
1985	.5	2.9	7.6	2.3	7.4	7.6	24.9	16.1
1986	.6	3.5	7.7	2.7	7.0	7.2	23.2	17.2
1987	0.6	3.6	8.5	2.7	7.1	7.3	22.7	16.8

Source: Compiled from Vegetables and Specialties, Situation and Outlook Report, Economic Research Service, United States Department of Agriculture, TVS-245, September 1988, table 30, p. 62.

Figure 6—Distribution of 73 Fresh Vegetable Marketing Co-ops by Regions, United States, 1986

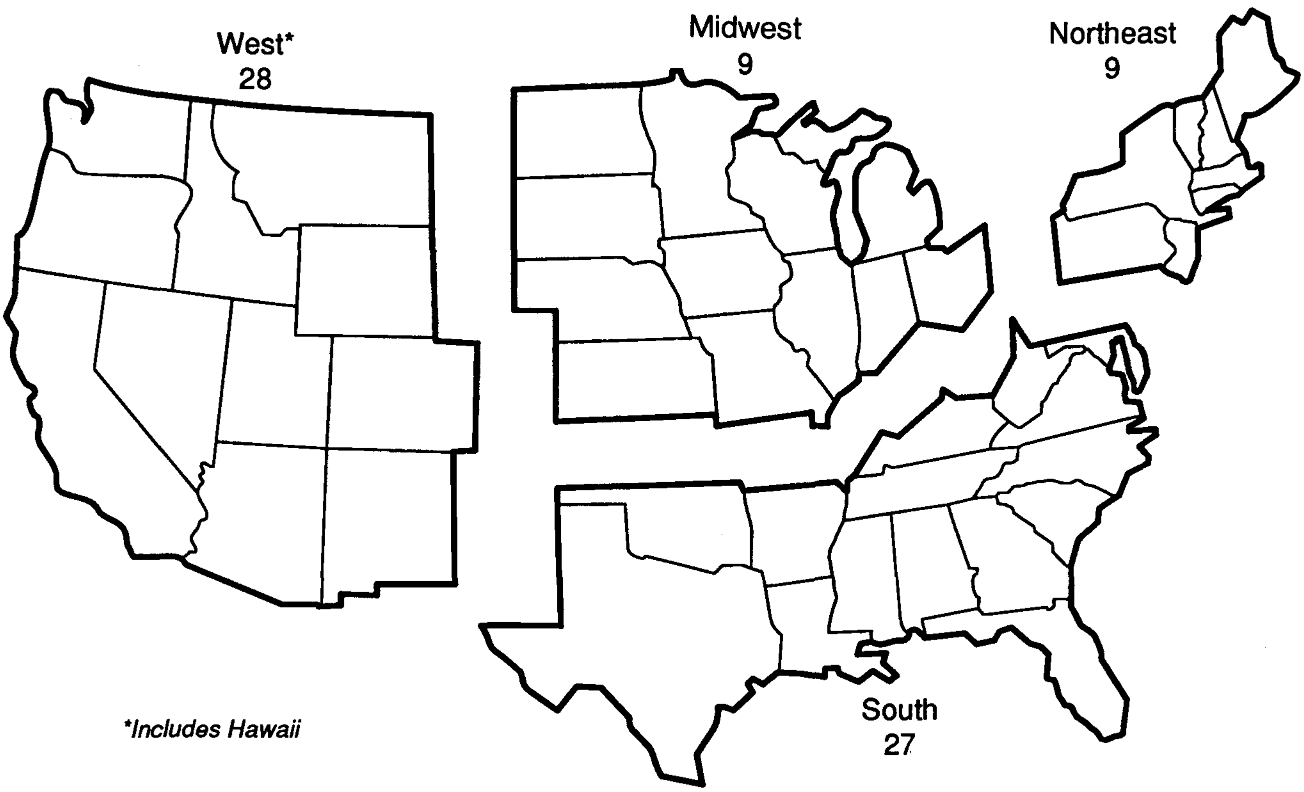

Table 4—Cooperatives' share of principal U.S. vegetables for fresh market, 1986

Crop	United States[1] Production	United States[1] Value	Cooperatives Production	Cooperatives Value	Assns. handling	Cooperatives share of U.S.	
	Pounds	*Dollars*	*Pounds*	*Dollars*	*Number*	*% pounds*	*% value*
Asparagus	138,700,000	97,941,000	9,732,673	6,645,031	6	7.0171	6.7847
Broccoli	844,200,000	184,665,000	32,469,178	7,131,113	15	3.8461	3.8616
Carrots	1,595,400,000	212,999,000	11,969,424	2,083,395	5	0.7502	0.9781
Cauliflower	590,600,000	170,020,000	32,866,095	6,850,955	13	5.5649	4.0295
Celery	1,761,400,000	211,065,000	226,324,254	26,984,759	13	12.8491	12.7850
Sweet Corn	1,501,800,000	208,921,000	58,143,738	8,897,699	20	3.8716	4.2589
Lettuce	5,862,200,000	701,341,000	340,224,189	34,818,976	17	5.8037	4.9646
Onions	4,330,100,000	427,669,000	83,015,495	10,757,501	19	1.9172	2.5154
Tomatoes	3,155,400,000	792,376,000	68,895,713	16,520,229	30	2.1834	2.0849
Total	19,779,800,000	3,006,997,000	863,640,759	120,689,658	—[2]	4.3663	4.0136

[1]Source: Compiled from Vegetables 1986 Summary, National Agricultural Statistics Service, U.S. Department of Agriculture, Vg 1-1(87), June 1987, pp. 4, 19, 21, 23, 26.

[2]Several cooperatives handled more than one product.

FRESH VEGETABLE COOPERATIVES

Seventy-three cooperatives marketed fresh vegetables in the United States in 1986 (fig. 6). Twenty-eight were located in the Western States including Hawaii; 27, in the South; 9, in the Northeast; and 9, in the Midwest.

The 73 associations marketed 57 different fresh vegetable commodities weighing 1,607,431,870 pounds with a total value of $218,177,076 (appendix table 3). Lettuce accounted for about 16 percent of the dollar volume; celery, 12 percent; tomatoes, 8 percent; green beans, 5 percent; and onions, 5 percent.

Cooperatives handled more than 4 percent of the total volume of nine fresh vegetables for which national statistics were available (table 4). This varied from a low of 0.75 percent for carrots to a high of 12.85 percent for celery.

For this report, discussions were held with managers of 19 associations. The 19 accounted for 52 percent of the dollar volume of the 73 cooperatives.

Type of Association

This research focuses on the current status and operating procedures of fresh vegetable marketing cooperatives, and evaluates the cooperatives' role in the fresh vegetable industry. Potatoes were excluded from this study, since they were covered previously.

The associations in the study handled primarily fresh vegetables, although some handled fruits and small quantities of processing vegetables. Also, several associations handled supplies including fertilizer, seeds, chemicals, packing materials, and other items.

There was a wide variation in the operation of the associations. Some sold products only for members, others operated packing sheds, and some harvested, packed, and sold commodities for the growers. Because of wide differences in the types of operations, a regional analysis seemed the best approach to follow in the study.

Other Fruit and Vegetables Handled

Thirty-five of the seventy-three associations, or 48 percent, handled 26 other vegetable and fruit items in 1986 (appendix table 4). This included 18 different fruits, three different berries, and four different vegetables. The vegetables included dry beans, celery, and sweetpotatoes for processing. Some strawberries for processing were included in the berries.

More than 25 percent of the associations handled peaches and potatoes. Seventeen percent handled apples, and 11 percent handled blueberries, dry beans, and grapes.

Services Performed

The most important service was providing outlets for growers' fresh vegetables. More than 75 percent of associations responding had their own sales offices (appendix table 5). This varied from one region to another. All associations in the Northeast and Midwest had their own sales offices, compared with 73 percent in the West and 70 percent in the South. Private sales agents, federated sales agents, and brokers were used in the West and South.

About 12 percent of the associations in the West provided harvesting services. They were the only ones to do so.Grading and packing services were provided by more than half of the associations responding. These services varied greatly from one region to another. Almost three-quarters of the associations in the West provided these services, compared with more than half in the South, more than a third in the Midwest, and one quarter of the associations in the Northeast.

Packing supplies were sold by 29 percent of the associations. This service varied from a high of 50 percent of the associations in the Northeast to 15 percent in the West. This is in keeping with the fact that a much smaller proportion of the sales of western associations was packed by growers, compared with a higher proportion in other regions.

Storage was offered by 14 percent of the associations, with a range of 12 percent in the West to 18 percent in the South.

Sixteen percent of the associations sold production supplies to growers. The West led with 27 percent; they also led in offering precooling services with 15 percent, compared with 9 percent for all regions.

ORGANIZATION AND OPERATION

Membership

The 73 associations had 7,994 grower members and 20 member cooperatives, and served 3,122 nonmember fresh vegetable growers (table 5).

Seventy-one percent of the associations responding had open membership, while 29 percent imposed some type of restriction on membership (table

6). Almost half of those imposing restrictions required approval of the board of directors before a grower could join. Three associations had closed membership at the time of the study. Three associations limited membership by product, and one placed geographic limits on membership. The Northeast had 100 percent open membership, while 67 percent of the associations in the Midwest had restrictions.

Membership fees were more important than stock purchases as an investment requirement for new members. Membership fees averaged $160 for new members, with a range of $1 to $2,500 (table 7). Stock purchases averaged $258, with a range of $1 to $2,500.

Ninety-two percent of the associations responding adhered to the one-member-one-vote rule (table 8). Two associations in the Midwest voted according to patronage, while one association in the West voted according to acreage.

Table 5—Fresh vegetable volume and membership by region, 73 cooperatives, 1986

Region	Assns.	Volume		Patrons served: Members	Patrons served: Non-members	Patrons served: Member co-ops
	Number	*Pounds*	*Dollars*	*Number*		
West	28	660,923,132	89,712,861	2,705	169	8
South	27	510,428,495	54,503,543	3,372	2,903	12
Northeast	9	292,228,856	53,054,095	1,518	42	0
Midwest	9	143,851,386	20,906,578	399	8	0
Total	73	1,607,431,870	218,177,076	7,994	3,122	20

Table 6—Open and restricted membership by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Open membership		Restricted membership	
	Number		*Number*	*Percent*	*Number*	*Percent*
West	28	22	14	64	8	36
South	27	18	15	83	3	17
Northeast	9	6	6	100	0	0
Midwest	9	6	2	33	4	67
Total	73	52	37	71	15	29

Table 7—Investment requirements for membership by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Stock: Assns. responding	Stock: Range	Stock: Average	Membership fee: Assns. responding	Membership fee: Range	Membership fee: Average	Annual dues: Assns. responding	Annual dues: Range	Annual dues: Average	Other: Assns. responding	Other: Range	Other: Average
	Number		*Dollars*		*Number*	*Dollars*		*Number*	*Dollars*		*Number*	*Dollars*	
West	28	0	0-0	0	13	5-2,500	291	0	0	0	0	0	0
South	27	9	1-2,500	345	8	1-200	39	1	0	20	1	0	700
Northeast	9	2	100-200	150	4	1-35	14	0	0	0	0	0	0
Midwest	9	4	50-200	119	1	0-0	10	0	0	0	0	0	0
Total	73	15	1-2,500	258	26	1-2,500	160	1	0	20	1	0	700

Marketing Contracts

Fifty-five percent of the associations responding had marketing contracts with their growers (table 9). More than two-thirds of the associations in the West had contracts; 60 percent in the Midwest and 56 percent of the associations in the South had contracts with their growers. The exception was the Northeast, where none of the associations responding had contracts with growers.

Nearly two-thirds of the associations responding required delivery of all growers' tonnage or acreage, while the other third required delivery of a specified tonnage or acreage (table 10). Eighty percent of the associations responding in the West required growers to deliver all their tonnage or acreage to the association. This was the highest proportion of any region responding.

Fifty-eight of the associations responding had contracts of 1-year duration, 17 percent were for 2

Table 8—Basis for voting by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Basis for voting: One-member-one-vote, assns. responding	According to patronage, assns. responding	According to acreage, assns. responding
			Number		
West	28	16	15	0	1
South	27	12	12	0	0
Northeast	9	6	6	0	0
Midwest	9	5	3	2	0
Total	73	39	36	2	1

Table 9—Status of marketing contracts by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Marketing contracts			
			Yes		No	
	Number		*Number*	*Percent*	*Number*	*Percent*
West	28	22	15	68	7	32
South	27	18	10	56	8	44
Northeast	9	6	0	0	6	100
Midwest	9	5	3	60	2	40
Total	73	51	28	55	23	45

Table 10—Contract delivery requirements by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	100% of tonnage or acreage		Specified tonnage/acreage	
	Number		*Number*	*Percent*	*Number*	*Percent*
West	28	5	4	80	1	20
South	27	5	3	60	2	40
Northeast	9	0	0	0	0	0
Midwest	9	4	2	50	2	50
Total	73	14	9	64	5	36

years, and 25 percent were continuous (table 11). Even with the continuous contracts, a grower could withdraw by giving notice within prescribed limits.

Facility Utilization

The associations responding utilized their facilities at 71 percent of capacity, with a range of from 30 to 100 percent (table 12). The associations in the West utilized their facilities more than any of the other regions responding, averaging 83 percent utilization, with a range of from 70 to 100 percent.

About one-third of the associations responding planned to expand or modernize their facilities in the next 5 years, while two-thirds did not plan any expansion (table 13). More of the associations in the West planned to expand than any other region responding. Two associations were planning better and

Table 11—Duration of contract by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Duration of contract: 1 year		2 years		Continuous	
	--- Number ---		*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
West	28	5	2	40	1	20	2	40
South	27	4	3	75	1	25	0	0
Northeast	9	0	0	0	0	0	0	0
Midwest	9	3	2	67	0	0	1	33
Total	73	12	7	58	2	17	3	25

Table 12—Facility capacity utilized during average season by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Physical capacity utilized: Range	Average
	------ *Number* ------		-------- *Percent* --------	
West	28	9	70-100	83.33
South	27	7	30-100	57.14
Northeast	9	0	0-0	0.00
Midwest	9	2	65-70	67.50
Total	73	18	30-100	71.39

Table 13—Plans to expand or modernize physical facilities in next 5 years by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Plans to expand or modernize: Yes		No		Total
	--------- *Number* ---------			*Percent*	*Number*	----- *Percent* -----	
West	28	9	5	55.56	4	44.44	100.00
South	27	7	1	14.29	6	85.71	100.00
Northeast	9	0	0	0.00	0	0.00	0.00
Midwest	9	3	0	0.00	3	100.00	100.00
Total	73	19	6	31.58	13	68.42	100.00

larger facilities to accommodate their current grower members. Three associations planned to expand to accommodate additional members and acreage of vegetables. Following are some reasons for not expanding: (1) two associations had recently expanded their facilities another would upgrade its facilities but not expand them, and (2) another would like to expand but feared the cooperative would act as an umbrella for outside growers who would sell for 50 cents under the cooperative price.

Directors

The average size board of directors was 7, with a range of from 3 to 15 (table 14). The associations responding in the Northeast had larger boards. The average size for this group was 11, with a range of from 9 to 15. Associations in the West had the smaller boards, averaging 6 with a range of from 3 to 11.

Forty-six percent of the associations responding had directors who served terms of 3 years, 26 percent had directors serving 1-year terms, and 20 percent had

Table 14—Number of directors by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Directors	
			Range	Average
	Number			
West	28	16	3-11	6
South	27	11	5-14	8
Northeast	9	4	9-15	11
Midwest	9	5	5-11	7
Total	73	36	3-15	7

Table 15—Directors' term of office by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Directors' term of office				
			1 year	2 years	3 years	5 years	Indef.
	Number						
West	28	16	7	3	4	1	1
South	27	11	1	4	6	0	0
Northeast	9	3	0	0	3	0	0
Midwest	9	5	1	0	3	0	1
Total	73	35	9	7	16	1	2

Table 16—Successive terms served by directors by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	May directors serve successive terms: Yes		No		Total
	Number	*Number*	*Number*	*Percent*	*Number*	*Percent*	*Percent*
West	28	16	15	93.75	1	6.25	100.00
South	27	11	11	100.00	0	0.00	100.00
Northeast	9	4	4	100.00	0	0.00	100.00
Midwest	9	5	5	100.00	0	0.00	100.00
Total	73	36	35	97.22	1	2.78	100.00

directors serving 2-year terms (table 15). A greater proportion of the associations in the West tended to have directors with 1-year terms than did those in the other three regions.

Directors could serve successive terms in all associations responding except one. In that association, each director went off the board after serving a 2-year term (table 16).

Employees

The associations responding employed 353 full-time persons and 1,852 part-timers. The average number of full-time employees for all associations responding was 12, with a range of from 1 to 75 (table 17). The average number of part-time employees was 56, with a range of from 1 to 400. Associations in the West had the largest number of employees, averaging 17 full-time and 108 part-time persons. The wide variation in the number reflects the differences in size and operations. Some associations had only a part-time manager and a few part-time employees. Some larger associations might have an office staff and add a part-time crew in the packing shed or in the field.

PAYMENTS TO MEMBER GROWERS

Four methods of payment were used by the associations responding (table 18). The individual growers' account was the most popular, accounting for 63 percent of the volume. Pooling accounted for 31 percent; the grower was paid directly by the buyer for 4 percent; and the outright purchase plan accounted for about 2 percent.

Those associations responding reported considerable differences in the methods of payment by region. Pooling was more popular in the Midwest and the West, with 86 and 50 percent of volume, respectively. All associations in the Northeast made payments to the individual growers' accounts for all of their volume, and associations in the South used this method of payment for 88 percent of their volume.

None of the associations responding gave growers an option as to method of payment.

Table 17—Number of employees by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Full-time			Part-time		
		Assns. responding	Range	Average	Assns. responding	Range	Average
				Number			
West	28	15	1-75	17	13	1-400	108
South	27	9	1-28	8	13	2-98	26
Northeast	9	3	1-3	2	4	1-10	5
Midwest	9	3	3-15	8	3	6-50	29
Total	73	30	1-75	12	33	1-400	56

Table 18—Method of payment by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. respond-ing	Individual grower account	Pool payment plan	Grower paid direct by buyer	Outright purchase plan	Total
	Number		*Percent of volume*				
West	28	20	39.14	50.39	6.69	3.78	100.00
South	27	18	87.95	6.63	5.40	0.01	100.00
Northeast	9	5	100.00	0.00	0.00	0.00	100.00
Midwest	9	6	13.70	86.30	0.00	0.00	100.00
Total	73	49	63.41	30.79	4.18	1.61	100.00

Marketing Charges

There was a wide variation in charges for marketing growers' fresh vegetables for those associations responding. Storage varied from 5 to 17 cents per box. Selling charges varied from 15 to 64 cents per box–and averaged 28 cents. Packing charges varied from $0.53 to $1.78 per box and averaged $0.77. Associations assessing charges for both packing and selling averaged $2.31 per box. Those associations assessing charges for harvesting, packing, and selling averaged $3.02 per box.

SELLING ARRANGEMENTS

Method of Sale

Twenty-eight percent of the volume of those associations responding was sold direct to chain stores; 21 percent, through auctions; 20 percent, through brokers; 16 percent, direct to other buyers; 8 percent, through sales agents; 4 percent, through cooperative sales agencies; and the remainder through various other means (table 19).

There were wide regional differences in sales methods used by the associations. Associations in the West used brokers for 37 percent of sales and sold 28 percent direct to chain stores. Associations in the South sold 53 percent direct to chains, 19 percent direct to other buyers, and 15 percent through brokers. Auctions accounted for 86 percent of sales by associations in the Northeast, while 13 percent of sales were made direct to other buyers. Midwestern associations relied heavily on private sales agents who accounted for 53 percent of sales, while 25 percent went direct to chains and 17 percent, direct to other buyers.

Terms of Sale

Ninety-one percent of the association sales were f.o.b., and 9 percent were delivered (table 20).

There was some variation in type of sale by region. Nearly all association sales in the Northeast were f.o.b. Eighty-one percent of the midwestern association sales were f.o.b., while 19 percent were delivered. Eighty-eight percent of the Western sales were f.o.b., while 12 percent were delivered. Sale types in the South were about the same as for all

Table 19—Method of sale by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Co-op sales agency	Auction	Direct to chains	Direct to other buyers	Broker
	-Number-		-Percent of volume-				
West	28	23	8.50	0.01	27.57	14.31	36.56
South	27	21	0.08	5.65	53.17	19.44	14.87
Northeast	9	5	0.00	85.81	0.07	13.46	0.66
Midwest	9	6	0.00	0.00	24.95	16.90	4.98
Total	73	55	3.70	20.96	27.58	15.64	20.17

Table 19—Continued

Region	Other							Total all methods
	Consign-ment	Retail-ers	Whole-salers	Terminal markets	Sales-agent	Direct to consumers	Misc. other	
	-Percent of volume-							
West	3.20	0.73	3.60	0.03	5.49	0.00	0.00	100.00
South	0.14	0.13	0.00	0.00	5.85	0.19	0.47	100.00
Northeast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Midwest	0.87	0.00	0.00	0.00	52.29	0.00	0.00	100.00
Total	1.50	0.35	1.56	0.01	8.37	0.05	0.12	100.00

regions.

The seller assumes all risk of loss or damage in transit not caused by the buyer in the delivered sale. The buyer assumes all risk of damage and delay in transit that is not caused by the seller in the f.o.b. sale.

Method of Shipping

Associations responding shipped 96 percent of their volume by truck and 4 percent by rail (table 21). Associations in the South and Midwest shipped all their volume by truck. Associations in the West shipped 93 percent by truck and 7 percent by rail.

GRADING AND INSPECTION

Thirty-five percent of the volume of those associations responding was inspected by the cooperatives, 31 percent was inspected by the county, 17 percent by growers themselves, 17 percent by the Federal-State Inspection Service, and under 1 percent was sold ungraded (table 22).

Table 20—Terms of sale, by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	F.o.b. sales	Delivered sales	Total
	-Number-		Percent of volume		
West	28	16	87.53	12.47	100.00
South	27	13	89.59	10.41	100.00
Northeast	9	5	99.93	0.07	100.00
Midwest	9	5	81.41	18.59	100.00
Total	73	39	90.60	9.40	100.00

Table 21—Method of shipping used by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Truck	Rail	Total
	-Number-		Percent of volume-		
West	28	9	92.66	7.34	100.00
South	27	7	100.00	0.00	100.00
Northeast	9	0	0.00	0.00	0.00
Midwest	9	3	100.00	0.00	100.00
Total	73	19	95.99	4.01	100.00

Table 22—Grading and inspection methods used by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Federal-State	Inspected by co-op	Inspected by county	Graded by growers	Sold ungraded	Total
	Number		Percent of volume					
West	28	16	16.50	33.34	46.32	3.84	0.00	100.00
South	27	12	37.15	3.53	0.00	59.30	0.01	100.00
Northeast	9	4	0.00	26.23	0.00	66.09	7.68	100.00
Midwest	9	4	3.86	81.59	0.00	14.02	0.53	100.00
Total	73	36	16.75	35.03	30.74	16.94	0.55	100.00

The associations in different regions followed somewhat different patterns in grading and inspection of their fresh vegetables. In the West, 46 percent of volume was inspected by county inspectors, 33 percent was inspected by the cooperatives, 17 percent by the Federal-State Inspection Service, and 4 percent by growers. Fifty-nine percent of volume in the South was graded by growers, 37 percent by the Federal-State Inspection Service, and 4 percent by the cooperatives. In the Northeast, 66 percent was graded by growers, 26 percent by the cooperatives, and 8 percent was sold ungraded. In the Midwest, associations inspected 82 percent of their volume themselves, growers graded 14 percent, and the Federal-State Inspection Service inspected 4 percent.

Fifty-two percent of the associations responding used the Federal-State Inspection Service when required only (table 23). The percentage varied from one region to another. Seventy-one percent in the West used it, compared with 67 percent in the Midwest, 33 percent in the Northeast, and 27 percent in the South.

It appears that the fresh vegetable marketing associations could make better use of the Federal-State Inspection Service. However, if the trade is satisfied with the current practices, it seems that there would not be a great urgency to change. On the other hand, marketing and quality problems were a concern of the cooperative managers. County inspections in the West seemed to be aimed at improving quality by assuring that poor quality was left in the field and not shipped.

BRAND POLICY

Seventy-seven percent of the volume of the associations responding was sold under cooperative labels, 9 percent carried the cooperative's seal and/or logo, 7 percent was sold unlabeled, and 7 percent was sold under growers' labels (table 24). In the use of seal and/or logo, the growers and shippers used their own labels and placed the cooperatives seal and/or logo on each carton.

Ninety-one percent of the western associations' volume was sold under cooperative labels, 7 percent under grower labels, and cooperative seals and/or logos

Table 23—Federal-State inspection performed when required only by region, 73 fresh vegetable marketing cooperatives, 1986

legion	All assns.	Assns. responding	Inspection when required only: Yes		No		Total
	Number			Percent	Number	Percent	
/est	28	14	10	71.43	4	28.57	100.00
outh	27	11	3	27.27	8	72.73	100.00
ortheast	9	3	1	33.33	2	66.67	100.00
idwest	9	3	2	66.67	1	33.33	100.00
Total	73	31	16	51.61	15	48.39	100.00

ble 24—Brand policies by region, 73 fresh vegetable marketing cooperatives, 1986

ion	All assns.	Assns. responding	Co-ops labels	Chain store labels	Co-ops logo or seal	Growers labels	Sold unlabeled	Total
	Number		Percent of volume					
st	28	9	90.84	0.00	2.14	7.02	0.00	100.00
th	27	7	69.07	0.00	0.00	9.22	21.71	100.00
heast	9	0	0.00	0.00	0.00	0.00	0.00	0.00
vest	9	3	38.94	0.00	61.06	0.00	0.00	100.00
ital	73	19	77.10	0.00	9.05	6.83	7.03	100.00

appeared on 2 percent of their sales. In the South, 69 percent of sales were under cooperative labels, 22 percent were unlabeled, and 9 percent bore grower labels. Cooperative seals and/or logos appeared on 61 percent of sales of the Midwest, and 39 percent bore cooperative labels.

Although over three-quarters of the volume of the fresh vegetable marketing associations was sold under their own labels, only nominal sums were spent on promotion. Most of the promotion took the form of ads in trade papers such as The Packer and Produce News. Listing in the Red Book and Blue Book seemed to be important in their promotion policies. Twenty-eight percent of the associations placed ads in The Packer, 19 percent were listed in the Red Book, 13 percent were listed in the Blue Book, 9 percent placed ads in the Produce News, 6 percent contributed to generic advertising through marketing orders, 6 percent were members of the Produce Marketing Association, 3 percent were members of the United Fruit and Vegetable Association, 3 percent attended trade shows, 3 percent had some other forms of promotion, 3 percent opened the season with an auction for charity, and 6 percent did not promote. Some associations engaged in more than one activity.

PRICING POLICIES

Associations responding followed very flexible policies in determining day-to-day prices quoted for fresh vegetables. The Federal-State Market News Service, contacts with the trade, and private news reports were the most frequent sources of market information.

Associations in some regions relied more heavily on some sources than on others. Ninety percent of the associations in the West used the Federal-State Market News Service as their principal source of information. Southern associations relied more heavily on contacts with the trade.

Only two associations had a definite policy for establishing prices. One involved using the Federal-State Market News Service price reported plus a premium, the other used the services of a pricing committee.

EQUITY CAPITAL

Forty-five percent of the associations responding relied entirely on per-unit capital retains to acquire equity capital during the previous fiscal year (table 25). Forty-one percent relied on retaining patronage for equity. Two associations relied on both per-unit capital retains and retained patronage. Two associations relied on direct cash investment.

Per-unit capital retains varied from 6 to 85 cents per carton, with the most frequent being 10 cents per carton. Retained patronage varied from 3.5 to 9 percent of sales, with the most frequent being 5 percent of sales.

Revolving periods for those associations responding varied from 1 to 30 years. The most frequent period was 5 years. Three years was the second most frequent revolving period. Four associations had no revolving periods. The boards of directors of two of the associations were thinking about establishing a revolving period but had not done so at the time. Another association required members to buy more stock depending on their volume. A fourth association did not issue certificates of equity.

Only two associations had special plans to return growers' equity when the grower retired or

Table 25—Associations using different sources of equity capital by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Per-unit capital retains		Retained patronage		Both per unit retains and retained patronage		Direct cash investment		Total
	Number			Percent	Number	Percent	Number	Percent	Number	Percent	
West	28	12	6	50.00	5	41.67	1	8.33	0	0.00	100.00
South	27	12	6	50.00	4	33.33	0	0.00	2	16.67	100.00
Northeast	9	2	0	0.00	1	50.00	1	50.00	0	0.00	100.00
Midwest	9	3	1	33.33	2	66.67	0	0.00	0	0.00	100.00
Total	73	29	13	44.82	12	41.38	2	6.90	2	6.90	100.00

discontinued farming. In a few associations, the board of directors would make the decision on an individual-case basis. In most instances, the growers' equity was revolved out according to the regular revolving period.

PROBLEM AREAS

Competition from Other Areas

Competition from other areas seemed to be one of the more important problems for the fresh vegetable marketing associations (table 26). This included areas within the United States as well as foreign countries. These areas many times were using the same market windows, and, as a result, prices were affected in one area by supplies becoming available in another.

Imports of fresh vegetables have exceeded exports every year during the period 1970-86 (table 27). During the past 5 years of that period, exports have dropped while imports have gone up sharply (fig. 7).

Oversupply

A second important problem was oversupply. This problem arises when growers in a given area, as well as growers in other areas, overplant. It was also pointed out that row crop farmers were getting into vegetables, thus increasing already abundant supplies. This makes it more difficult for regular growers of these vegetables.

Labor was mentioned as another important problem. Growers were fearful that the new immigration policy would result in a shortage of harvest workers. Also, labor costs were indicated as being very high in some areas.

Marketing, quality, and transportation were among the many other problems mentioned.

FUTURE ROLE

Fifty-eight percent of the associations responding planned to expand over the next 5 years, 26 percent would remain stable, and 16 percent expected to decline (table 28). Two-thirds of the associations in the West expected to expand, while 29 percent of the associations in the South expected to decline. Two-thirds of the associations in the Midwest expected to remain stable.

Forty-five percent of the associations expecting to expand hoped to do so by adding new members. Others hoped existing members would expand their volume. One association planned to expand services to current members.

Table 26—Important problem areas, 19 fresh vegetable marketing cooperatives, 1986

Problem areas	Percent of cooperatives
Competition from other areas	16
Oversupply or overproduction	16
Labor problems	13
Marketing problems	11
Quality problems	9
Transportation	9
Availability of land	4
Undercapitalization of the business	4
Cost of production	4
Insecticide problems	4
Grade standards	2
Poor marketing practices of industry	2
Financing needed facilities	2
Lack of participation	2
Total	100

Figure 7—Imports and Exports: Fresh Market Vegetables, 1970-86

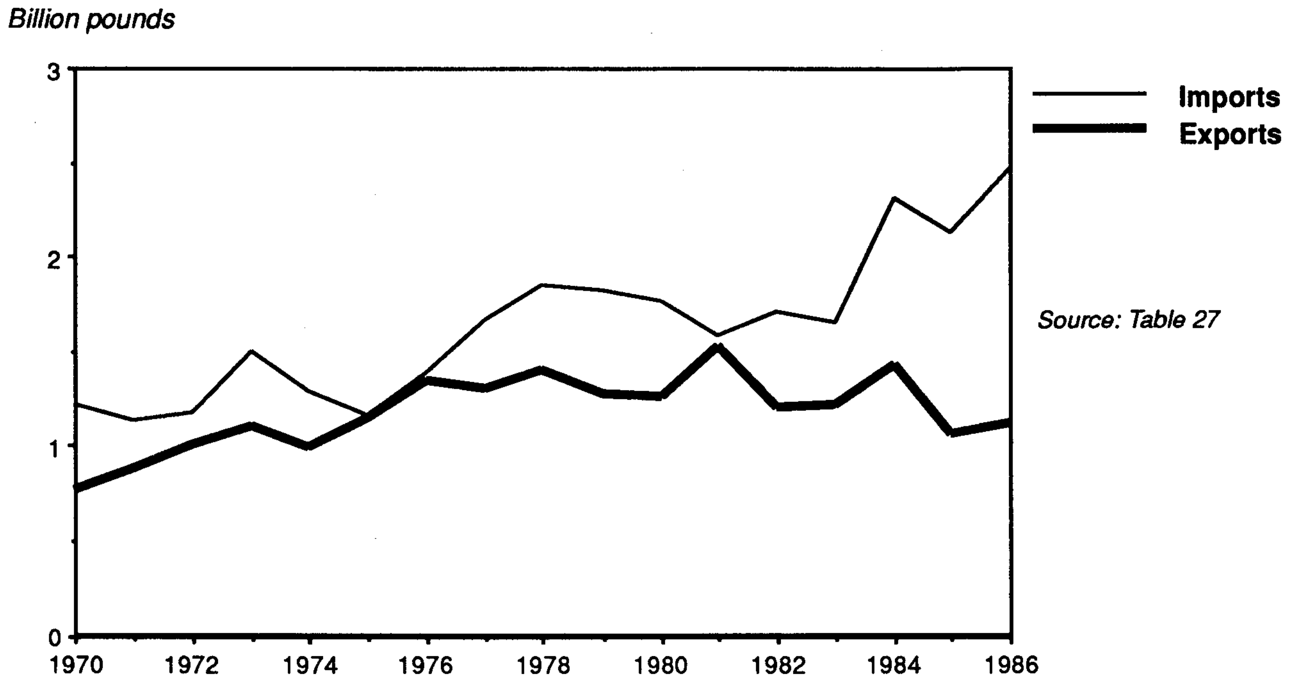

Table 27—Vegetables, fresh market: U.S. exports and imports, 1970-86

Year	Imports	Exports
	1,000 pounds	
1970	1,209,294	778,437
1971	1,138,305	882,113
1972	1,174,431	1,011,794
1973	1,494,498	1,100,397
1974	1,295,121	993,834
1975	1,157,153	1,150,865
1976	1,382,140	1,351,909
1977	1,672,207	1,300,318
1978	1,854,441	1,402,109
1979	1,823,351	1,268,667
1980	1,762,663	1,256,487
1981	1,579,683	1,525,570
1982	1,706,842	1,199,725
1983	1,653,274	1,211,670
1984	2,303,852	1,429,652
1985	2,127,831	1,056,889
1986	2,464,326	1,119,323

Source: Compiled from Vegetable Situation and Outlook Yearbook, Economic Research Service, U.S. Department of Agriculture, TVS-243, November 1987, table 27, page 23 & table 33, page 27.

Table 28—Roles of associations in the next 5 years by region, 73 fresh vegetable marketing cooperatives, 1986

Region	All assns.	Assns. responding	Roles in the next 5 years expected to:						Total
			Expand		Remain stable		Decline		
	Number			*Percent*	*Number*	*Percent*	*Number*	*percent*	
West	28	9	6	66.67	2	22.22	1	11.11	100.00
South	27	7	4	57.14	1	14.29	2	28.57	100.00
Northeast	9	0	0	0.00	0	0.00	0	0.00	0.00
Midwest	9	3	1	33.33	2	66.67	0	0.00	100.00
Total	73	19	11	57.89	5	26.32	3	15.79	100.00

Appendix table 1—Vegetables, commercial: Area, production, and value of principal crops, United States, 1972-1986

Year	Area			Production			Value		
	For fresh market	For processing	Total	For fresh market	For processing	Total	For fresh market	For processing	Total
	Acres			*Tons*			*1,000 dollars*		
1972	1,648,110	1,584,490	3,232,600	11,578,050	10,241,600	21,819,650	1,607,022	466,633	2,073,655
1973	1,636,610	1,727,010	3,363,620	11,907,200	10,661,650	22,568,850	1,857,859	550,632	2,408,491
1974	1,557,570	1,775,810	3,333,380	12,016,750	11,794,050	23,810,800	1,885,149	929,785	2,814,934
1975	1,542,110	1,874,480	3,416,590	11,993,700	13,533,250	25,526,950	2,159,168	1,036,635	3,195,803
1976	1,577,350	1,624,640	3,201,990	12,509,950	11,048,850	23,558,800	2,260,078	786,606	3,046,684
1977	1,578,830	1,638,120	3,216,950	12,741,050	12,612,450	25,353,500	2,351,737	945,180	3,296,917
1978	1,643,650	1,611,960	3,255,610	13,140,000	11,323,490	24,463,490	2,786,530	874,768	3,661,298
1979	1,645,520	1,652,480	3,298,000	13,480,750	12,576,010	26,056,760	2,931,404	1,030,239	3,961,643
1980	1,617,770	1,427,130	3,044,900	13,339,650	10,806,620	24,146,270	3,193,362	864,449	4,057,811
1981	1,617,950	1,353,540	2,971,490	13,858,450	10,416,530	24,274,980	3,700,690	904,896	4,605,586
1982	939,350	1,250,440	2,189,790	10,360,200	11,179,590	21,539,790	2,643,408	909,738	3,553,146
1983	937,850	1,197,350	2,135,200	9,895,950	10,270,050	20,166,000	2,854,598	800,600	3,655,198
1984	1,076,330	1,369,760	2,446,090	10,856,600	12,013,020	22,869,620	3,117,073	1,015,042	4,132,115
1985	1,075,440	1,391,780	2,467,220	10,896,600	11,791,860	22,688,460	2,944,906	1,023,933	3,968,839
1986	1,052,940	1,238,330	2,291,270	10,686,200	11,585,630	22,271,830	3,195,195	924,973	4,120,168

Source: Compiled from Agricultural Statistics 1987, U.S. Department of Agriculture, table 197, page 145.

Appendix table 2—Changes in per capita consumption, selected commercial fresh vegetables, United States, 1976-87

Year	Asparagus	Broccoli	Carrots	Cauliflower	Celery	Sweet corn	Lettuce	Tomatoes
				Percent of 1976 farm weight				
1976	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1977	75.0	109.1	79.7	110.0	94.6	95.0	106.6	98.4
1978	75.0	100.0	87.5	90.0	98.6	91.3	105.8	104.8
1979	75.0	127.3	100.0	130.0	100.0	90.0	107.0	101.6
1980	75.0	145.5	109.4	130.0	105.4	90.0	110.7	106.3
1981	75.0	163.6	110.9	160.0	104.1	88.8	106.2	104.8
1982	N/A	200.0	114.1	160.0	105.4	88.8	105.8	106.3
1983	N/A	209.1	117.2	170.0	100.0	91.3	105.8	108.7
1984	100.0	245.5	123.4	220.0	101.4	95.0	107.4	121.4
1985	125.0	263.6	118.7	230.0	100.0	95.0	102.9	127.8
1986	150.0	318.2	120.3	270.0	94.6	90.0	95.9	136.5
1987	150.0	327.3	132.8	270.0	95.9	91.3	93.8	133.3

Source: Compiled from Vegetables and Specialties, Situation and Outlook Report, Economic Research Service, U.S. Department of Agriculture, TVS-245, September 1988, Table 30, page 62.

Appendix table 3—Volume of fresh vegetables marketed by commodity, 73 cooperatives, 1986

Commodity	Assns.	Volume		Proportion		
				Assns.	Pounds	Dollars
	Number	*Pounds*	*Dollars*	*Percent*		
Carrots	5	11,969,424	2,083,395	6.85	0.74	0.95
Artichokes	3	4,432,317	1,041,256	4.11	0.28	0.48
Asparagus	6	9,732,673	6,645,031	8.22	0.61	3.05
Cauliflower	13	32,866,095	6,850,955	17.81	2.04	3.14
Pole beans	1	5,250,000	1,185,378	1.37	0.33	0.54
Bush beans	16	47,329,255	10,673,857	21.92	2.94	4.89
Fava bean	1	280,000	60,000	1.37	0.02	0.03
Broccoli	15	32,469,178	7,131,113	20.55	2.02	3.27
Brussels sprouts	1	2,400,000	330,000	1.37	0.15	0.15
Celery	13	226,324,254	26,984,759	17.81	14.08	12.37
Collards	5	7,264,010	635,601	6.85	0.45	0.29
Cucumbers	29	77,646,713	8,410,379	39.73	4.83	3.85
Kirby cucumbers	1	1,000,000	225,746	1.37	0.06	0.10
Peppers	32	48,261,710	10,053,036	43.84	3.00	4.61
Egg plant	14	13,805,079	3,117,778	19.18	0.86	1.43
Yellow peppers	1	90,000	20,321	1.37	0.01	0.01
Hot peppers	7	4,667,824	1,053,207	9.59	0.29	0.48
Onions	19	83,015,495	10,757,501	26.03	5.16	4.93
G Onions	2	7,725,021	3,004,176	2.74	0.48	1.38
Parsley	2	5,640,736	2,820,368	2.74	0.35	1.29
Okra	7	1,665,411	367,985	9.59	0.10	0.17
Peas	9	1,299,694	323,988	12.33	0.08	0.15
Sugar peas	2	104,506	70,147	2.74	0.01	0.03
Pumpkins	11	3,983,190	371,764	15.07	0.25	0.17
Acn Squash	1	136,100	14,146	1.37	0.01	0.01
Squash	22	33,693,651	7,464,196	30.14	2.10	3.42
Winter squash	1	3,750,000	846,698	1.37	0.23	0.39
Rd Cabbage	2	200,750	30,641	2.74	0.01	0.01
Cabbage	23	55,334,204	6,376,374	31.51	3.44	2.92
Bok choy	7	4,061,380	648,602	9.59	0.25	0.30
Zuk Squash	3	822,468	276,075	4.11	0.05	0.13
Kale	5	2,251,300	268,953	6.85	0.14	0.12
Lettuce	17	340,224,189	34,818,976	23.29	21.17	15.96
Mixed lettuce	8	61,450,432	8,120,300	10.96	3.82	3.72
Romaine	8	14,776,648	2,066,596	10.96	0.92	0.95
Mixed vegetables	12	10,514,587	1,175,005	16.44	0.65	0.54

Appendix table 3—(continued)

Commodity	Assns.	Volume		Proportion		
				Assns.	Pounds	Dollars
	Number	*Pounds*	*Dollars*	*Percent*		
Mustard	6	4,830,215	422,644	8.22	0.30	0.19
Mushrooms	1	10,000,000	4,000,000	1.37	0.62	1.83
S Corn	20	58,143,738	8,897,699	27.40	3.62	4.08
Radishes	5	8,778,228	3,835,342	6.85	0.55	1.76
Horseradish	1	2,413,300	673,840	1.37	0.15	0.31
Tomatoes	30	69,175,292	16,575,456	41.10	4.30	7.60
Cherry tomatoes	2	386,557	74,090	2.74	0.02	0.03
Turnips	5	3,864,924	348,956	6.85	0.24	0.16
Diakon root	2	81,040	12,156	2.74	0.01	0.01
Oriental vegetables	2	89,446	53,668	2.74	0.01	0.02
Spinach	5	9,550,642	2,387,661	6.85	0.59	1.09
Esc & End	1	10,528,431	1,492,348	1.37	0.65	0.68
Beets	2	2,096,918	288,082	2.74	0.13	0.13
Shel bns	2	248,040	85,655	2.74	0.02	0.04
Dandelion	4	766,263	203,023	5.48	0.05	0.09
Dill	1	2,998,305	335,061	1.37	0.19	0.15
Anise	1	533,976	130,475	1.37	0.03	0.06
Sweet potatoes	7	18,082,126	3,709,580	9.59	1.12	1.70
Cantaloups	12	11,818,952	1,111,164	16.44	0.74	0.51
Rhubarb	1	2,510,139	1,317,823	1.37	0.16	0.60
Watermelons	13	234,097,041	5,898,053	17.81	14.56	2.70
Total	73	1,607,431,870	218,177,076	—[1]	100.00	100.00

[1]Many associations handled more than one product.

Appendix table 4—Other vegetables and fruit handled by region, 73 fresh vegetable marketing cooperatives, 1986

Commodities	West		South		Northeast		Midwest		Total	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
All associations	28	38.36	27	36.99	9	12.33	9	12.33	73	100.00
Associations responding	12	34.29	11	31.43	8	22.86	4	11.43	35	100.00
Peaches	2	16.67	2	18.18	4	50.00	1	25.00	9	25.71
Potatoes	2	16.67	3	27.27	2	25.00	2	50.00	9	25.71
Apples	0	0.00	1	9.09	2	25.00	3	75.00	6	17.14
Blueberries	0	0.00	0	0.00	4	50.00	0	0.00	4	11.43
Dry beans	4	33.33	0	0.00	0	0.00	0	0.00	4	11.43
Grapes	1	8.33	2	18.18	1	12.50	0	0.00	4	11.43
Plums	2	16.67	1	9.09	0	0.00	0	0.00	3	8.57
Strawberries-fresh	1	8.33	0	0.00	2	25.00	0	0.00	3	8.57
Avocados	1	8.33	1	9.09	0	0.00	0	0.00	2	5.71
Celery — processing	2	16.67	0	0.00	0	0.00	0	0.00	2	5.71
Limes	0	0.00	2	18.18	0	0.00	0	0.00	2	5.71
Mangoes	1	8.33	1	9.09	0	0.00	0	0.00	2	5.71
Pears	1	8.33	0	0.00	1	12.50	0	0.00	2	5.71
Apricots	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Bananas	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Cherries	0	0.00	0	0.00	1	12.50	0	0.00	1	2.86
Grapefruit	0	0.00	1	9.09	0	0.00	0	0.00	1	2.86
Grapes	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Lemons	0	0.00	1	9.09	0	0.00	0	0.00	1	2.86
Nectarines	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Oranges	0	0.00	1	9.09	0	0.00	0	0.00	1	2.86
Papayas	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Pineapples	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Raspberries	0	0.00	0	0.00	1	12.50	0	0.00	1	2.86
Strawberries-processing	1	8.33	0	0.00	0	0.00	0	0.00	1	2.86
Sweet potatoes-processing	0	0.00	1	9.09	0	0.00	0	0.00	1	2.86

Appendix table 5—Services performed by region, 73 fresh vegetable marketing cooperatives, 1986

Services performed	Specified region								All regions	
	West		South		Northeast		Midwest			
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
All associations	28	38.4	27	37.0	9	12.3	9	12.3	73	100.0
Associations responding	26	37.7	27	39.1	8	11.6	8	11.6	69	100.0
Sales										
Sales office	19	73.1	19	70.4	8	100.0	8	100.0	54	78.3
Private sales agent	3	11.5	2	7.4	0	0.0	0	0.0	5	7.2
Federated sales agent	4	15.4	3	11.1	0	0.0	0	0.0	7	10.1
Broker	1	3.8	1	3.7	0	0.0	0	0.0	2	2.9
Harvesting services	3	11.5	0	0.0	0	0.0	0	0.0	3	4.3
Grading	19	73.1	14	51.9	2	25.0	3	37.5	38	55.1
Packing	19	73.1	15	55.6	2	25.0	3	37.5	39	56.5
Sales of packing supplies	4	15.4	9	33.3	4	50.0	3	37.5	20	29.0
Storage	3	11.5	5	18.5	1	12.5	1	12.5	10	14.5
Other										
Sales of production supplies	7	26.9	3	11.1	1	12.5	0	0.0	11	15.9
Precooling	4	15.4	1	3.7	1	12.5	0	0.0	6	8.7
Accounting	1	3.8	0	0.0	0	0.0	0	0.0	1	1.4
Vocational training	1	3.8	0	0.0	0	0.0	0	0.0	1	1.4
Processing	0	0.0	0	0.0	1	12.5	0	0.0	1	1.4
Auction services	0	0.0	0	0.0	1	12.5	0	0.0	1	1.4

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