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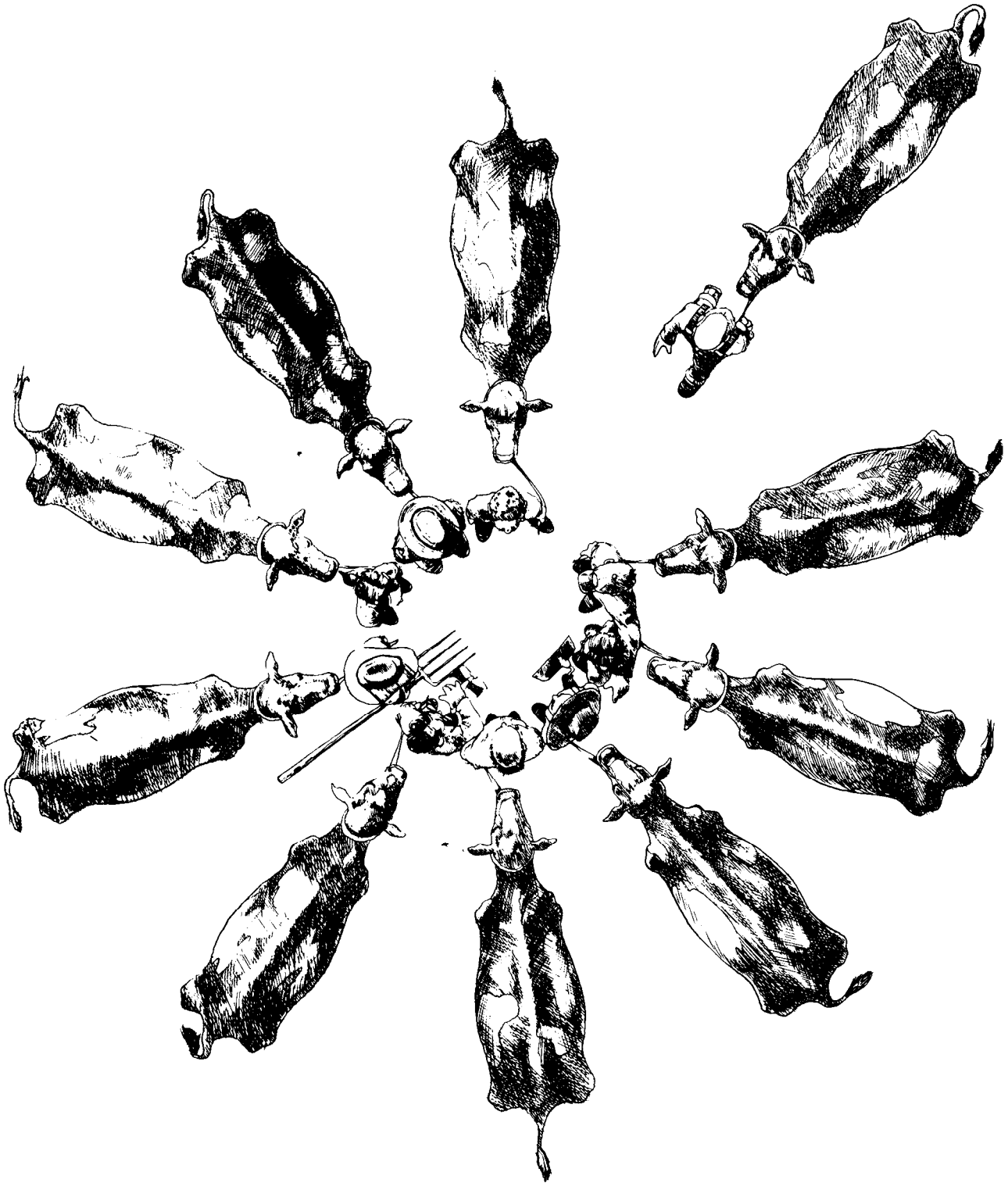


United States
Department of
Agriculture

Agricultural
Cooperative
Service

ACS Research
Report No. 86

Dairy Farmers' Participation in Cooperatives



Abstract

Dairy Farmers' Participation in Cooperatives

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Slightly less than **90** percent of all dairy farmers had some affiliation (via membership or nonmember patronage) with agricultural cooperatives in 1986. This was a small increase from **83** percent in 1980. When dairy farmers participated economically it was often on an "all-or-nothing" basis, both for marketings and—though somewhat less—supply purchases. In general, as size of farm increased a greater percent participated; though the proportions dropped off within the largest size category. Dairy farmers were loyal to membership, using membership for total marketings and supply purchases and, in particular, for high proportions of their dairy product marketings and feed purchases. The greatest participation overall was in the Lake States and Northern Plains; the lowest participation was in the Southeast, Mountain, and Pacific States.

Key words: Farmer cooperatives, dairy, economic participation, membership, supply purchases, marketings.

ACS Research Report **86**
March 1990

Preface

This study measures the various degrees of association U.S. dairy farmers have with agricultural cooperatives, all the way from a general affiliation to full use of membership for large proportions of product marketing and supply purchasing. Selected data for 1980 and 1986 are presented by region of the country and farm size by gross sales. Areas of the country that may provide potentials for further cooperative expansion are also identified.

Data for this report were obtained from a sampling of all U.S. farmers. Survey questions were part of the June 1981 and June 1986 Acreage and Livestock Enumerative Surveys conducted by the National Agricultural Statistics Service (NASS), formerly the Statistical Reporting Service (SRS). Personal interviews were conducted with nearly 17,000 farmers. The data were expanded to the country as a whole.

Contents

OVERVIEW	1
GENERAL AFFILIATION	2
ECONOMIC PARTICIPATION	3
Marketings	3
Supply Purchases	3
Dairy Product Commitment to Cooperative Marketing4
Feed Expenditure Commitment to Cooperative Purchases	5
EFFECTIVE MEMBERSHIP	5
Marketings	5
Supply Purchases	6
Dairy Product Commitment to Cooperative Marketing	7
Feed Expenditure Commitment to Cooperative Purchases	9
AREAS FOR EXPANSION	9
Effective Members	9
Nonmember Patrons	11
APPENDIX	14
Survey Description	14
Definitions	14
OTHER PUBLICATIONS	14

Highlights

Dairy farmers are highly likely to be affiliated with an agricultural cooperative (either as a member or as a nonmember patron). Although the percentages affiliated have remained relatively stable, the data show a slight increase from 83 percent of all dairy farmers in 1980 to 87 percent in 1986.

Regions of the country on the low end of affiliation have tended to remain at the low end (Pacific and Mountain), while regions at the high end remain at the high end (Lake States, Northern Plains, and Northeast).

Dairy farmers tend to be affiliated with agricultural cooperatives in increasingly larger proportions as the farm size increases. With the largest size farms (\$500,000 and over in gross sales), the proportions affiliated tend to drop, while in the smallest size category (less than \$10,000 gross sales), substantively lower proportions are affiliated.

The positive relationship between farm size and participation tends to hold irrespective of type of economic participation—purchasing or marketing generally, marketing milk or purchasing feed specifically, or whether farmer or farmer-member using membership.

Dairy farmers tend to participate economically on an “all-or-nothing” basis. While about 50 percent marketed milk through a cooperative in 1986, nearly that same percentage (46 percent) committed from 81 to 100 percent of their dairy product to cooperative marketing. While 50 percent purchased feed from a cooperative in 1986, nearly 30 percent purchased between 81 and 100 percent of their feed needs.

Dairy farmers tend to be loyal members. Nearly 50 percent of all dairy farmers held and used a membership to market farm commodities in 1980. This number increased to just over 60 percent in 1986. Nearly 60 percent of all dairy farmers used membership to purchase supplies, both in 1980 and 1986.

Dairy members are highly likely to patronize using their membership. Seventy percent of all dairy members used membership to market farm commodities in 1980. About 90 percent used membership to market in 1986. About 80 percent of all dairy members used membership to purchase supplies in both 1980 and 1986.

Dairy members using membership tend to participate economically on an “all-or-nothing” basis. About 65 percent of all dairy members used membership to market dairy products. About 60 percent marketed 81-100 percent of their volume. About 60 percent used membership to purchase feed. Nearly 35 percent purchased 81-100 percent of their purchased feed needs from a cooperative.

The Lakes States, Corn Belt, Northeast, and Southeast regions suggest themselves as likely areas for further cooperative expansion. These areas have large numbers of dairy farmers using memberships, but in amounts less than 81-100 percent of commitment.

The Lake States, Corn Belt, and Northeast regions may be likely areas for increasing membership. Each contains substantial numbers of dairy farmers using cooperatives as nonmember patrons.

Dairy Farmers' Participation in Cooperatives

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OVERVIEW

Participation in agricultural cooperatives can occur in various ways and is highly variable among farmers. Some farmers hold offices and sit on committees. Others may never attend even an annual meeting, but they patronize with large proportions of volume. Others may be loyal in membership, use cooperatives economically, but have very little product committed. Still others may have huge proportions of their volume committed but not hold membership.

The focus in this report is on participation by membership and patronage. There are four sections. The first section documents the proportion of dairy farmers who hold membership and/or patronize an agricultural cooperative. Irrespective of type of participation, this section

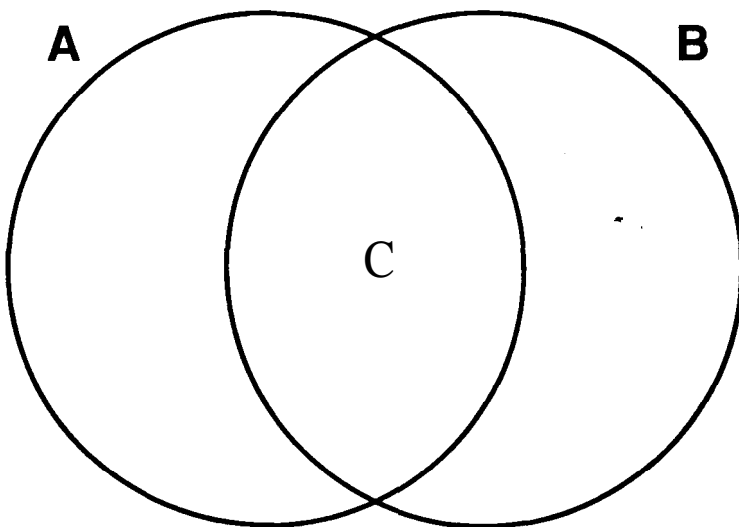
¹This is one in a series of reports on farmers' membership and use of agricultural cooperatives. For a detailed description of the entire data set see Kraenzle, et al., Use, ACS Research Report No. 77.

affiliation is with agricultural cooperatives.

The second section is on patronage. Irrespective of membership, it reports the proportions of dairy farmers who patronize. Both supply and marketing patronage are discussed, as well as the degree of commitment, i.e., feed purchases and dairy marketing from "0-20" to "81-100" percent of patronage. The third section focuses again on patronage, but adds an aspect of membership loyalty. It documents the proportions of dairy farmers who actually use cooperative membership in purchasing and marketing decisions, and again the proportions of product committed in feed purchasing and dairy marketing.

These sections start from the most general category of participation and proceed through increasingly delimited categories: from general affiliation to membership loyalty and product commitment in feed purchasing and dairy marketing. Sections correspond to various areas diagrammed in figure 1. The area occupied by circle A plus circle B represents the percentage of all

Figure 1-Dairy Farmers' Participation in Cooperatives ¹



Circle A: Dairy farmers holding membership in a cooperative

Circle B: Dairy farmers patronizing a cooperative

Area C: Dairy farmers holding membership and patronizing a cooperative

Area enclosed by Circles A and B: Dairy farmer general affiliation

¹ Figure 1 does not represent actual numerical proportions.

dairy farmers who have some minimal connection, or affiliation, with agricultural cooperatives: Circle B represents dairy farmers patronizing agricultural cooperatives. Area C represents farmers using membership to patronize. Not shown are distinctions between supply purchases, marketings, and degrees of product commitment.

The fourth section shows subpopulations of farmers that may represent potentials for further cooperative servicing, e.g., nonmember patrons and patrons with small proportions of product committed. Data for all sections are presented for regions across the United States and for differing farm size categories,

GENERAL AFFILIATION

Farmers may hold membership, may patronize, or may do both simultaneously. Irrespective of type of participation, this section documents the extent dairy farmers have some connection with agricultural cooperatives, either through membership or nonmember patronage (table 1).

The proportion of dairy farmers affiliated

with an agricultural cooperative (as members or nonmember patrons) has remained relatively stable since 1980, the data showing a slight increase from 83 percent to 87 percent in 1986. Relative rankings of regions did change. In 1980 the regions ranged from a low of 71 percent in the South Central States to a high of 88 percent in the Northeast. In 1986 they ranged from a low of 75 percent in the Corn Belt to a high of 93 percent in the Northern Plains. Farmers in the Northern Plains were midway (78 percent) in their likelihood of having an affiliation in 1980, but were among the highest in 1986 (93 percent). Farmers in the South Central States shifted from among the lowest at 71 percent to an intermediate position (82 percent).

Overall, regions on the low end of affiliation tended to remain at the low end (Pacific and Mountain) and regions at the high end of affiliation tended to remain at the high end (Lake States and Northeast). Across all regions, no less than 71 percent had some association (as members or nonmember patrons) in either 1980 or 1986. Within each region, affiliations either remained stable or increased. Even at the lowest levels of affiliation, most dairy farmers had

Table 1-Dairy farmers holding membership or patronizing as nonmember, 1980 and 1986

Category	Members		Nonmember patrons		Total ¹	
	1980	1986	1980	1986	1980	1986
<i>Percent of dairy farmers</i>						
Region						
Northeast	75	74	13	15	88	89
Southeast	54	71	28	15	82	86
Lake States	76	85	11	7	87	92
Corn Belt	69	61	8	13	77	75
Northern Plains	70	82	8	11	78	93
South Central	60	79	11	3	71	82
Mountain	67	65	9	14	76	78
Pacific	68	79	6	4	74	82
Farm size						
\$ 1,000 - \$ 9,999	30	30	27	30	57	60
\$ 10,000 - \$ 19,999	60	61	17	21	77	81
\$ 20,000 - \$ 39,999	63	61	14	15	77	76
\$ 40,000 - \$ 99,999	76	82	12	9	88	90
\$100,000 - \$249,999	86	84	7	8	93	92
\$250,000 - \$499,999	88	87	3	5	91	92
\$500,000 and over	68	77	10	7	78	84
Dairy farmers, all categories	71	76	12	11	83	87

¹Total may not add due to rounding.

some connection, either as members or as non-member patrons.

Both data sets show an increasing level of affiliation as size of farm (gross sales) increased, with a tailing off at the largest size category (\$500,000 and over). There were substantively lower levels of affiliation among farmers with the smallest size operations. The 1980 data ranged from a low of 57 percent for the smallest gross sales category (less than \$10,000) to a high of 93 percent for the \$100,000-\$249,999 category. In 1986, the percentages ranged from a low of 60 percent for the smallest gross sales category to a high of 92 percent for both the \$100,000-\$249,999 and the \$250,000-\$499,999 sales category. Between 1980 and 1986, within each size category the likelihood of farmers having some affiliation either increased or remained about the same.

ECONOMIC PARTICIPATION

General affiliation provides a broad measure of dairy farmer participation, regardless of type of participation. In this section the focus will be tightened to economic patronage irrespective of membership status.

Table 2-Dairy farmers using cooperatives to market their farm products, 1980 and 1986

Category	1980	1986
	<i>Percent of dairy farmers</i>	
Region		
Northeast	52	59
Southeast	33	44
Lake States	62	76
Corn Belt	50	58
Northern Plains	59	72
South Central	40	67
Mountain	41	40
Pacific	50	70
Farm size		
\$ 1,000 - \$ 9,999	18	16
\$ 10,000 - \$ 19,999	46	55
\$ 20,000 - \$ 39,999	49	45
\$ 40,000 - \$ 99,999	54	70
\$ 100,000 - \$249,999	70	76
\$250,000 - \$499,999	68	73
\$500,000 and over	60	71
Dairy farmers, all categories	54	66

Marketings

In 1986, 66 percent of all dairy farmers used a cooperative to market farm commodities (table 2). This is up from 54 percent in 1980. Proportions participating increased in all regions. Dairy farmers in the Lake States and Northern Plains were among the most likely to market through a cooperative, while farmers in the Southeast and Mountain States were the least likely. This was the case for both 1980 and 1986.

A positive relationship was found between farm size and the proportion of dairy farmers marketing through a cooperative. The greater the gross sales, the more likely farmers use a cooperative for marketing. The largest size farms were an exception. In 1980 they were less likely than the second largest size farms to market through a cooperative. In 1986 the two largest size groupings were nearly equal, the data showing slightly more than 70 percent of each category marketing through a cooperative.

Supply Purchases

In 1986, 76 percent of dairy farmers purchased supplies from a cooperative. This was up slightly from 72 percent in 1980. Dairy farmers in the Northern Plains and Lake States were the

Table 3-Dairy farmers using cooperatives to purchase their farm supplies, 1980 and 1986

Category	1980	1986
	<i>Percent of dairy farmers</i>	
Region		
Northeast	76	76
Southeast	75	80
Lake States	74	84
Corn Belt	66	66
Northern Plains	69	91
South Central	59	76
Mountain	68	71
Pacific	54	44
Farm size		
\$ 1,000 - \$ 9,999	48	57
\$ 10,000 - \$ 19,999	68	59
\$ 20,000 - \$ 39,999	67	65
\$ 40,000 - \$ 99,999	77	81
\$100,000 - \$249,999	77	04
\$250,000 - \$499,999	82	84
\$500,000 and over	62	52
Dairy farmers, all categories	72	76

most likely supply patrons in 1986, while Northeast and Southeast farmers were most likely in 1980. Pacific States farmers were least likely to purchase supplies cooperatively in both years. The percentages participating remained stable or increased in nearly every region, the Pacific States region being an exception (table 3).

Purchasing patterns by farm size were similar to those cited for marketing. As size of farm increased, the proportions of dairy farmers buying supplies from agricultural cooperatives increased, with a dropping off of proportions participating in the largest farm size category. This was true for both 1980 and 1986.

Dairy Product Commitment to Cooperative Marketing

Much of the discussion has centered on the extensiveness of economic participation across regions and farm sizes. This section continues that theme, but adds a measure of product com-

mitment. It focuses on the percentage of dairy product marketed cooperatively.

Table 4 reveals that when dairy farmers market their dairy product through a cooperative, they tend to be fully committed to cooperative marketing or not at all. While 52 percent marketed their dairy product through a cooperative, 46 percent marketed 81-100 percent. Just 6 percent marketed less than 81 percent. Dairy farmers in the Lake and Pacific regions were the most likely to commit over 80 percent, while those in the Southeast and Mountain regions were the least likely.

Though more variable, the relationship between farm size and participation was similar to those discussed previously. As size of farm increased, at the 81-100 percent level of product commitment, greater proportions of dairy farmers were found committing their dairy products to cooperative marketing. Unlike with total marketing and supply purchasing, however, the data show no drop in farmers' participation from the largest farms.

Table 4—Dairy farmers using cooperatives for dairy product marketings, 1986

Category	Percent of dairy product sales					Total ¹
	1-20	21-40	41-60	61-80	81-100	
	<i>Percent of dairy farmers</i>					
Region						
Northeast	1	(²)	(²)	3	35	39
Southeast	2	(²)	(²)	2	25	29
Lake States	(²)	1	(²)	2	58	62
Corn Belt	(²)	1	1	4	40	46
Northern Plains	(²)	(²)	4	3	52	59
South Central	(²)	(²)	(²)	7	46	52
Mountain	(²)	(²)	3	2	31	36
Pacific	(²)	(²)	1	3	54	59
Farm size						
\$ 1,000 - \$ 9,999	(²)	3	(²)	(²)	9	10
\$ 10,000 - \$ 19,999	(²)	(²)	(²)	5	35	40
\$ 20,000 - \$ 39,999	1		(²)		26	34
\$ 40,000 - \$ 99,999	1	1	(²)	3	49	54
\$ 100,000 - \$ 249,999	1	(²)	1	3	56	62
\$ 250,000 - \$ 499,999	(²)	(²)	(²)	3	48	52
\$ 500,000 and over	1	1		2	56	60
Dairy farmers, all categories	1	1	1	3	46	52

¹ Total may not add due to rounding.

² Less than 0.5 percent.

Feed Expenditure Commitment to Cooperative Purchases

On the input side, table 5 suggests a similar “all-or-nothing” commitment to cooperatives, though not as dramatic as that shown in table 4. While 50 percent of all dairy farmers purchased feed cooperatively, nearly 30 percent purchased more than 80 percent of their purchased feed needs from a cooperative. The remaining 20 percent was scattered along different levels of commitment from “1-20” percent to “61-80” percent. Regions with the greatest proportions of dairy farmers committed at the 81-100 percent level are the Northeast and the Lake States. Regions with the smallest proportions are the Northern Plains and the Mountain States.

A distinct farm size/participation relationship did not emerge from these farmers feed purchase patterns. Similar to previously discussed types of participation, there was a substantial drop in participants in the largest size category.

EFFECTIVE MEMBERSHIP

Central to cooperative organization is effective membership, i.e., farmers using membership in patronage. The focus in this section will be on those dairy farmers who hold and use their membership.

Marketings

Just over 60 percent of all dairy farmers held and used cooperative membership to market their farm commodities in 1986—up from slightly less than 50 percent in 1980. Dairy farmers in the Lake States, Northern Plains, and Pacific States were among the most likely to participate in this fashion, while those in the Southeast and Mountain regions were the least likely. Such was the case in both 1980 and 1986. The percentages participating increased in every region, except for the Mountain region where there was a slight decrease (table 6).

Dairy farmers displayed a positive farm size

Table S-Dairy farmers using cooperatives for feed expenditures, 1986

Category	Percent of feed expenditures					Total ¹
	1-20	21-40	41-60	61-80	81-100	
	<i>Percent of dairy farmers</i>					
Region						
Northeast	7	3	4	2	29	45
Southeast	7	5	11	7	25	55
Lake States	9	6	5	4	37	60
Corn Belt	8	2	6	2	19	38
Northern Plains	6	8	18	7	33	71
South Central	9	0	8	4	20	41
Mountain	15	4	2	1	14	35
Pacific	6	1	7	1	13	28
Farm size						
\$ 1,000 - \$ 9,999	4	3	8	2	28	45
\$ 10,000 - \$ 19,999	4	6	3	2	36	50
\$ 20,000 - \$ 39,999	7	3	5	1	29	45
\$ 40,000 - \$ 99,999	7	4	5	4	31	50
\$ 100,000 - \$249,999	11	4	7	4	28	53
\$250,000 - \$499,999	13	8	12	2	27	62
\$500,000 and over	6	4	4	3	8	25
Dairy farmers, all categories	8	4	6	3	28	50

¹Total may not add due to rounding.

relationship. As farm size increased, greater percentages of dairy farmers were found using memberships to market.

Of dairy members (dairy farmers holding membership), nearly 90 percent used them for marketing in 1986, up from 70 percent in 1980. In six of the eight regions, more than 85 percent of the dairy members were loyal to membership in marketings in 1986. Dairy members in the Southeast and Mountain States participated in lower proportions (65 and 63 percent, respectively, in 1986), though increases were recorded in these and all other regions from 1980 to 1986 (table 7).

Though increases were not as continuous, a positive relationship between farm size and participation was found here as well. At least 90 percent of all dairy members with sales of \$40,000 or more utilized their memberships to market commodities in 1986. Participation in the \$1,000-\$9,999 sales category was substantially less, with just over half patronizing. Members in the \$10,000-\$19,999 and \$20,000-\$39,999 size categories tended to patronize in percentages midway between the least and most likely. A similar tripart relationship was found

between size and those patronizing in 1980. From 1980 to 1986, the percentages utilizing memberships increased in all size categories.

Supply Purchases

Nearly 60 percent of all dairy farmers used membership to purchase farm supplies both in 1986 and 1980. Dairy farmers in the Northern Plains and Lake States were most likely to participate in this fashion in both years. Those least likely were in the Pacific States region. Changes within regions were variable, with percentages increasing in some regions and declining in others (table 8).

A positive farm size relationship was found here as well. Dairy farmers were more likely to use membership to purchase supplies as size of farm operation increased. As with most other participation categories, there was a substantive drop in the percentage participating in the largest size category.

Of dairy members, about 80 percent used membership to purchase supplies-the data showing 80 percent in 1980 and slightly less, 77 percent, in 1986. There was some shifting by

Table 6-Dairy farmers who used their membership to market their products, 1980 and 1986

Category	1980	1986
<i>Percent of all farmers</i>		
Region		
Northeast	49	
Southeast		
Lake States		
Corn Belt		
Northern Plains		
South Central		
Mountain		
Pacific		
Farm size		
\$ 1,000 - \$ 9,999	14	15
\$ 10,000 - \$ 19,999	37	45
\$ 20,000 - \$ 39,999	43	41
\$ 40,000 - \$ 99,999	50	66
\$ 100,000 - \$249,999	66	71
\$250,000 - \$499,999	66	71
\$500,000 and over	52	69
Dairy farmers, all categories	49	61

Table 7-Dairy members who used their membership to market their farm products, 1980 and 1986

Category	1980	1986
<i>all categories of members</i>		
Region		
Northeast	65	86
Southeast	52	65
Lake States	75	93
Corn Belt	64	92
Northern Plains	80	67
South Central	76	92
Mountain	59	63
Pacific	73	99
Farm size		
\$ 1,000 - \$ 9,999	45	54
\$ 10,000 - \$ 19,999	62	62
\$ 20,000 - \$ 39,999	66	74
\$ 40,000 - \$ 99,999	66	90
\$100,000 - \$249,999	77	94
\$250,000 - \$499,999	75	90
\$500,000 and over	77	99
Dairy members, all categories	70	69

region in the ordering of dairy farmers most likely to use membership. Northern Plains, Southeast, and Mountain farmers participated in the greatest percentages in 1980, while Northern Plains, Lake States, and Southeast farmers did so in 1986. Basically, farmers closely approximated the **80-percent** national average in all regions, with the exception of the Pacific in 1980 and the Northeast and Pacific in 1986. Percentages in these latter regions were substantially below 80 percent (table 9).

Among farm size categories, farmers using membership in the smallest and the very largest farm sales categories were the least likely to make cooperative purchases. This was true for both 1980 and 1986. No other pattern between farm size and sales categories emerged.

Dairy Product Commitment to Cooperative Marketing

Forty-eight percent of all dairy farmers were members utilizing memberships to market dairy products through an agricultural cooperative. Forty-four percent marketed more than 80 percent. As a percent of all dairy farmers by region,

Lake and Pacific States farmers participated in the highest proportions. Percentage participating was lowest in the Southeast States (table 10).

A farm size/participation effect did emerge. As size of farms increased, greater proportions of dairy farmers used membership to market their dairy products. Nearly all participants committed more than 80 percent, reflecting again an "all-or-nothing" pattern of patronage.

Of dairy **members**, 64 percent used membership to market their dairy product. The Pacific, Lake, and Corn Belt States were among the leaders, while the Southeast States' members were least likely (table 11). This pattern by region was true for both 1980 and 1986.

A size vs. patronage pattern did not emerge as clearly among dairy members. Dairy members in the largest size category were most likely to use membership in marketing dairy products, while members in the smallest size category were least likely. Percentages in between were more variable. However, nearly all those participating committed more than 80 percent of their dairy product to cooperative marketing.

Table 8-Dairy farmers who used their membership to purchase farm supplies, 1980 and 1986

Category	1960	1966
<i>Percent of all dairy farmers</i>		
Region		
Northeast	59	48
Southeast	47	57
Lake States	61	70
Corn Belt	55	48
Northern Plains	61	73
South Central	48	63
Mountain	56	49
Pacific	46	35
Farm size		
\$ 1,000 - \$ 9,999	20	20
\$ 10,000 - \$ 19,999	50	40
\$ 20,000 - \$ 39,999	51	46
\$ 40,000 - \$ 99,999	61	64
\$ 100,000 - \$249,999	70	67
\$250,000 - \$499,999	72	71
\$500,000 and over	52	39
Dairy farmers, all categories	57	58

Table 9-Dairy members who used their membership to purchase farm supplies, 1980 and 1986

Category	1960	1966
<i>Percent of all dairy members</i>		
Region		
Northeast	78	65
Southeast	87	80
Lake States	80	83
Corn Belt	80	76
Northern Plains	87	88
South Central	80	79
Mountain	36	76
Pacific	67	45
Farm size		
\$ 1,000 - \$ 9,999	65	66
\$ 10,000 - \$ 19,999	63	65
\$ 20,000 - \$ 39,999	81	76
\$ 40,000 - \$ 99,999	80	78
\$100,000 - \$249,999	61	79
\$250,000 - \$499,999	62	82
\$500,000 and over	76	51
Dairy members, all categories	80	77

Table 10—Dairy farmers' proportion of sales from dairy product marketed through cooperative membership, 1996

Category	Percent of dairy product sales					Total ¹
	1-20	21-40	41-60	61-80	81-100	
<i>Percent of dairy farmers</i>						
Region						
Northeast	1	(²)	(²)	3	35	39
Southeast	2	(²)	(²)	2	24	28
Lake States	(²)	1	(²)	2	55	59
Corn Belt	(²)	1	(²)	4	37	43
Northern Plains	(²)	(²)	2	3	48	53
South Central	(²)	(²)	(²)	7	46	53
Mountain	(²)	(²)	2	2	30	34
Pacific		1	1	3	54	59
Farm size						
\$ 1,000 -			(²)	1	9	11
10,000 - \$	(²)	(²)	(²)	(²)	32	36
20,000 - \$ 39,999	(²)	(²)	(²)	5	26	31
\$ 40,000 - \$ 99,999	1	(²)		3	48	53
\$ 100,000 - \$249,999	1	(²)	1	3	53	58
\$250,000 - \$499,999	(²)	1	1	3	48	52
\$500,000 and over	1		(²)	2	54	58
Dairy farmers, all categories	1	1	(²)	3	44	48

¹Total may not add due to rounding.

²Less than 0.5 percent.

Table 11—Dairy members' proportion of sales from dairy products marketed through cooperative membership, 1986

Category	Percent of dairy product sales					Total ¹
	1-20	21-40	41-60	61-80	81-100	
<i>Percent of dairy members</i>						
Region						
Northeast	1	1	(²)	4	47	53
Southeast	3	(²)	(²)	3	34	40
Lake States	1	1	(²)	3	65	70
Corn Belt	(²)	2	2	6	61	71
Northern Plains	(²)	(²)	3	3	58	64
South Central	(²)	(²)	(²)	9	58	67
Mountain	(²)	(²)	3	3	46	52
Pacific	(²)	1	1	4	68	75
Farm size						
\$ 1,000 - \$ 9,999		(²)	(²)	4		
\$ 10,000 - \$ 19,999	(²)	4	(²)	(²)	31 53	36 60
\$ 20,000 - \$ 39,999	(²)	(²) 1	(²)	8	43 58	64 50
\$ 40,000 - \$ 99,999	1					
\$ 100,000 - \$249,999	1	(²)				
\$250,000 - \$499,999	(²)	(²)	1	33	63 56	69 60
\$500,000 and over	1	1	(²)	3	70	75
Dairy members, all categories	1	1	1	4	58	64

¹Total may not add due to rounding.

²Less than 0.5 percent.

Feed Expenditure Commitment to Cooperative Purchases

Forty-three percent of all dairy **farmers** used membership to purchase feed in 1986. Most bought more than **80** percent of their total feed purchases from cooperatives. However, a substantial number-18 percent of all dairy farmers-did buy less than **81** percent. Northern Plains and Lake States farmers participated most in utilizing membership to purchase feed. Pacific and Mountain States dairy farmers were least likely to participate in this fashion (table 12).

Farm size did appear to affect the level of purchasing commitment. As size of farm increased, greater percentages of farmers were found using membership to purchase feed needs. Similar to previously discussed types of participation, those farmers in the largest size category were substantially less committed than the next largest sized units.

Fifty-seven percent of all dairy **members** used membership to purchase feed. Thirty-three

percent purchased more than 80 percent of their feed needs. No obvious farm-size effect emerged from the data, though again a large drop in the percentage participating occurred among dairy farmers in the largest size category (table 13).

AREAS FOR EXPANSION

Effective Members

The data indicate dairy farmers are highly involved with agricultural cooperatives, both for supply and marketing needs. It is not clear what would be a reasonable expectation or goal for percent total involvement. Kimble ¹ suggests the entire farm population cannot be regarded as a potential. Gasson ¹ suggests that membership alone may not be a good proxy for maximum extensiveness.

Central to cooperative organization is effective membership, i.e., farmers using their mem-

¹ See Other Publications list at end of report.

Table 12-Dairy farmers' proportion of total expenditures on feed purchased through cooperative membership, 1996

Category	Percent of feed expenditures					Total ¹
	1-20	21-40	41-60	61-80	81-100	
	<i>Percent of dairy farmers</i>					
Region						
Northeast	5	2	2	1	21	32
Southeast	5	3	11	7	20	47
Lake States	8	5	4	4	35	56
Corn Belt	8	2	3	2	17	32
Northern Plains	4	8	16	2	29	63
South Central	9	(²)	8	(²)	19	37
Mountain	13	3	2		13	31
Pacific	3	1	6	1	13	24
Farm size			6			
\$ 1,000 - \$ 9,999	(²)	(²)	(²)	2	11	19
\$ 10,000 - \$ 19,999	1	3		2	32	37
\$ 20,000 - \$ 39,999	5	2	3	1	25	37
\$ 40,000 - \$ 99,999	6	3	3	4	29	45
\$ 100,000 - \$249,999	10	4	6	4	25	49
\$250,000 - \$499,999	13	8	11	2	27	61
\$500,000 and over	4	4	4	3	6	21
Dairy farmers, all categories	7	3	5	3	25	43

¹Total may not add due to rounding.

² Less than 0.5 percent.

Table 13—Dairy members' proportion of total expenditures on feed purchased through cooperative membership, 1986

Category	Percent of feed expenditures					Total ¹
	I-20	21-40	41-60	61-80	81-100	
	<i>Percent of dairy members</i>					
Region						
Northeast	7	3	3	2	29	44
Southeast	7	5	16	10	29	66
Lake States	10	6	4	4	42	66
Corn Belt	12	3	5	4	28	52
Northern Plains	5	9	19	8	35	76
South Central	11	(²)	10	3	24	47
Mountain	20	5	2	(²)	20	48
Pacific	4	2	8	1	16	30
Farm size						
\$ 1,000 - \$ 9,999	(²)	1	19	7	36	64
\$ 10,000 - \$ 19,999	2	4	(²)	3	52	62
\$ 20,000 - \$ 39,999	9	4	6	1	41	60
\$ 40,000 - \$ 99,999	7	4	4	5	35	55
\$ 100,000 - \$249,999	12	5	7	4	30	58
\$250,000 - \$499,999	15	10	13	2	31	70
\$500,000 and over	5	5	5	4	8	27
Dairy members, all categories	9	4	6	4	33	57

¹Total may not add due to rounding.

²Less than 0.5 percent.

Table 14—Dairy farmers who purchased feed from cooperatives in which they held membership, 1986

Category	Percent of feed expenditures					Total ¹
	I-20	21-40	41-60	61-80	81-100	
	<i>Number</i>					
Region						
Northeast	1,863	745	788	482	7,727	11,605
Southeast	741	511	1,660	1,027	2,990	6,928
Lake States	5,601	3,540	2,441	2,446	23,997	38,025
Corn Belt	2,476	513	1,041	706	5,660	10,397
Northern Plains	307	605	1,222	518	2,259	4,911
South Central	724	(²)	625	197	1,535	3,081
Mountain	566	141	69	(²)	559	1,336
Pacific	304	131	592	50	1,283	2,360
Farm size						
\$ 1,000 - \$ 9,999	(²)	28	555	214	1,035	1,833
\$ 10,000 - \$ 19,999	113	215	(²)	131	2,581	3,039
\$ 20,000 - \$ 39,999	1,377	643	886	131	6,503	9,540
\$ 40,000 - \$ 99,999	3,679	1,848	2,190	2,521	18,267	28,505
\$ 100,000 - \$249,999	5,560	2,169	3,150	1,972	13,894	26,745
\$250,000 - \$499,999	1,530	1,003	1,342	227	3,272	7,374
\$500,000 and over	324	281	314	231	457	1,608
Total dairy farmers ³	12,583	6,186	8,438	5,427	46,009	78,643

¹Total may not add due to rounding.

²None found in NASS sampling.

³Either category.

bership in patronage. These farmers know, perhaps better than any other farmers, the advantages of cooperation. They hold membership and patronize, thereby contributing to and benefiting from organized cooperation. They are likely to be knowledgeable about cooperatives, and their predisposition toward them, positive. Given limited resources, possibilities for expansion can be perhaps best centered on these members.

Effective members committing more than 80 percent of their patronage are perhaps the best any cooperative can hope for. However, there is room for expansion among members using their membership in amounts less than 81 percent of supply and marketing needs.

In 1986, 32,600 dairy farmers (20 percent of all dairy farmers) used membership to purchase feed in amounts less than 81 percent of their needs. About 14,000 of these farmers were in the Lakes States region. Over 11,000 purchased less than 61 percent. Other regions with large numbers included the Corn Belt, with nearly 5,000, and the Northeast and Southeast, each

with about 4,000 effective members, i.e., members using membership in patronage (table 14).

There is not quite the same margin for expansion among effective members marketing their dairy product. Since most milk marketed through a cooperative is under an exclusionary contract (the farmer-member must market all milk sold through cooperative membership), little room is left for expanding levels of commitment. Between 8,000 and 8,500 dairy farmers in the entire United States used memberships to market milk in amounts less than 81 percent of total marketings. The greatest numbers were in the Lake States (2,600), followed by the Corn Belt (1,900) and the Northeast (1,500) (table 15).

Nonmember Patrons

Many farmers use cooperatives as nonmembers. Reasons to bring these patrons in as members are many. In part, it is central to cooperation itself. Agricultural cooperatives are designed by farmers to meet their mutual needs. Nonmember patrons represent incomplete orga-

Table 15—Dairy members' proportion of gross sales from dairy products marketed through cooperative membership, 1986

Category	Percent of dairy product sales					Total ¹
	1-20	21-40	41-60	61-80	81-100	
	<i>Number</i>					
Region						
Northeast	327	175	(²)	1,030	12,502	14,034
Southeast	350	43	(²)	269	3,521	4,183
Lake States	612	395	156	1,464	37,240	39,867
Corn Belt	(²)	404	347	1,145	12,136	14,033
Northern Plains	(²)	(²)	170	201	3,767	4,137
South Central	(²)	(²)	(²)	568	3,779	4,347
Mountain	(²)	(²)	85	91	1,273	1,449
Pacific	(²)	50	103	336	5,342	5,332
Farm size						
\$ 1,000 - \$ 9,999	(²)	(²)	(²)	124	887	1,012
\$ 10,000 - \$ 19,999	124	214	(²)	(²)	2,609	2,948
\$ 20,000 - \$ 39,999	(²)	(²)	(²)	1,197	6,759	7,955
\$ 40,000 - \$ 99,999	692	585	(²)	1,920	30,095	33,292
\$100,000 - \$249,999	384	175	792	1,378	29,206	31,935
\$250,000 - \$499,999	(²)	43	69	306	5,862	6,230
\$500,000 and over	89	50	(²)	180	4,141	4,461
Total dairy members ³	1,289	1,068	860	5,104	79,559	87,682

¹ Total may not add due to rounding

² None found in NASS sampling.

³ Either category.

Table 16—Nonmember dairy patrons' proportion of feed expenditures purchased through cooperatives, 1986

Category	Percent of feed expenditures					Total ¹
	I-20	21-40	41-60	61-80	81-100	
	<i>Number</i>					
Region						
Northeast	310	276	395	173	1,676	2,829
Southeast	264	(²)	(²)	(²)	627	891
Lake States	251	396	723	(²)	986	2,356
Corn Belt	238	246	795	(²)	583	1,861
Northern Plains		(²)	165	(²)	349	684
South Central	1(²)	(²)	(²)	140	146	287
Mountain	57	24	(²)	57	28	166
Pacific	208	(²)	76	(²)	(²)	284
Farm size						
\$ 1,000 - \$ 9,999	234	(²)	173	(²)	1,645	2,052
\$ 10,000 - \$ 19,999	173	273	250	(²)	219	914
\$ 20,000 - \$ 39,999	330	246	364	57	897	1,894
\$ 40,000 - \$ 99,999	347	399	471	3(²)	855	2,385
\$ 100,000 - \$249,999	294	(²)	765	(²)	605	1,688
\$250,000 - \$499,999	43	(²)	130	(²)	(²)	173
\$500,000 and over	76		(²)		175	251
Total nonmember patrons ³	1,497	942	2,154	369	4,395	9,357

¹ Total may not add due to rounding.

² None found in NASS sampling.

³ Either category.

Table 17—Nonmember dairy patrons' proportion of dairy product marketed through cooperative membership, 1986

Category	Percent of dairy product sales					Total ¹
	I-20	21-40	41-60	61-80	81-100	
	<i>Number</i>					
Region						
Northeast	(²)	(²)	92	(²)	184	276
Southeast	(²)	(²)	(²)	(²)	130	130
Lake States	181	(²)	(²)	(²)	1,503	1,684
Corn Belt	(²)	(²)	(²)	(²)	887	887
Northern Plains	(²)	(²)	179	(²)	165	344
South Central	140	(²)	(²)	(²)	(²)	140
Mountain	(²)	(²)	(²)	(²)	57	57
Pacific	(²)	(²)	(²)	(²)	(²)	(²)
Farm size						
\$ 1,000 - \$ 9,999	(²)	(²)	(²)	(²)	(²)	(²)
\$ 10,000 - \$ 19,999	(²)	(²)	(²)	(²)	219	219
\$ 20,000 - \$ 39,999	181	(²)	(²)	(²)	545	726
\$ 40,000 - \$ 99,999	140	(²)	179	(²)	914	1,233
\$100,000 - \$249,999	(²)	(²)	92	(²)	1,092	1,184
\$250,000 - \$499,999	(²)	(²)	(²)	(²)	(²)	(²)
\$500,000 and over	(²)	(²)	(²)	(²)	156	156
Total nonmember patrons ³	322	(²)	271	(²)	2,926	3,519

¹ Total may not add due to rounding.

² None found in NASS sampling.

³ Either category.

nizational participators. Since they are not involved in membership structures, they have, at best, very poor vehicles to represent their interests. The cooperative cannot account very well for their changing needs in a planning sense. Leadership talent cannot be tapped. There is greater chance these patrons will not receive important information that could affect their own operations. Better information and more involvement by membership could result in greater product commitment and membership loyalty.

About 11 percent (19,300) of U.S. dairy farmers were nonmember marketing and purchasing patrons in 1986, with nearly 80 percent located in the Northeast, Lakes States, and Corn Belt regions. The leading regions regarding feed purchases were the Northeast (nearly 3,000), the Lake States (approximately 2,500), and the Corn Belt region (slightly less than 2,000) (table 16). These farmers bought substantial proportions of their feed needs from cooperatives as nonmember patrons.

The data do not show many nonmember patrons marketing dairy products through a cooperative. The Lake States region is the only area of the country having more than 1,000 nonmember patrons marketing milk through a cooperative (table 17).

A third population of farmers that might logically provide room for expanding the presence of effective members is inactive members, i.e., members who do not patronize cooperatives. The data show, however, that this population is very small. Just 2 percent (about 2,500 farmers) of the entire U.S. dairy farmer population hold memberships and do not use them. No region has more than 1,000 inactive members.

Other areas hold promise, though do not have proportionate farmer membership and patronage experiences to build on. Given their limited resources, cooperatives may most easily increase participation by directing their efforts toward a) members who are patronizing, but in amounts less than 80 percent of volumes, and b) farmers patronizing as nonmembers. In other regions of the United States, cooperatives may have to go farther afield to help farmers with no cooperative exposure to identify their joint and unmet agricultural needs.

Finally, the participation rates drop among

the largest farmers across the United States. While fewer, these farmers represent volume potential, so cooperatives would be well advised to pursue these farmers as well through membership and patronage commitment. Further, substantially lower rates of participation exist among the smallest volume farmers across the United States. If operational efficiencies permit, these farmers might be pursued, not only for their volumes, but as farmers in need, capable of increasing community awareness of cooperative advantages.

APPENDIX

Survey Description

This report is based on questions included in the June 1981 and June 1986 Acreage and Livestock Enumerative Survey conducted by the National Agricultural Statistics Service (**NASS**), formerly the Statistical Reporting Service (**SRS**). Information was obtained from personal interviews of nearly 17,000 farmers. The population of farms sampled was about 211,000 less than the total population of U.S. farms. It was assumed that those farms not in the population surveyed were representative of the farms in the survey. Consequently, data were expanded to represent the total population.

Definitions

Marketing and Farm Supply Cooperatives are farmer cooperatives operating as marketing, farm supply, or both. Bargaining associations are counted as marketing cooperatives. Also included are cooperatives providing services related to marketing or furnishing farm supplies, such as cotton gins and rice dryers, and transportation cooperatives. These cooperatives usually provide for one vote per member, a limited return on invested capital, and return of net margins to member patrons or all patrons on a patronage basis. They also obtain more than half their business from members.

Excluded from this study are cooperatives organized by farmers to provide production services, such as farm management, credit, fire insurance, electricity, and irrigation. Also excluded are cooperatives providing personal services and products, such as cooperative hospitals and medical clinics, burial societies, community [cooperative] water systems, and cooperative grocery stores.

Member patrons are farmers holding membership in a marketing and/or farm supply cooperative and who either market products through or purchase farm supplies from it.

Nonmember patrons are farmers who do not hold membership in a marketing and/or farm supply cooperative but who market products through or purchase farm supplies from it.

Farms are places of business from which \$1,000 or more of agricultural products are sold, or normally would be sold, during the year.

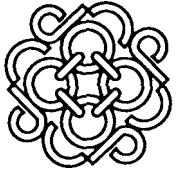
Dairy Farms are farms where dairy products are the main source of farm income.

OTHER PUBLICATIONS

Casson, Ruth, "Farmers' Participation In Cooperative Activities," *Sociologia Ruralis*, Vol. 17, 1977.

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Kracnzle, C.A., R.A. Wissman, T.W. Gray, B.L. Rotan, and C.C. Adams. *Farmer Cooperatives: Members and Use*, ACS Res. Rpt. 77, U.S. Dept. of Agriculture. Washington, D.C., January 1989.



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Agricultural Cooperative Service (ACS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

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