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**Advertising Strategies by Agricultural
Cooperatives in Branded Food
Products, 1967 to 1987**

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Advertising Strategies by Agricultural Cooperatives in Branded Food Products, 1967 to 1987

1. Introduction

Advertising is a major competitive strategy among leading food processors with the food processing sector outspending every other sector of the economy (Connor *et al.*, 1985). Advertising is the most successful method of creating and maintaining product differentiation within the food system. In fact, the advertising-to-sales ratio is often used as a proxy measure for the degree of product differentiation found in a processed food industry.

Firms choose advertising strategies along with pricing and product strategies in accordance with the market's basic conditions (e.g., consumer good) and structure (e.g., concentration). In tight oligopolies selling consumer nondurables to households, advertising is often the primary competitive weapon for the leading firms. Unlike price competition that leaves all rivals in the leading strategic group worse off, intense advertising rivalry by the leading firms can actually benefit themselves collectively. The advertising rivalry enhances the barriers to nonleading firms who operate in the market in a different strategic group. For example, Coke and Pepsi can benefit each other through their intense advertising rivalry as they make it more difficult for lesser known brands and makers of private label cola to enter the top strategic group of national branded colas. The former Pepsi president, John Scully, when asked about the "Cola Wars" said that such marketing battles do not involve "some gladiatorial contest where one of us has to leave on a stretcher. We're both winning." (*Wall Street Journal*, November 6, 1982, p. 1)

These advertising strategies can influence the market's future structure— product differentiation, concentration, and barriers to entry. In addition, economists include the extent of advertising in evaluating a market's performance. Although economists have not reached a consensus when advertising levels become excessive, Brandow offered the benchmark of 3 percent of sales as the point where advertising expenses become excessive. We will return to this benchmark when we compare the advertising expenditures of agricultural cooperatives to other food and tobacco processors.

Little is known about the advertising strategies used by the largest agricultural cooperatives that market branded food products. A growing

literature on generic advertising for farm commodities, like milk and California prunes, examines industry issues related to advertising, but does not address branded advertising by agricultural cooperatives. Since the cooperatives are farmer-owned, there are many similarities between farmers voting for their industry-wide association (e.g., the American Dairy Association) to spend more on an industry-wide advertising campaign and supporting their cooperative in advertising the cooperative's brand (e.g., Land O'Lakes butter). Indeed, when an agricultural cooperative has a leading consumer brand (e.g., SunMaid in raisins) the cooperative's membership can choose an advertising strategy specific to its brand rather than, or in addition to, an industry-wide advertising campaign (e.g., California's dancing raisins).

An earlier study by Boynton shed some light on the extent of advertising used by agricultural cooperatives that market branded food products to household consumers. His study used 1979 data that included six measured media from the same advertising data source used here. He found 39 agricultural cooperatives used media advertising and that, in general, cooperatives spent substantially less than noncooperatives, even in industries where they were direct competitors.

The objective of this paper is to expand on Boynton's work and examine the advertising of branded products by agricultural cooperatives in food processing over a 20-year period, from 1967 to 1987. The related issue of generic, industry-wide advertising by associations or boards receives less attention here. Such advertising seeks to expand industry demand for the commodity as opposed to influence a consumer's brand choice among the various sellers. The 1987 data, unlike the 1967 data, allow some observations to be drawn about nonbrand advertising done on behalf of an entire industry, but the primary focus is on brand-specific advertising that attempts to build and maintain product differentiation.

2. The Food and Tobacco Processing Sector

The food processing sector dominates the other vertical stages of the food marketing system. More than 80 percent of domestically produced farm products flow through this sector as it transforms the raw agricultural products into processed products. The major farm products sold to household consumers in conventional supermarkets that do not pass through this sector are the fresh fruits, vegetables, eggs, and nuts. The government's Standard Industrial Classification System, the familiar SIC system, is used in this study to define the food and

Table 1 An Example of the Standard Industrial Classification (SIC) System

Level of Detail	Description	SIC #	Name
Two digit:	Major Group	20	Food and Kindred Products
Three digit:	Minor Group	202	Dairy Products
Four digit:	Industry	2026	Fluid Milk
Five digit:	Product Class	20262	Packaged Fluid Milk and Related Products
Seven digit:	Product	2026245	Sour Cream, Unflavored

Source: U.S. Department of Commerce, Bureau of the Census.

tobacco processing sector and the industries that comprise it. In this paper we often combine food processing, the SIC major group 20, with tobacco processing, SIC 21, unless noted otherwise. The SIC system assigns products a code number whose first two digits identify the products' major group and, as digits are added, the product is more narrowly classified. For example, in Table 1 the two-digit major group SIC 20 represents all processed food products. All dairy products belong in the minor group SIC 202, whereas all fluid milk, both consumer packages and bulk shipments belong in the four-digit industry SIC 2026. If the milk was packaged for household consumers, it would be in the five-digit product class SIC 20262. Finally, if the dairy product was unflavored sour cream, then it would receive the seven-digit product code, the narrowest classification used by the SIC system, SIC 2026245. The SIC system is extremely useful and forms the basis of government reports on economic activity by area. The system has been copied by many countries and private data vendors also use it. The system allows for easy aggregation from the product level to broader groupings of related products.

However, the SIC system is not perfect and economic researchers must learn some of its weaknesses. Economic markets are often best described by the five-digit product class level of detail, but there are many exceptions. For some markets the four-digit industry level is more appropriate (e.g., beer) while others require greater detail found with the seven-digit product (e.g., honey) for the best correspondence to an economic market. In some cases SICs must be combined to create a new category to align with an economic market (e.g., refined sugar requires combining the beet and cane sugar refining industries). Unfortunately, the amount of data that exists declines as the level of detail increases from the four-digit industry level to the seven-digit product level. The reason for discussing this data classification system is that cooperatives often operate in markets that require the finer detail

of the seven-digit product level to reveal the cooperative's significance to the market (e.g., honey).

The 1987 advertising data for this research are from the Leading National Advertisers, Inc. (LNA) and the 1967 data are primarily from LNA, but researchers at the Federal Trade Commission supplemented the LNA data with other sources to expand its coverage from six to eight media (see Rogers, 1982 for details on the 1967 data). LNA uses its own product classification scheme and it differs from the SIC system in what it reports as food products. The LNA system more closely resembles the food products found in a typical supermarket and combines processed food products with fresh unprocessed products. In its food classification system it includes fresh fruits, vegetables, eggs, and nuts but excludes animal feeds, whereas the SIC system does the opposite. The SIC system classifies the fresh farm products as unprocessed agricultural products if only cleaning, grading and bagging are involved. The SIC system classifies such products outside the food processing major group and in the SIC 01 or 02 major groups. These differences do not involve much brand advertising except in the case of pet foods, but the difference is significant because agricultural cooperatives are commonly involved in these fresh food products. For example, fresh oranges are classified by the SIC system in SIC 0174, and refrigerated orange juice in SIC 2033, and frozen orange juice in SIC 2037. Only the last two are within the definition of food processing (SIC 20). The Sunkist cooperative is a market leader in only the fresh market and almost all of its advertising is spent in support of its fresh oranges. Under the LNA classification scheme Sunkist's advertising for its fresh oranges would be combined with processed food products.

Another example will show the importance, but also the difficulty, a researcher faces in classifying the advertising expenditures for some food products that have a fine line between being classified as unprocessed food products or as processed food. Advertising for almonds or walnuts is classified in SIC 0173 if the nuts are only cleaned, shelled and bagged. But they are classified in SIC 2068, salted and roasted nuts and seeds, if they have been roasted or otherwise processed. This example is critical to the Blue Diamond and Sun-Diamond cooperatives.

There are some other minor differences between a LNA approach to classifying food and tobacco products and using a SIC approach, but unlike the above examples these do not have a major impact on research involving agricultural cooperatives. Bottled water is classified in food (beverages) by LNA, but in the SIC system it is in SIC 5149

Table 2 Food and Tobacco Media Advertising Totals, 1987

	\$ Millions
LNA ^a	5,950.5
SIC 20,21 ^b	5,814.5
SIC 01,02,20,21,5149 ^c	5,864.0

^aA broad definition using all LNA codes related to food and tobacco products, but the LNA food codes include some products that belong in SIC 28 (Chemicals).

^bCensus Major Groups for Food and Tobacco Processing.

^cAdds Census Major Groups for Agricultural Production of Crops (SIC 01) and Livestock (SIC 02), plus the wholesaling of bottled water (SIC 5149).

Source: Leading National Advertisers, Inc., 1987.

(wholesaling) unless it is processed in some way. The processor decides if it is selling processed water and many firms selling bottled water prefer not to be considered as using processing as they wish to tout the natural qualities of their water. Another difference involves how cough drops are classified. They are in SIC 20649 or in SIC 28344 depending on the amount of sugar they contain. LNA does not classify any cough drops in its food categories. Lastly, pepper is in SIC 2099E31, but salt is outside food processing and found in SIC 28991, but both are in LNA's food classification.

In this paper, mainly the SIC system is used. In 1987 data are available for the fresh food products found in LNA's food category but classified outside of food processing (SIC 20). The broadest definition of food and tobacco advertising used here includes all advertising for what LNA classifies as food (those LNA codes beginning with F), plus advertising for pet and animal feeds, and tobacco products. In 1987 this amounted to \$5,950.5 million spent on the seven measured media advertising tracked by LNA (Table 2). If a SIC definition of food and tobacco processing is used (SIC 20 and 21), the amount is \$5,814.5 million or 97.7 percent of the amount found with the most inclusive LNA approach. If one adds the advertising for fresh farm products (SIC 01 and 02) and bottled water (SIC 5149) to the food and tobacco advertising, the amount increases to \$5,864.0 million or 98.5 percent of the most inclusive definition. The remaining difference is explained by LNA including some products in its food classification that the SIC system places in chemicals (e.g., artificial sweeteners).

3. Agricultural Cooperatives in Food and Tobacco Processing

The food and tobacco processing sector has been dominated by its largest firms during most of this century, but the degree of domination by the very largest firms has accelerated during the last 15 years. Although, the Census counts over 15,000 food and tobacco processing firms, the 100 largest have accounted for the bulk of the sector's economic activity and their dominance has increased over time. By 1987, the latest year data are available, the 100 largest accounted for nearly 70 percent of the sector's value-added (Figure 4.1). Even among the 100 largest, it's the largest of the large that account for this increased domination. The 20 largest food and tobacco firms increased their share of the sector's value-added to over 40 percent by 1987, whereas firms ranked 21 to 50 largest and those ranked 51 to 100 barely held their own over the twenty-year period from 1967 to 1987 (Figure 4.2).

Agricultural cooperatives have also grown in size during this period and some have even called for a reexamination of public policy regarding cooperatives because of this growth (see Rogers and Marion, 1990). However, within the food and tobacco processing sector agricultural cooperatives have not kept pace with the largest food processing firms. Rogers and Marion found that there were no agricultural cooperatives among the 50 largest food and tobacco processors in 1982 measured by value-added. Only 4 of the 100 largest agricultural cooperatives were among those food and tobacco firms ranked 51 to 100 on the basis of value-added. Since cooperatives are often more prevalent in the commodity-oriented markets, they ranked higher when sales rather than value-added was the size measure, but no cooperatives were among the twenty largest food processors in 1982 based on food sales and only four ranked in the 21 to 50 largest group (Rogers and Marion).

Nevertheless, agricultural cooperatives have a significant presence in food processing. In 1982, 68 of the 100 largest agricultural cooperatives were involved in food processing and accounted for 7.2 percent of the sector's value of shipments (Table 3). Their combined share of shipments was higher in the more commodity-oriented products that involved minimal processing and used large volumes of their members' output. For example, the 100 largest cooperatives held 53 percent of the butter industry yet held none of the highly differentiated breakfast cereal industry.

The 20 largest food and tobacco firms prefer the more differentiated

Table 3 The 100 Largest Agricultural Cooperatives' Activity in Food and Tobacco Manufacturing at the 2-Digit, 3-Digit and Selected 4-Digit SIC Levels for 1977 and 1982

SIC	Name	# of Cooperatives ^a		Percentage of Universe Total Value of Shipments		Change 1982-1977 -percentage-point change
		1982	1977	1982	1977	
20	Food and Kindred Products	68	71	7.2	6.0	1.2
201	Meat Products	6	9	4.2	2.3	2.0
202	Dairy Products	32	28	24.4	17.7	6.7
2021	Butter	22	19	53.2	43.1	10.1
2022	Cheese, Natural and Processed	19	18	24.0	16.7	7.4
2023	Condensed and Evaporated Milk	31	25	34.0	27.3	6.7
2024	Ice Cream and Ices	16	18	7.7	5.2	2.5
2026	Fluid Milk	29	27	21.3	15.6	5.7
203	Preserved Fruits and Vegetables	27	32	17.0	8.3	0.6
2033	Canned Fruits and Vegetables	23	24	7.7	13.7	3.3
2037	Frozen Fruits and Vegetables	9	10	6.4	10.4	-2.7
204	Grain Mill Products	23	25	7.7	7.1	-0.7
2048	Prepared Feeds	18	18	10.7	12.0	-1.3
205	Bakery Products	0	0	0.0	0.0	0.0
206	Sugar and Confectionery Products	7	6	6.7	5.9	0.8
207	Fats and Oils	12	16	9.6	12.0	-2.4
2075	Soybean Oil Mill Products	8	8	15.2	N/A	N/A
208	Beverages	27	23	1.4	0.9	0.5
2086	Bottled and Canned Soft Drinks	21	21	1.9	N/A	N/A
209	Misc. Foods and Kindred Products	18	8	0.4	0.4	0.0
2099	Prepared Foods, N.E.C.	17	8	.8	N/A	N/A
21	Tobacco Products	0	0	0.0	0.0	0.0

Cooperatives are ranked by their value of sales in SIC 20, 21, 514 (except 5141) and 515. Five digit product class value of shipments data have been used in calculating percentages. ^aNumber of cooperatives from the top 100 sample processing some output in this industry group or industry. N/A = Not Available. Source: Rogers and Torgerson, 1988.

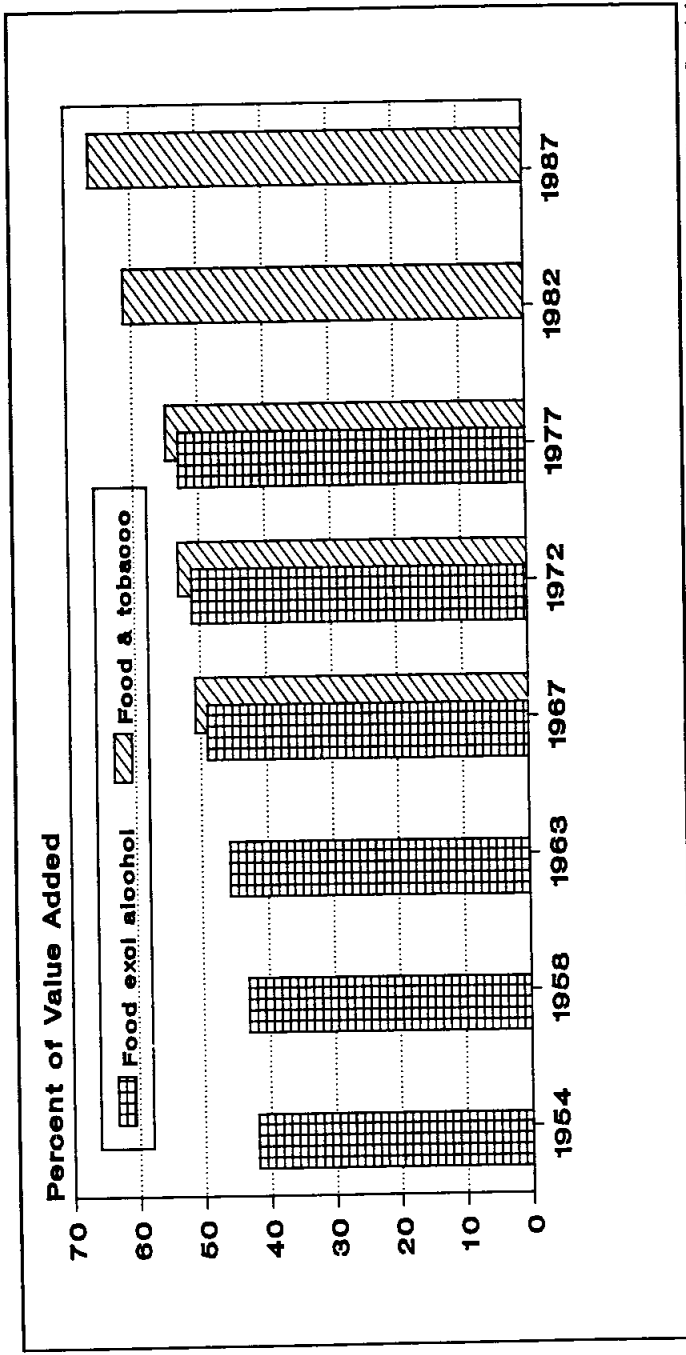


Figure 1 Aggregate Concentration Among the Largest 100 Food Manufacturing Companies, Census Years 1954-1987. Source: Special Tabulations by Bureau of Census.

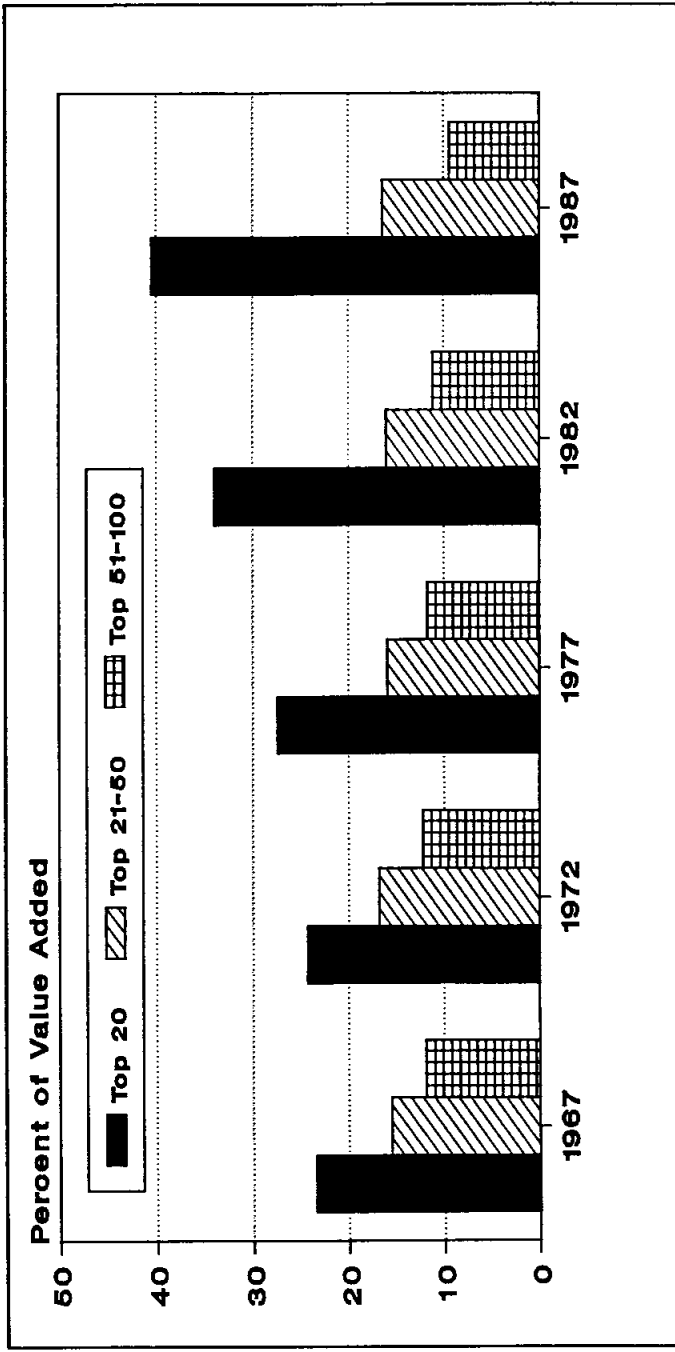


Figure 2 Aggregate Concentration Among the Largest 100 Food and Tobacco Manufacturing Companies, Census Years 1967-1987. Source: Special Tabulations by Bureau of Census.

Table 4 The Largest 100 Agricultural Marketing Cooperatives' Activity in National Food and Tobacco Industries by the Degree of Product Differentiation, 1982

Degree of Product Differentiation		Percent of Value-Added		
		Top 20 Investor-Owned Companies	Top 20 Cooperatives	Top 100 Cooperatives
None	(10)	5.3	3.7	8.0
Low	(6)	3.8	4.2	4.9
Medium	(13)	23.8	2.8	6.2
High	(16)	46.8	0.2	0.3

Note: The number in parentheses is the number of national industries that are classified in this product differentiation group. The six local industries not included here are: 2024, 2026, 2048, 2051, 2086, 2097. None of the 100 cooperatives was in 2051 or 2097. Source: Rogers and Torgerson, 1988.

product markets. In 1982 the 20 largest firms, which do not include any agricultural cooperatives, held less than 10 percent of the value-added in industries classified as having none or low product differentiation, but their share of value-added was nearly 24 percent for the industries with medium product differentiation and nearly 47 percent for the 16 most highly differentiated industries (Table 4). The pattern for agricultural cooperatives was reversed. The 100 largest cooperatives held their greatest share of value-added in the undifferentiated industries and only held a slight 0.3 percent share of the value-added in the most highly differentiated industries.

4. Media Advertising by Agricultural Cooperatives

Although the commodity orientation of most agricultural cooperatives clearly shapes their use of advertising, other factors are involved. Theoretic economic models of advertising link firm advertising intensity to its price-cost margin, advertising elasticity, market and firm demand elasticities, and rivals' reactions. The premier theoretical result was derived nearly 40 years ago by Dorfman and Steiner where they showed that a monopolist's optimal advertising-to-sales ratio was equal to the ratio of the price elasticity of demand to the advertising elasticity of demand. This can be rewritten as the price-cost margin times the advertising elasticity of demand. This result has been extended to the oligopoly case where one has to add the effect of

rivals but the main result remains that advertising will be higher, the larger the industry's sales, the higher the profit margin, the higher the sales response to advertising, and the more price inelastic the product is.

To date there is nothing in the theory that suggests an agricultural cooperative should behave differently than any other firm. The commodity orientation common to most cooperatives should be captured by the same industry factors, such as the price-cost margin and the product's response to advertising, that an investor-owned firm may face. Yet it is hypothesized that there is more to it than is specified in the theory. For all else equal, the average cooperative is hypothesized to spend less on advertising than an investor-owned firm. Reasons for this may include less emphasis on marketing than is often found in investor-owned firms and a greater difficulty in getting managerial, board and general membership approval for such expenditures.

The LNA data are restricted to the main measured media targeted at wide consumer audiences. The seven media covered in 1987 were network television, spot television, cable television, network radio, magazines, outdoor, and Sunday newspaper supplements (e.g., Parade). Only the network advertising is continuously monitored, most of the media are represented only by selected markets or leading publications. Using time and space measurements of the advertisements, the advertising expenditures are estimated and assigned to company and brand records. Only those companies, or brands if the parent company cannot be identified, that spent at least \$25,000 in the year are included in their publications (see Rogers, 1982 for a full description of the LNA data). Researchers have found that the measured media totals represent anywhere from 30 to 50 percent of the total selling expenses involved in promoting food products (Connor *et al.*, 1985). Although substantial amounts of promotional expenses are omitted, the measured media data offer the best available data that are clearly directed at the creation and maintenance of product differentiation. In addition, research has shown it to be positively correlated with other selling expenses (again, see Connor *et al.*, 1985)

As already discussed, the broadest definition of food and tobacco products gave the 1987 total expenditure on these media as \$5,950.5 million. Agricultural cooperatives accounted for \$73.6 million, or 1.238 percent of the total (Table 5). Advertising by associations include all nonbrand specific advertising done by industry associations, states or countries, and boards or commissions on behalf of an entire industry rather than a particular firm. The advertising by associations far exceeded that done by cooperatives and amounted to \$215.8

million, or 3.627 percent of the total food and tobacco media advertising. Since the focus of this paper is on brand advertising, the last column of Table 7 gives the percent of the total advertising held by cooperatives after netting out all advertising done by the associations. This percentage reflects the share of branded advertising done by cooperatives in food and tobacco industries.

The shares held by cooperatives or associations changed little by restricting the definition of food processing to the Census definition (SIC 20) and neither associations nor cooperatives advertised tobacco products (SIC 21). The largest percentage share held by cooperatives was in fresh produce (SIC 01), with about a 25 percent share of the total \$33 million, which included \$20 million of association advertising. The cooperative share jumped to nearly 65 percent if such nonbrand advertising was omitted. The total amount spent in these unprocessed industries, however, is still quite small in comparison to the amounts found in processed food industries. In addition, one cooperative, Sunkist, accounted for nearly half of the \$8.4 million spent in SIC 01. Even less was spent supporting products classified in SIC 02, livestock products, and almost all (96.5 percent) of the nearly \$3 million spent was done by associations.

Although agricultural cooperatives accounted for 1.3 percent of the total advertising for branded food products, their share within the nine industry minor groups that comprise food processing (SIC 20) varied from nearly zero in the grain mill and bakery products (SICs 204 and 205) to over five percent in the preserved fruits and vegetables minor group (again see Table 5). Cooperatives spent \$37.3 million, or over half (57 percent) of their total food processing advertising in this minor group (SIC 203) but their share of the branded advertising in this group was only 5.2 percent. This amount is sensitive to how one classifies Ocean Spray's advertising. The beverage products that Ocean Spray markets are difficult to classify between SIC 2033A or 2033B (canned or fresh juices) and SIC 20866 (canned and bottled drinks containing real juice). Nearly \$16 million of the \$37 million cooperatives spent here is from Ocean Spray's ready-to-serve juices. If they were classified in SIC 20866, the total spent by cooperatives would be roughly equal between the minor groups SIC 203 and SIC 208. The determining factor in classifying these drinks is the amount of real juice in the beverages. Only those fruit beverages with 100 percent real juice belong in SIC 2033A,B and all others belong in SIC 20866. Since cranberry juice must be diluted to be drinkable, most of Ocean Spray's traditional cranberry-based drinks belong in SIC 20886, but Ocean Spray now markets a wide array of 100 percent juice beverages that belong in SIC 2033A,B. This delicate classification distinction must be considered when examining cooperative advertising over time.

Table 5 Media Advertising Totals for Food and Tobacco Products, 1987

SIC	Description	All Advertisers		Agricultural Cooperatives		Associations		Cooperative's Share Net of Associations	
		\$ millions	percent	\$ millions	percent	\$ millions	percent	\$ millions	percent
Total*	All Food and Tobacco Related Advertising	5,950.5	73.6	1.238	215.8	3.627	1.284		
20	Food and Kindred Products	5,286.2	65.2	1.234	192.8	3.648	1.281		
21	Tobacco Manufacturers	528.3	0.0	0.000	0.0	0.000	0.000		
20+21	Food and Tobacco Products	5,814.5	65.2	1.122	192.8	3.316	1.160		
01	Agricultural Production—Crops	33.1	8.4	25.240	20.2	61.055	64.808		
02	Agricultural Production—Livestock	2.9	0.1	2.130	2.8	96.546	61.662		
01+02	Crops and Livestock	36.0	8.4	23.383	23.0	63.907	64.784		
201	Meat Products	213.4	1.9	0.888	29.8	13.953	1.033		
202	Dairy Products	347.6	6.5	1.871	114.7	33.005	2.792		
203	Preserved Fruits and Vegetables	738.6	37.3	5.048	23.8	3.223	5.216		
204	Grain Mill Products	947.9	1.0	0.106	0.0	0.003	0.106		
205	Bakery Products	288.1	0.4	0.144	0.0	0.000	0.144		
206	Sugar and Confectionery Products	487.9	6.6	1.345	1.7	0.350	1.350		
207	Fats and Oils	93.5	2.4	2.546	0.0	0.000	2.546		
208	Beverages	1,593.8	8.1	0.508	9.1	0.572	0.510		
209	Misc. Foods and Kindred Products	563.4	0.8	0.135	13.4	2.380	0.138		

*A broad definition using all LNA codes related to food and tobacco products, but the LNA food codes include some products that belong in SIC 28 (Chemicals). Source: Leading National Advertisers, Inc., 1987.

The next largest share held by cooperatives was in dairy products, SIC 202, where cooperatives spent \$6.5 million, or 2.8 percent of branded dairy advertising. That amount was dramatically overshadowed by the advertising expenditures by associations which spent nearly \$115 million, including nearly \$94 million by the American Dairy Association (see Appendix 2). The cooperative share of branded advertising also exceeded 2 percent in fats and oils, SIC 207, with about \$2.4 million spent. Land O'Lakes accounted for over \$2 million, or 88 percent of this total, with its margarine advertising. Unlike dairy products, no association advertising was done in SIC 207.

In none of the nine industry minor groups did the cooperatives share of total advertising in 1987 exceed their share of sales in 1982 (except in SIC 205, bakery products, where none of the top 100 agricultural cooperatives operated in 1982, and in 1987 cooperatives held a 0.144 percent share of brand advertising because we assigned advertising for SunMaid cinnamon rolls and english muffins here even though the products are manufactured under a licensing agreement). For example, the 100 largest agricultural cooperatives held 24.4 percent of the value of shipments in dairy products but only a 2.8 percent share of branded advertising. The difference was closer in the other three-digit categories and it's quite close in SIC 203 and SIC 208, especially if one considers the delicate data classification question regarding fruit juices and juice drinks. This difference underscores the finding that cooperatives tend to leave the more differentiated consumer products to investor-owned firms even in industries where they operate processing plants (e.g., ice cream).

Associations spent over half of their total food related advertising in support of dairy products (\$115 million), followed by meat products (\$30 million), preserved fruits and vegetables (\$24 million), and fresh produce (\$20 million). These industry groups are comprised of commodity markets supplied by large numbers of farmers, many of whom belong to one or more cooperatives. Whether these farmers are best served through advertising done by an industry-wide generic advertising campaign or by their cooperative advertising their individual branded product is a difficult research issue that is central to the federally-funded project NEC-63 on commodity advertising and promotion (see Kinnucan *et al.*, 1992 for more information). For commodity markets where there are virtually no brand names, like fresh beef, industry-wide campaigns are the most plausible way to advertise.

5. Comparing 1987 to 1967 Advertising

Unfortunately, some differences exist between the advertising data collected for 1987 and that available in 1967. In 1967 only processed food and tobacco (SICs 20 and 21) brand advertising was collected and hence we cannot make comparisons with 1987 advertising outside of food and tobacco processing. Also, no data was collected on nonbrand advertising done by associations, states, or boards, and, thus, no comparisons can be made with such data for 1987. The 1967 LNA data were originally compiled by the personnel at the Federal Trade Commission, where they supplemented media tracked by LNA by adding advertising data on spot radio and newspaper advertising beyond that already included in newspaper supplements. In 1987 no data were collected for spot radio and only newspaper supplements were included. By 1987 cable television had emerged as a new medium and LNA gathered information on advertising expenditures on this new media, but since cable television did not exist in 1967 comparisons are possible. Unfortunately, the 1967 data set combined newspaper advertising with advertising in newspaper supplements making any comparisons with 1987 newspaper supplements advertising inappropriate. The addition of spot radio was significant as it accounted for 6.8 percent of all branded food and tobacco media advertising whereas network radio accounted for only 1.1 percent and was the least used media in 1967 (Table 6).

Television advertising dominated the media included in both years, accounting for 65 percent of the total \$1,611 million spent in 1967 on branded food and tobacco products (see Table 6). In 1987, television (spot, network, and cable combined) accounted for 75 percent of the \$5,814.5 million spent on branded food and tobacco advertising. The increased share for television is partially explained by the 1987 data not including all newspaper advertising and spot radio advertising. The media with the largest percentage increase over the twenty-year period was network radio, but it grew from the smallest base in 1967. Outdoor advertising showed a similar increase. The next largest percentage increase was in network television, which just slightly exceeded spot TV as the largest media in 1967. By 1987 network television distanced itself from the other media as the preferred media for food and tobacco brand advertising. Cigarette advertising was allowed on television in 1967 but was banned from television in 1971, so the increased use of television by other industries (except hard liquor that does not advertise on television by a self-imposed industry decision) was impressive. After television, magazines were the most

Table 6 Processed Food and Tobacco Advertising, by Media, 1967 and 1987

	1967		1987		Change (percent)
	Amount (\$ millions)	Share (percent)	Amount (\$ millions)	Share (percent)	
Network Radio	18.2	1.1	144.0	2.5	691.2
Spot Radio	109.5	6.8	N/A	N/A	N/A
Outdoor	39.5	2.5	256.7	4.4	549.9
Newspapers*	160.7	10.0	93.8	1.6	N/A
Magazines	230.4	14.3	964.9	16.6	318.8
Spot TV	523.4	32.5	1,573.0	27.1	200.5
Network TV	529.4	32.9	2,619.6	45.1	394.8
Cable TV	0.0	0.0	162.5	2.8	N/A
Total TV	1,052.8	65.3	4,355.1	74.9	313.7
TOTAL	1,611.1	100.0	5,814.5	100.0	260.9

* In 1967 local newspaper advertising was included with advertising in newspaper supplements by FTC, but in 1987 only newspaper supplements were included. N/A = Not available or not appropriate comparison. Source: Federal Trade Commission and Leading National Advertisers, Inc.

heavily used for advertising branded food and tobacco products in both years. Television's dominance of the LNA media used for advertising branded food products is substantial. It is the best suited media for the creation and maintenance of product differentiation in branded food products and often firms tie their print media advertising to the same themes developed in their television advertising (see Connor *et al.*, 1985 for more information).

In 1967, 660 companies advertised branded food and tobacco products through the measured media tracked by LNA and 31 of these were agricultural cooperatives. By 1987, this had increased to nearly 800 companies, including 39 agricultural cooperatives. In 1967, these 31 cooperatives accounted for 1.31 percent of total branded media advertising in food processing (SIC 20). This share was essentially unchanged twenty years later as the 39 cooperatives held a 1.28 share of branded processed food advertising (Table 7). No cooperatives were involved in tobacco advertising in either year. Even when food processing is separated into its nine three-digit industry groups, there was little change in the shares held by cooperatives across this twenty-year period. What appears to be an increase in SIC 203 and a decrease in SIC 208 is more related to how Ocean Spray's products and advertising were allocated between juices and drinks as previously discussed. The share of branded advertising held by cooperatives in the dairy products group did increase from 1.6 percent to 2.8 percent. The increase in the fats and oils group, from nearly 0 to 2.5 percent is largely the result of Land O'Lakes advertising its margarine. The other comparisons have changes of less than half a percentage point but with most groups posting a minor share increase. As already discussed, the increased share in bakery products (SIC 205) was the result of a licensing arrangement to use the SunMaid name rather than direct bakery operations by an agricultural cooperative.

6. The Leading Advertisers in 1967 and 1987

Advertising expenditures are very concentrated among the leading advertisers in food and tobacco processing and the extent of concentration has increased substantially since 1967. The advertising concentration is much more dramatic than that found with value-added or sales. In 1967, the four largest advertisers accounted for 19.4 percent of all food and tobacco advertising and the 20 largest advertisers held a 53.4 percent share. By 1987 the top four's share had increased to 32.8 percent and the top 20 accounted for 72.1 percent (Table 8). The 50 largest advertisers in 1967 accounted for 78.1

Table 7 Percent of Total Media Advertising by Cooperatives in Broad SIC Categories, 1967 and 1987

SIC	Name	Percentage Point Change		
		1967	1987	Change
		percent		
20	Food and Kindred Products	1.307	1.281	-0.026
21	Tobacco Manufacturers	0.000	0.000	0.000
20+21	Food and Tobacco Processing	1.063	1.160	0.097
201	Meat Products	0.623	1.033	0.410
202	Dairy Products	1.601	2.792	1.191
203	Preserved Fruits and Vegetables	3.451	5.216	1.765
204	Grain Mill Products	0.198	0.106	-0.092
205	Bakery Products	0.000	0.144	0.144
206	Sugar and Confectionery Products	0.929	1.350	0.421
207	Fats and Oils	0.050	2.546	2.496
208	Beverages	1.928	0.510	-1.427
209	Misc. Foods and Kindred Products	0.047	0.138	0.091

Source: Federal Trade Commission and Leading National Advertisers, Inc.

Table 8 Concentration of Media Advertising Expenditures in Food and Tobacco Processing, 1967 and 1987

Advertiser's Rank	1967 Share	1987 Share
	percent	
Top 4	19.4	32.8
Top 8	29.9	47.3
Top 20	53.4	72.1
Top 50	78.1	90.6
Top 100	90.5	96.2

Note: Excludes Advertising by Associations, Boards, and Governments.
Source: Leading National Advertisers, Inc.

percent, but by 1987 their share had increased to 90.6 percent. Although nearly 800 firms used media advertising in 1987, the top 100 advertisers accounted for 96.2 percent of the advertising expenditures.

The largest food and tobacco advertiser in 1967 was General Foods, now owned by Philip Morris Companies who was the largest advertiser in 1987. The 25 largest advertisers in 1967 are listed in Table 9.

Table 9 Leading Company Advertisers in Food and Tobacco Processing, 1967

Rank	Company	Company		
		Total (\$000)	Percent of Total	Cumulative Percent
1	General Foods Corporation	105,408	6.543	6.543
2	Reynolds RJ Tobacco Company	77,979	4.840	11.383
3	American Tobacco Company	70,017	4.346	15.728
4	Coca-Cola Company	59,232	3.676	19.405
5	National Dairy Products Corporation	43,556	2.703	22.108
6	Kellogg Company	42,508	2.638	24.747
7	Lorillard P Company	41,469	2.574	27.321
8	Philip Morris Inc.	41,424	2.571	29.892
9	General Mills Inc.	40,455	2.511	32.403
10	Distillers Corporation-Seagrams Ltd.	39,197	2.433	34.836
11	Liggett & Myers Tobacco Company	38,061	2.362	37.198
12	Brown & Williamson Tobacco	37,994	2.358	39.556
13	Pepsico Inc.	37,235	2.311	41.867
14	Campbell Soup Company	31,794	1.973	43.841
15	Wrigley William Jr. Company	28,605	1.775	45.616
16	Quaker Oats Company	28,419	1.764	47.380
17	Standard Brands Inc.	26,672	1.655	49.036
18	Carnation Company	24,641	1.529	50.565
19	Lever Brothers Company	23,667	1.469	52.034
20	Procter & Gamble Company	22,208	1.378	53.412
21	Ralston Purina Company	21,659	1.344	54.757
22	Continental Baking Company Inc.	20,003	1.242	55.998
23	National Biscuit Company	19,870	1.233	57.232
24	Heublein Inc.	18,606	1.155	58.386
25	Corn Products Company	17,243	1.070	59.457

Source: Appendix 1

A listing of the 250 largest advertisers is given in Appendix 1. No agricultural cooperatives were among the fifty largest advertisers in 1967. The largest cooperative advertiser was Ocean Spray which was ranked 65th overall and accounted for 0.306 percent of total food and tobacco advertising (Table 10). Only four cooperatives placed among the 100 largest food and tobacco advertisers.

The leading company advertisers from 1967 were still among the leaders in 1987 after accounting for mergers and name changes (Table 11). In 1987 Philip Morris led all food and tobacco advertisers with over 13 percent of all food and tobacco advertising, more than double the share held by the largest advertiser in 1967. In 1988, Philip Morris acquired Kraft Inc., the tenth largest advertiser in 1987 with a 2.5

Table 10 Leading Agricultural Cooperative Advertisers in Food and Tobacco Processing, 1967

Rank	Company	Company Total (\$000)	Percent of Total
65	Ocean Spray Cranberries Inc.	4,932	0.306
75	Allied Grape Growers	3,753	0.233
79	North Pacific Cannery & Packers	3,587	0.223
84	National Grape Co-op Association Inc.	2,749	0.171
130	Sunsweet Growers Inc.	1,152	0.072
132	California Cannery & Growers	1,128	0.070
143	Land O'Lakes Creameries Inc.	983	0.061
169	California & Hawaiian Sugar	634	0.039
172	Atlanta Dairies	619	0.038
208	Gold Kist	382	0.024
210	Arkansas Rice Growers Co-op Association	379	0.024

Source: Appendix 1

percent share of total food and tobacco advertising. Two companies, Coors and Hershey, were not among the top 25 advertisers in 1967 but by 1987 they had become major advertisers. Coors was often used as an example of a highly differentiated consumer product that had great success without media advertising. In 1967 Coors was only the 100th largest advertiser, but that changed in the 1970s as it began losing market share when Philip Morris and Anheuser-Busch escalated advertising rivalry in the beer industry. In 1987 it had become the 19th largest advertiser, a high ranking for such an undiversified company. Hershey increased its advertising even more so. Before the death of its founder, who opposed commercial advertising, Hershey was an extremely small advertiser given its size and market share in the candy market. In 1967 it ranked as only the 223rd largest advertiser but by 1987 it had risen to rank 24th and had embraced advertising as a competitive strategy.

The 1987 listing of the largest food and tobacco advertisers includes associations and other organizations that advertise generically an industry-wide message (e.g., Drink Milk). The largest such advertiser was the American Dairy Association which ranked 17th among all food and tobacco advertisers (Table 12). The National Livestock and Meat Board was a distant second, followed by the state of Florida. The top 25 such advertisers are listed in Table 12 and all others are in Appendix 2.

Table 11 Leading Company Advertisers in Food and Tobacco Processing (including Associations), 1987

Rank	Company	Company Total (\$000)	Percent of Total	Cumulative Percent
1	Philip Morris Companies Inc.	769,772.9	13.239	13.239
2	RJR Nabisco Inc.	439,313.9	7.556	20.794
3	Anheuser-Busch Cos Inc.	325,465.8	5.598	26.392
4	Kellogg Company	309,008.9	5.314	31.706
5	General Mills Inc.	263,425.0	4.530	36.237
6	Mars Inc.	203,544.5	3.501	39.738
7	Pepsico Inc.	174,923.2	3.008	42.746
8	Coca-Cola Company	171,662.2	2.952	45.698
9	Nestle Sa	164,886.9	2.836	48.534
10	Kraft Inc.	145,139.1	2.496	51.030
11	Procter & Gamble Company	136,576.6	2.349	53.379
12	Quaker Oats Company	133,101.6	2.289	55.668
13	Campbell Soup Company	129,571.9	2.228	57.897
14	Unilever NV	124,408.1	2.140	60.036
15	Ralston Purina Company	124,147.5	2.135	62.171
16	Wrigley WM Jr. Company	102,379.1	1.761	63.932
17	American Dairy Association	93,987.1	1.616	65.549
18	BCI Holdings Corporation	86,342.0	1.485	67.034
19	Coors Adolph Company	84,656.8	1.456	68.490
20	Heinz HJ Company	84,441.6	1.452	69.942
21	Grand Metropolitan PLC	78,014.5	1.342	71.284
22	Hicks & Haas	76,115.6	1.309	72.593
23	Gallo E & J Winery	63,322.3	1.089	73.682
24	Hershey Food Corporation	62,406.8	1.073	74.755
25	Seagram Company Ltd.	61,939.7	1.065	75.820

Source: Appendix 2

By 1987, 39 agricultural cooperatives advertised food products and the leading 25 ranked by food and tobacco advertising are given in Table 13. Just as was the case in 1967, Ocean Spray was the largest cooperative food and tobacco advertiser, and had risen in overall rank from 65th in 1967 to 42nd in 1987, if associations are omitted as they were in 1967. Whereas four agricultural cooperatives made the top 100 advertisers in 1967, six made the top 100 in 1987, as well as eight associations.

One of the largest advertisers among the 39 agricultural cooperatives in 1987 was Sunkist who does not appear on the top 25 list in Table 13. This is because Sunkist allocated almost all its advertising to its fresh fruit, which is not classified in processed food (SIC 20). To

Table 12 Leading Association Advertisers in Food and Tobacco Processing, 1987

Rank	Association ^a	Company	
		Total (\$000)	Percent of Total
17	American Dairy Association	93,987.1	1.616
39	National Live Stock & Meat Board	29,074.3	0.500
53	Florida State of	13,657.8	0.235
56	National Federation of Coff Grwr of Columbia	11,211.4	0.193
62	National Dairy Promo & Research Board	9,054.8	0.156
64	Calif Oregon Wash Dairyman Association	8,714.1	0.150
75	Puerto Rico Commonwealth of	6,673.2	0.115
76	California Raisins Advisory Board	6,640.3	0.114
111	California Prunes Advisory Board	2,811.0	0.048
140	Italy Republic of	1,746.2	0.030
144	Sugar Association Inc.	1,706.9	0.029
156	Catfish Institute	1,393.9	0.024
189	California Milk Advisory Board	898.7	0.015
228	German Agricultural Marketing Board	568.4	0.010
251	Alaska Seafood Marketing Institute	402.9	0.007
254	Olive Administration Committee	397.3	0.007
265	American Sheep Producers Council Inc.	357.9	0.006
277	Switzerland Cheese Association	335.6	0.006
289	California Dates Administrative Committee	300.7	0.005
317	Norwegian Sardine Indus	244.9	0.004
351	Milk for Health Agency Canada	181.4	0.003
356	United Dairy Association	168.1	0.003
393	Mid Atlantic Dairy Association	128.4	0.002
409	Vanilla Information Bureau	118.3	0.002
433	Norwegian Salmon Marketing Council	100.4	0.002

^a An Association is used here to refer to any group advertising on behalf of an entire industry rather than company brands. Source: Appendix 2

overcome this narrower definition of food advertising, all 39 cooperatives that advertised food products in 1987 are listed in Table 14, ranked by their total food advertising, which includes the fresh products (SICs 01 and 02). Sunkist was the sixth largest advertiser with this broader definition. Ocean Spray remained the largest food advertiser even with the inclusion of unprocessed food products and accounted for 27.7 percent of the total food advertising expenditures by cooperatives. The inclusion of the fresh products that are not classified as processed food products only affects five cooperatives since the other 34 advertised only processed food products.

Table 13 Leading Agricultural Cooperative Advertisers in Food and Tobacco Processing, 1987

Rank	Company	Company	
		Total (\$000)	Percent of Total
44	Ocean Spray Cranberries Inc.	20,408.7	0.351
58	Sun-Diamond Growers of California	9,954.3	0.171
68	Agway Inc.	7,882.0	0.136
90	Land O'Lakes Inc.	4,627.8	0.080
96	Alexander & Baldwin Inc. (C & H Sugar)	3,677.6	0.063
99	Guild Winery & Distillers	3,502.0	0.060
109	California Almond Growers Exchange	2,885.3	0.050
113	National Grape Cooperative Association	2,641.6	0.045
149	Tri-Valley Growers	1,587.4	0.027
150	Tree Top Inc.	1,565.4	0.027
161	Farmland Inds Inc.	1,308.4	0.023
181	Citrus World Inc.	986.4	0.017
185	Gold Kist Inc.	911.2	0.016
268	Riceland Foods Inc.	353.0	0.006
276	Sioux Honey Association	336.7	0.006
278	United Dairyman/Arizona	332.8	0.006
283	Darigold Inc.	315.7	0.005
306	Coble Dairy	272.1	0.005
310	Challenge Dairy Products	263.2	0.005
347	Golden Guernsey Dairy Coop	183.5	0.003
375	Tillamook County Creamery Association	151.1	0.003
376	Cream O Weber Dairy Company	146.4	0.003
416	Prairie Farms Dairy Company	112.3	0.002
429	Dairyman Inc.	102.1	0.002
437	Upstate Milk Corporation Inc.	98.5	0.002

Source: Appendix 2

Since television is considered the premium media for creation and maintenance of product differentiation, it is of interest whether cooperatives allocated most of their media advertising dollars to television. Of the leading 10 cooperative advertisers, four allocated at least 90 percent of their advertising to television. Interestingly, the fifth largest advertiser, Land O'Lakes, only allocated 14.5 percent of its advertising to television. Tri-Valley also made much less use of television than the average, spending only 23.5 percent on television. Ocean Spray, on the other hand, spent nearly all of its media advertising dollars on television (98 percent), as did California Almond Growers Exchange (now Blue Diamond) and Guild Winery.

Although the 1967 data did not include unprocessed food advertising, 31 cooperatives did advertise processed food products

Table 14 Media Food Advertising by Agricultural Cooperatives, 1987

Rank	Company	Total (\$000)	% of Co- operatives Total	% SIC 20	% TV
1	Ocean Spray Cranberries Inc.	20,408.7	27.71	100.0	97.9
2	Sun-Diamond Growers of California	12,150.0	16.50	81.9	75.4
3	Agway Inc. (incl. HP Hood & C Burns)	7,882.0	10.70	100.0	62.5
4	California Almond (Blue Diamond)	5,110.6	6.94	43.5	100.0
5	Land O'Lakes Inc.	4,627.8	6.28	100.0	14.5
6	Sunkist Growers Inc.	3,890.3	5.28	0.1	83.6
7	Alexander & Baldwin Inc. (C & H Sugar)	3,677.6	4.99	100.0	92.0
8	Guild Winery & Distillers	3,502.0	4.75	100.0	99.9
9	National Grape Cooperative Association	2,641.6	3.59	100.0	53.1
10	Tri-Valley Growers	1,587.4	2.16	100.0	23.5
11	Tree Top Inc.	1,565.4	2.13	100.0	94.0
12	Farmland Inds Inc.	1,308.4	1.78	100.0	99.7
13	Citrus World Inc.	986.4	1.34	100.0	100.0
14	Gold Kist Inc.	911.2	1.24	100.0	100.0
15	Riceland Foods Inc.	353.0	0.48	100.0	88.6
16	Sioux Honey Association	336.7	0.46	100.0	26.9
17	United Dairymen/Arizona	332.8	0.45	100.0	95.8
18	Darigold Inc.	315.7	0.43	100.0	100.0
19	Coble Dairy	272.1	0.37	100.0	100.0
20	Challenge Dairy Products	263.2	0.36	100.0	38.6
21	Golden Guernsey Dairy Coop	183.5	0.25	100.0	100.0
22	Tillamook County Creamery Association	151.1	0.21	100.0	27.7
23	Cream O Weber Dairy Company	146.4	0.20	100.0	100.0
24	Prairie Farms Dairy Company	112.3	0.15	100.0	100.0
25	Dairymen Inc.	102.1	0.14	100.0	91.2
26	Upstate Milk Corporation Inc.	98.5	0.13	100.0	100.0
27	Cabot Farmers Co-Op Creamery Co. Inc.	79.1	0.11	100.0	94.2
28	Inner Mountain Egg Producers Association	61.6	0.08	0.0	100.0
29	Swiss Valley Farms	59.6	0.08	100.0	100.0
30	Norbest Turkey Growers Association	55.1	0.07	100.0	47.4
31	Sealed-Sweet Growers Inc.	49.7	0.07	0.0	100.0
32	Roberts Dairy Company	47.9	0.07	100.0	76.0
33	Bison Foods	47.8	0.06	100.0	100.0
34	Knouse Foods Inc.	41.0	0.06	100.0	0.0
35	Lindsay Olive Growers	34.7	0.05	100.0	0.0
36	Agripac	30.8	0.04	100.0	0.0
37	Zarda Brothers Dairy Inc.	29.0	0.04	100.0	100.0
38	Citrus Central Inc.	28.2	0.04	100.0	100.0
39	Cenex	0.2	0.00	100.0	0.0
	Total	73,649.6			

Note: % TV is the percent of the company's total media advertising spent on television. % SIC 20 is the percent of the company's total media advertising spent in food processing. Source: Leading National Advertisers Inc., 1987.

Table 15 Media Advertising by Cooperatives in Food Processing, 1967

Rank	Company	% of Cooperative's		
		Total (\$000)	Total Advertising	% TV
1	Ocean Spray Cranberries Inc.	4,932	24.179	90.63
2	Allied Grape Growers	3,749	18.379	91.12
3	North Pacific Cannery & Packers Inc.	3,587	17.585	97.41
4	National Grape Co-operative Association Inc.	2,749	13.477	100.00
5	California Cannery & Growers	1,821	8.927	77.48
6	Sunsweet Growers Inc.	1,152	5.648	93.66
7	Land O'Lakes Creameries Inc.	1,010	4.951	4.36
8	California & Hawaiian Sugar Refining Corp.	634	3.108	85.33
9	Atlanta Dairies	619	3.035	59.94
10	Gold Kist Inc.	382	1.873	0.00
11	Arkansas Rice Growers Co-operative Assoc.	379	1.858	70.71
12	Diamond Walnut Growers Inc.	286	1.402	0.00
13	American Crystal Sugar Company	204	1.000	50.49
14	Sunkist Growers Inc.	191	0.936	84.82
15	Tree Top Inc.	187	0.917	21.39
16	Sun-Maid Raisin Growers of California	186	0.912	76.88
17	Dairymen's Co-operative sales Assoc.	123	0.603	0.00
18	Guild Wine Company	93	0.456	0.00
19	Western Farmers Assoc.	77	0.377	0.00
20	California Almond Growers Exchange	59	0.289	0.00
21	Sioux Honey Association	58	0.284	25.86
22	Consolidated Olive Growers	47	0.230	0.00
23	Norbest Turkey Growers Association	43	0.211	0.00
24	Lehigh Valley Dairy Cooperative	37	0.181	0.00
25	Lakeville Dairies	27	0.132	100.00
26	Tillamook Cheese & Dairy Association	23	0.113	0.00
27	Challenge Cream & Butter Association	22	0.108	0.00
28	Consolidated Dairy Products Company	9	0.044	0.00
29	Missouri Farmers Association Inc	8	0.039	100.00
30	Roberts Dairy Company	5	0.025	100.00
31	Roquefort Association Inc	4	0.020	0.00
	Total	22,703		

Note: % TV is the percent of the company's total media advertising spent on television. 1967 advertising does not include non SICs 20 and 21 advertising, hence advertising for fresh farm products, e.g., oranges, are ignored. Source: Leading National Advertisers Inc.

(Table 15). Ocean Spray was the largest cooperative advertiser and accounted for 24.2 percent of the total cooperative advertising. In 1967, seven cooperatives spent over a million dollars and the distribution of expenditures was less concentrated than in 1987. Of the 39 cooperatives that advertised in 1987, only twelve spent more than a million dollars (without adjusting for inflation). Sunkist and

California Almond Growers Exchange (now Blue Diamond) were much lower on the 1967 list because of the omission of advertising for unprocessed food products. Also, in 1967 the Sun-Diamond marketing coalition had not been formed so SunMaid, Sunsweet, and Diamond Walnut were all listed separately.

Five of the top ten cooperative advertisers in 1967 allocated over 90 percent of their media advertising expenditures to television, but the tenth largest, Gold Kist, did not use any television advertising in 1967 whereas by 1987 television was the only media it used. In 1967, 13 of the 31 cooperatives did not use television advertising, but by 1987 only four of the 39 agricultural cooperatives failed to use some television advertising.

The above rankings have been done on the basis of total advertising but since cooperatives are not as large and diversified as the largest food and tobacco companies they might rank higher if the comparisons were done on the basis of advertising-to-sales ratios. The calculation of such ratios is fraught with difficulties. First, our advertising totals are for U.S. media only and limited to food and tobacco products. Thus the companies' sales data must be similarly restricted to domestic sales of food and tobacco products. Such sales data are not easily available and confidentiality concerns impede firms from releasing such data. However, a useful start is the annual list of the top 100 food processing companies done by *Food Processing* magazine in their December issue. They attempt to gather both total sales and food sales using the Census SIC system, but international food sales are included. Also, they do not include tobacco products. Nevertheless, advertising-to-sales (A/S) ratios were calculated using the sales data from the 1988 *Food Processing* list supplemented by estimates to add in domestic tobacco sales. No attempt was made to limit the food sales data to U.S. sales only, thus for firms with large international food sales the A/S ratio is substantially understated. For example, over half of the Coca-Cola company's sales are from overseas so its estimated A/S of 2.25 percent should be at least doubled to 4.5 percent if foreign sales were omitted.

Given these limitations, the advertising-to-sales ratios for the top 25 advertisers in 1987 were calculated and listed in Table 16. The A/S ratios vary from a low of 1.47 percent for Kraft Inc. to a high of 13.11 percent for Wrigley. Nine of the A/S ratios exceed 3 percent, the value picked by Brandow as marking excessive and wasteful advertising levels. In contrast, the A/S ratios for the top 25 cooperatives were dramatically smaller (Table 17). Hence, even after controlling for firm size, cooperatives do not advertise as intensively as the noncoop-

Table 16 Advertising-to-Sales Ratios for the Leading Advertisers in Food and Tobacco Processing, 1987

Rank	Company	Company Total (\$000)	A/S Percent
1	Philip Morris Companies Inc.	769,772.9	3.50
2	RJR Nabisco Inc.	439,313.9	3.14
3	Anheuser-Busch Cos Inc.	325,465.8	4.07
4	Kellogg Company	309,008.9	8.15
5	General Mills Inc.	263,425.0	7.02
6	Mars Inc.	203,544.5	N/A
7	Pepsico Inc.	174,923.2	2.40
8	Coca-Cola Company	171,662.2	2.25
9	Nestle Sa	164,886.9	2.86
10	Kraft Inc.	145,139.1	1.47
11	Procter & Gamble Company	136,576.6	4.61
12	Quaker Oats Company	133,101.6	2.84
13	Campbell Soup Company	129,571.9	2.66
14	Unilever NV	124,408.1	N/A
15	Ralston Purina Company	124,147.5	2.71
16	Wrigley WM Jr. Company	102,379.1	13.11
17	American Dairy Association	93,987.1	N/A
18	BCI Holdings Corporation	86,342.0	2.15
19	Coors Adolph Company	84,656.8	7.70
20	Heinz HJ Company	84,441.6	1.70
21	Grand Metropolitan PLC	78,014.5	N/A
22	Hicks & Haas	76,115.6	N/A
23	Gallo E & J Winery	63,322.3	N/A
24	Hershey Food Corporation	62,406.8	3.35
25	Seagram Company Ltd.	61,939.7	2.82

Note: Company sales include foreign sales whereas only domestic advertising expenditures are included. N/A = not available. Source: Leading National Advertisers, Inc., 1987 and *Food Processing*, December 1988.

erative firms. None of the cooperatives has an A/S exceeding 3 percent and only two have an A/S of 2 percent or more. Most are well below one percent. The highest, 2.6 percent, was for Ocean Spray which was also ranked number one on the basis of total advertising as well. In terms of food sales, Land O'Lakes was the largest of the leading agricultural cooperative advertisers, but even as the fifth largest cooperative advertiser its A/S ratio was only 0.33 percent. Not only do cooperatives spend dramatically less on advertising than the leading noncooperative firms, they also have lower advertising-to-sales ratios.

Table 17 Advertising-to-Sales Ratios for the Leading Agricultural Cooperative Advertisers in Food and Tobacco Processing, 1987

Rank	Company	Company Total (\$000)	Percent of Total
1	Ocean Spray Cranberries Inc.	20,408.7	2.61
2	Sun-Diamond Growers of California	12,150.0	2.03
3	Agway Inc. (incl. HP Hood & C Burns)	7,882.0	0.96
4	California Almond (Blue Diamond)	5,110.6	1.12
5	Land O'Lakes Inc.	4,627.8	0.33
6	Sunkist Growers Inc.	3,890.3	0.46
7	Alexander & Baldwin Inc. (C & H Sugar)	3,677.6	0.63
8	Guild Winery & Distillers	3,502.0	N/A
9	National Grape Cooperative Association	2,641.6	0.86
10	Tri-Valley Growers	1,587.4	0.23
11	Tree Top Inc.	1,565.4	N/A
12	Farmland Inds Inc.	1,308.4	0.22
13	Citrus World Inc.	986.4	0.37
14	Gold Kist Inc.	911.2	0.11
15	Riceland Foods Inc.	353.0	0.06
16	Sioux Honey Association	336.7	N/A
17	United Dairymen/Arizona	332.8	N/A
18	Darigold Inc.	315.7	0.05
19	Coble Dairy	272.1	N/A
20	Challenge Dairy Products	263.2	N/A
21	Golden Guernsey Dairy Cooperative	183.5	N/A
22	Tillamook County Creamery Association	151.1	N/A
23	Cream O Weber Dairy Company	146.4	N/A
24	Prairie Farms Dairy Company	112.3	0.02
25	Dairymen Inc.	102.1	0.01

Note: Total advertising includes advertising done in SICs 01 and 02. Company sales include foreign sales whereas only domestic advertising expenditures are included. N/A = not available. Source: Leading National Advertisers, Inc., 1987 and *Food Processing*, December 1988.

7. Advertising by Cooperatives in Specific Food Industries

Although cooperatives are not among the leading advertisers in the food system, there are some processed food industries where cooperatives hold significant, even dominant, shares of a specific industry's total advertising. In some of the more narrowly defined product categories that still correspond to a well-defined economic market, like honey or raisins, cooperatives account for the majority of

the advertising. However, the total advertising in these categories is often quite small and it is also in these markets where associations often fund nonbrand advertising as well.

We classified the 1987 advertising data for all food and tobacco products, including the unprocessed food industries, into meaningful economic product markets. Usually this amounted to using the five-digit product class but in some cases the more narrow seven-digit product was more appropriate and in others the four-digit industry was sufficient. The resulting set of economic industries were ranked by the percent of total advertising in the industry that was done by cooperatives, net of all nonbrand specific advertising done by associations and similar industry groups. In Table 18 all industries where the share of brand advertising held by cooperatives was one percent or more are listed in descending order of the cooperatives' share. Some duplication exists in the table when the seven-digit product level is used as the appropriate economic market because the five-digit product class is also given to show the implications of not using the more narrow product level of detail. For example, both seven-digit product markets for prunes and raisins are given separately but the five-digit to which they belong is also given, SIC 20343, dried and dehydrated fruits and vegetables. If one only used the five-digit product class level of detail, some of the significance of agricultural cooperatives would be hidden.

In canned cranberries and sauce, SIC 2033128, the Ocean Spray cooperative did all of the branded advertising and no association advertising was done. The total amount of advertising was minor, only \$116,200 and represented less than one percent of Ocean Spray's 1987 media advertising and created a mere 0.11 percent A/S ratio for the entire industry. Such a low A/S is characteristic of low levels of product differentiation in an industry.

Cooperatives also did all the brand advertising for prunes and the amount was more substantial, a little over \$3.3 million of branded advertising, which amounted to an industry branded A/S ratio of 1.25 percent. Associations accounted for another \$2.8 million. Cooperatives did almost all of the brand advertising for raisins with Sun-Diamond having spent \$5.1 million or 98.6 percent of all branded advertising in support of the SunMaid brand. Associations spent more, \$6.6 million, to support the raisin industry in general without mentioning specific brands.

Cooperatives were responsible for over 90 percent of all brand advertising for tree nuts and citrus fruits with both having about \$4 million in brand advertising. Associations spent another \$1.2 million in citrus fruits but almost nothing for tree nuts. Cooperatives accounted for nearly 90 percent of branded honey and butter

advertising. Honey is a small industry and even though the total advertising was only \$0.3 million it had a higher A/S ratio, 0.5 percent, than was found in the butter industry, 0.14 percent, even though cooperatives spent over \$2 million dollars advertising branded butter. Associations spent nothing in the honey market but spent nearly \$16 million in support of the butter industry.

Of the 10 product categories where cooperatives accounted for over 50 percent of the branded advertising, only two, butter and refined sugar, would be standard industries in the food processing sector (SIC 20). Three of the ten (tree nuts, citrus fruits, and chicken eggs) are classified outside of food processing. Four, including the top three product markets, required more detailed seven-digit data than are typically used in research because the Census only provides limited data at this level. Prunes and raisins are part of SIC 20343 (dried and dehydrated fruits and vegetables), which is also given in Table 18 as a standard five-digit product class. The effect of not separating out prunes and raisins from SIC 20343 reduced the cooperative's share of the branded advertising to 79 percent and lowered the industry's A/S ratio to only 0.7 percent, whereas it was over 1.2 percent for each when separated. The five-digit SIC 20343 is an overly broad classification as it includes noncompeting products. Although one could argue whether raisins and prunes belong in the same economic market, no one would suggest that they both belong with dehydrated potatoes which is also classified in SIC 20343.

Sour cream is a seven-digit product that is part of the five-digit SIC 20262, packaged fluid milk and related products, as was explained in Table 1. Both are in Table 18 and in each the percent of the brand advertising done by cooperatives was a little over 30 percent. However, associations spent nearly \$40 million dollars in support of the broader five-digit group of products and rarely advertised for the more narrowly defined sour cream dairy products. Canned olives is another example of the usefulness of examining seven-digit products. Cooperatives spent about \$100,000, or almost 20 percent of the branded advertising for canned olives, and associations spent nearly four times that amount. Canned olives is a subset of the five-digit SIC 20331, canned fruits. In the broader canned fruits industry cooperatives accounted for 12.5 percent of brand advertising and the only association advertising was done by the olive industry. The canned olives industry had an A/S ratio of only 0.2 percent, characteristic of low product differentiation, whereas the broader canned fruits industry had an A/S ratio of 1.1 percent.

Even though in a few product markets cooperatives dominated the brand advertising, the total amount of advertising done was minimal.

Table 18 Share of an Industry's Brand Advertising Held by Agricultural Cooperatives, 1987

Cooperatives SIC	Name	Total Media		Total Adver- tising by		Share* percent
		Advertising (\$000)	A/S* percent	Cooperatives (\$000)	Associations (\$000)	
2033128	Canned cranberries and sauce	116.2	0.11	116.2	0.0	100.00
2034315	Prunes	6,136.7	1.25	3,325.7	2,811.0	100.00
2034313	Raisins	11,852.2	1.56	5,139.6	6,640.3	98.61
0173	Tree nuts	4,551.3	N/A	4,421.0	6.1	97.27
0174	Citrus fruits	5,382.1	N/A	3,934.2	1,225.9	94.66
2099G25	Honey, blended and churned	374.4	0.47	336.7	0.0	89.93
20210	Butter	18,088.5	0.14	2,051.9	15,785.3	89.09
20343	Dried and dehydrated fruits and vegetables	20,454.3	0.69	8,465.3	9,752.0	79.10
20623	Cane and beet refined sugar	6,461.7	0.11	3,677.6	1,706.9	77.34
2052	Chicken eggs	2,892.1	N/A	61.6	2,792.2	61.66
2026245	Sour cream	1,331.4	0.00	417.3	26.2	31.97
20262	Packaged fluid milk and related products	44,800.3	0.05	1,473.6	39,912.3	30.15
2048	Prepared feeds, n.e.c.	323.2	0.00	74.2	0.0	22.96
2033A,B	Canned fruit juices, nectars, and concentrates	105,516.3	2.96	19,342.4	8,036.6	19.84
2033136	Canned olives, incl. stuffed	906.5	0.18	101.0	397.3	19.84
20323	Canned dry beans	7,803.4	0.87	1,532.3	0.0	19.64
20680	Nuts & seeds (salted, roasted, cooked or blanched)	16,478.1	0.80	2,885.3	0.0	17.51
20331	Canned fruits, except baby foods	24,016.8	1.13	2,942.4	397.3	12.46
20866	Noncarbonated soft drinks	39,985.2	1.65	4,587.6	0.0	11.47
20371	Frozen fruits, juices, ades, drinks & cocktails	32,826.1	0.96	2,404.0	5,621.2	8.84
20332	Canned vegetables except hominy and mushrooms	10,716.6	0.47	817.9	0.0	7.63
20263	Cottage cheese	3,471.8	0.43	178.5	544.8	6.10
20513	Sweet yeast goods, except frozen	3,475.8	0.35	206.6	0.0	5.94
20118	Canned meats	13,916.6	1.06	820.3	0.0	5.89
20338	Jams, jellies, and preserves	12,540.5	1.89	592.0	0.0	4.72
20151	Young chickens	20,994.9	0.28	911.2	160.9	4.37
20792	Margarine	49,941.3	4.28	2,105.9	0.0	4.22
2035435	Pourable dressing	19,991.0	4.05	676.8	0.0	3.39
20840	Wines, brandy, and brandy spirits	224,815.2	7.10	3,502.0	2,304.2	1.57
20354	Mayonnaise, salad dressing, and sandwich spreads	46,138.8	2.03	676.8	0.0	1.47
20240	Ice cream and ices	104,054.5	2.35	1,203.8	5,536.5	1.22
20223	Natural cheese, except cottage cheese	61,438.4	0.40	274.1	35,641.4	1.06

* Excludes association advertising from the industry total.

The total amount of branded advertising accounted for by the industries listed in Table 18 represented only 13 percent of all branded food and tobacco advertising in 1987, but accounted for nearly 95 percent of all the advertising done by agricultural cooperatives. In only 19 product markets (and this double counts SICs 20331, 20343 and 20262 since they have seven-digit SICs also on the list) out of over 200 food and tobacco markets examined did the cooperatives' share of branded advertising exceed 10 percent of the total. Of these only one was an industry characterized as a moderate to large advertiser. That one industry was SIC 2033A,B (SIC 2033A and 2033B were combined), canned and fresh fruit juices, nectars and concentrates, where the industry spent \$105.5 million on advertising, with \$97.5 million on branded advertising for an A/S ratio of nearly 3 percent. Nevertheless, even this industry is not among the leading industries in advertising expenditures. For example, the breakfast cereals industry was the second largest advertiser behind the beer industry in 1987 and it spent over six times as much, \$656.1 million, on branded advertising in 1987 and had an industry A/S of nearly 13 percent.

Three main conclusions emerge from Table 18. First, even though a few product markets had cooperatives dominating the brand advertising, the amounts were relatively small and the advertising intensity of the industry was small, usually less than 1 percent of sales, indicating low levels of product differentiation. Second, where the cooperatives did advertise branded products was also where associations spent the most to support the industry without regard to brands. The sum of the association advertising given in Table 18 represented 60 percent of all food related advertising by associations and that omits substantial amounts by associations that were not specific to a four- or five-digit SIC but were supportive of all the industries within a three-digit minor group (e.g., American Dairy Association's general dairy advertising). This implies that the farmers who may belong to a cooperative, but clearly belong to the industry, were spending greater amounts on nonbrand advertising than on brand advertising. Lastly, researchers interested in agricultural cooperatives and the food processing system need more detailed data than is available through standard Census data. The Census provides data on 53 food and tobacco industries (four-digit SIC level) and 160 product classes (five-digit SIC level). Very little aggregated data are published at the seven-digit product level and no product market concentration data or sales of individual firms can be obtained because of confidentiality protection. Researchers need greater access to private data series like that available from Information Resources, Inc. (IRI). These data are expensive but give price and sales data for individual brands gathered

from retail scanner data. Such data could be matched with the LNA advertising data to provide a better understanding of the food processing sector in general, and in particular, how cooperatives fare within the sector.

In a separate study, Willis and Rogers prepared a data set on individual companies in 60 U.S. processed food and tobacco industries in 1987. The study used data from the Census of Manufactures and LNA, but also used the now discontinued brand level data from SAMI to calculate brand and firm market shares within each of the 60 industries (for details see Willis, 1992). These data allow a comparison between industries where agricultural cooperatives are leading competitors and those without a substantial cooperative presence. The measurement of a significant cooperative presence was done in two different ways. First, if any one of the four largest branded sellers in an industry was a cooperative, then that industry had a significant cooperative presence. The other method used a 1982 special tabulation of census data (see Rogers and Marion, 1990 for details) and classified industries into those where the 100 largest agricultural cooperatives collectively held at least a 3 percent share of the industry's value-of-shipments and those where it was less than 3 percent.

In twelve of the 60 industries at least one cooperative was among the top 4 sellers of branded products and the remaining 48 industries did not have a cooperative among the top 4. The two groups of industries differed in several important market characteristics (Table 19). The industries with cooperatives among the leaders tended to be slightly smaller, have lower market concentration, lower advertising intensities, higher levels of private label sales (those without a manufacturer brand identification, usually the retail store's brand), and lower price-cost margins as measured by either a Census approach (see Petraglia and Rogers, 1991) or by an average brand price minus the average private label price (see Willis, 1992). In addition, the industries with a significant cooperative presence tended to have their market leader face weaker rivals, as measured by market shares of firm one compared to firms ranked number two, three and four.

Essentially the same results emerge if the two groups are formed by whether the industry had at least three percent of its 1982 value-of-shipments held by cooperatives or not. This approach split the 60 industries more evenly, 25 had a significant cooperative presence and 35 did not. The comparisons of the mean characteristics repeat those already discussed based on the alternative measure of a significant cooperative presence. For this paper, the main point is the much higher advertising intensities for the group of industries without a significant cooperative presence. The A/S ratio for the group without

Table 19 Comparison of Means of Industry Characteristics by Cooperative Involvement, 1987

Variable	All Industries	Cooperative in Top 4		Cooperatives' Market Share	
		Yes	No	≥ 3%	< 3%
N	60	12	48	25	35
Vos87	2,846.1	2,417.5	2,942.3	2,345.6	3,203.5
AS87	2.6	0.8	3.0	1.1	3.6
CR487	60.3	48.6	62.9	50.2	67.5
HHI87	1,597.1	1,095.6	1,709.6	1,067.9	1,975.0
MS1	34.3	31.3	35.0	30.6	37.0
MS2	16.4	8.4	18.2	12.0	19.5
MS3	10.1	5.9	11.1	7.6	11.9
MS4	5.4	4.4	5.7	4.5	6.1
PL	16.0	32.4	12.3	27.2	8.0
PCM1	34.5	24.7	36.9	29.0	38.4
PCM82	30.4	17.7	33.6	20.0	37.8
%COOP	7.0	24.2	3.1	15.9	0.5

where:

N = number of industries

Vos87 = 1987 value-of-shippments in millions of dollars

AS87 = 1987 advertising to sales ratio in percent

CR487 = 1987 four-firm concentration ratio in percent

HHI87 = 1987 Hirschman-Herfindahl index

MSi = brand market share of firm i

PL = percent of the industry's retail sales accounted for by private label

PCM1 = percentage average brand price exceeds average private label price

PCM82 = 1982 price-cost margin from Census (see Petraglia and Rogers, 1991 for details)

%COOP = 1982 percentage of the industry held by the 100 largest agricultural cooperatives (again see Petraglia and Rogers for details)

Source: Michael Willis and Richard Rogers, Department of Resource Economics, University of Massachusetts, 1992.

a significant cooperative presence was over 3 times that of the ratio found in the group with cooperatives. However, this does not prove that cooperatives lower industry advertising levels. The results are also consistent with the fact that those industries where cooperatives are among the leaders have lower price-cost margins, lower concentration and are more commodity oriented.

To determine if cooperatives do spend less than their noncooperative rivals when all else is held constant is a difficult research task given data availability. As a preliminary test, we added the cooperative presence variable to a regression model that explains the industry's A/S as a function of price-cost margins, concentration, variance in leading firm's market shares, private label's share and some control variables (see Willis, 1992). The same 60 industries included in Table 19 formed the data set. The results showed a negative estimated coefficient on the cooperative presence variable but it was not statistically significant, hence we cannot support the hypothesis that industries with a major cooperative presence will have lower advertising intensities, all else equal.

We continue to develop additional data to test this hypothesis using brand level data from both the SAMI and IRI data, as well as from other trade sources. In broilers, for example, the market leader in 1989 was Tyson Foods with a 20 percent share of the national broiler market. Second was ConAgra with an 8.5 percent share. Gold Kist, an agricultural cooperative, was third with a 6.9 percent share and Perdue Farms was fourth with a 5.8 percent market share. In terms of the share of branded advertising for broilers though, Perdue was first with a 28.4 percent share of the advertising dollars spent in 1989, followed by Tyson with 24 percent and ConAgra with a 21.3 percent share. Gold Kist was a distance fifth with a 4.1 percent share of broiler advertising (see Rogers, 1993 in *Industry Studies*, edited by Duetsch). Unlike the red meat industry which spends heavily on industry wide advertising by associations, the broiler industry avoids industry-wide advertising in favor of individual companies advertising their brands.

A similar pattern exists for the U.S. turkey industry. In 1990 the four market leaders and their market shares were: Louis Rich (part of Philip Morris) at 8 percent, Swift (part of BCI) at 8 percent, Norbest, a cooperative, at 6.9 percent, and ConAgra at 6.4 percent. Their shares of branded turkey advertising were: 62 percent for Louis Rich, 20 percent for Swift, and only 0.3 percent for Norbest as well as ConAgra. In 1991, ConAgra bought Swift so it would be interesting to recheck the market shares and advertising shares after the merger, but Norbest is still likely to be an insignificant advertiser.

The olive industry is not one characterized by heavy brand advertising, the A/S ratio is only 0.1 percent for the industry. In 1987 associations spent nearly \$400 thousand whereas branded olive advertising amounted to just half that amount. Campbell Soup had the largest branded olive market share with a 35 percent share and two cooperatives held positions two and three. Lindsay was the number two branded olive company with a 17.5 percent share and Tri-Valley was third with a 4.6 percent share. Although Campbell Soup spent the most money, \$78.8 thousand, it had an A/S ratio of only 0.13 percent and Tri-Valley spent \$66.3 thousand for an A/S ratio of 0.8 percent. The only other branded advertiser was Lindsay who spent \$34.7 thousand for an A/S ratio of 0.11 percent. None of these three could be called substantial advertisers and the industry is not characterized by much product differentiation. In 1987 over 36 percent of the retail sales were in private label store brands or generic labels.

The SunMaid agricultural cooperative dominates the raisin industry. The SunMaid brand had about a 56 percent market share of the retail market in 1987. The brand was supported by over \$5 million in advertising and that amounted to an A/S ratio of 3.7 percent based on retail sales, the largest A/S ratio we have observed yet for a branded food product marketed by an agricultural cooperative. Only two other raisin companies advertised their brand of raisins each spending about \$35,000, but it was the smaller company, National Raisin Company, that had the larger A/S ratio of 1.24 percent for its Champion brand even though it had only a 1.2 percent brand market share. The raisin industry is clearly dominated by the leading firm, an agricultural cooperative, but the industry does not have strong product differentiation. Over 30 percent of 1987 retail sales were for private label store brands or generic labels. Also, the industry's association advertising exceeded that of the total branded advertising, spending \$6.6 million in 1987.

Another agricultural cooperative, Sioux Honey Association, is number one in the honey market, with a retail market share of over 30 percent in 1987. The cooperative spent \$337,000 supporting its Sue Bee brand, which gave a retail-based A/S ratio of 1.2 percent. Only one other company recorded any brand advertising and it was a small amount, \$23,300, or an A/S ratio of 0.3 percent. The honey industry also has weak product differentiation and the industry had over 35 percent of retail sales made by private label store brands or generic labels but no association advertising was done in 1987.

At least three agricultural cooperatives operated in the retail sugar industry in 1987, but only one, California and Hawaiian Sugar (linked to Alexander Baldwin), advertised its brand of sugar. Although it was

only the second largest sugar company based on its retail brand market share of nearly 10 percent, it outspent all others and accounted for over 80 percent of the total branded advertising in 1987. It spent \$3.7 million for an A/S ratio of 3.1 percent. The market share leader was Amstar and it spent only \$0.3 million for an A/S ratio of only 0.2 percent. The sugar industry has weak product differentiation also, with private label store brands and generic labels accounting for over 60 percent of the retail market share. Associations also spent nearly \$2 million advertising in support of the industry in 1987.

Several agricultural cooperatives sell a branded butter product at the retail level. Land O'Lakes dominated the industry with a 33 percent market share of retail sales in 1987. It also dramatically dominated the branded advertising, accounting for over 84 percent of the total, but this amount, nearly \$2 million, resulted in an A/S ratio of only 0.7 percent. The number two company was Kraft, now part of Philip Morris Companies, with a retail market share of 6.3 percent. It did not advertise its branded butter at all in 1987. Again the butter industry is not a differentiated market and private label store brands and generic labels accounted for nearly 45 percent of retail sales in 1987. Also, industry associations were the biggest advertisers spending nearly \$16 million in 1987 in support of the butter industry.

In contrast to the butter industry where agricultural cooperatives dominate an industry characterized by little product differentiation and substantial association advertising, the margarine industry is dominated by noncooperatives, had no industry association advertising, but spent a substantial amount on brand advertising, nearly \$50 million in 1987, and had only a modest share of retail sales made by private label store brands and generic labels (12.3 percent). The market leader was Unilever with a 31.3 percent retail market share and it spent over \$26 million advertising its brands in 1987 for an A/S ratio of 5.6 percent. The second largest firm, RJR Nabisco with a 26.2 percent market share, spent over \$16 million on its branded margarine for an A/S of 4.2 percent. Kraft was third with a 20.2 percent market share and spent \$4 million on its brands for an A/S ratio of 1.3 percent. Land O'Lakes was the only cooperative among the top 4 firms with a market share of 3.1 percent. It spent \$600,000 on its branded margarine for an A/S ratio of 1.3 percent.

The differences between the butter and margarine industries offer useful insights into advertising strategies. Whenever the industry has product differentiation potential, investor-owned firms spend large sums promoting their individual brands rather than contributing to industry-wide association advertising. The resulting advertising levels are much higher than found where the reverse is true. Even though association

advertising levels have grown substantially in recent years—to the point where some within the industries are calling on their industries to stop the practice—the amount of advertising still does not rival that spent by the leading food and tobacco processing firms in industries where product differentiation can be built and maintained through massive advertising expenditures.

The evidence gathered to date does show that in a few markets cooperatives have similar advertising strategies to their noncooperative rivals and may even earn a price premium in these markets. However, these are the exceptions. On average, where an agricultural cooperative has a dominant position it tends to be in a market without heavy advertising rivalry, is less concentrated and sales of unbranded products comprise a large part of the market. In addition, when a cooperative does hold a dominant position in a market it is often left unchallenged by the large marketing firms that dominate much of the food system.

8. Summary

This review of advertising by agricultural cooperatives has found that their collective share of brand-oriented food advertising was unchanged over a 20-year period and remained a smaller percentage than their share of processed food sales. The agricultural cooperatives held their greatest advertising shares in food processing markets that had low value-added to sales ratios, low product differentiation, were commodity based, and had a high proportion of unbranded sales, even in retail stores. In addition, those markets were not highly concentrated and were not dominated by the twenty largest food processors who prefer differentiated products and advertising rivalry to direct price competition.

There are several reasons for this. An agricultural cooperative is usually an extension of the farm enterprise, governed by homogeneous boards with most if not all of the board members having farm production backgrounds, and the primary objective of cooperatives has been to assure their farmer/members a market for their output. This has often led to a production orientation rather than a marketing outlook. The additional volume that cannot be sold under the cooperative's retail brand name is likely to be sold as private label store brands or generic labels rather than kept off the market. Agricultural cooperatives usually operate in first-stage processing that is characterized by low value-added products and are often undercapitalized limiting further extensions. In addition, there are

substantial barriers to mobility from expanding the unbranded slice of a market to the national brand strategic group that is often dominated by the huge marketing-oriented firms that comprise the twenty largest food and tobacco processors.

Although a clear picture has emerged showing that agricultural cooperatives advertise less than noncooperatives, both in total amounts and intensity levels, we cannot conclude that the lower emphasis on advertising is the result of being an agricultural cooperative or just related to the market characteristics that cooperatives operate in. Of course, the two are likely to be interrelated making research difficult to discover the true causal linkages. Numerous examples exist where noncooperatives in commodity-oriented markets with little to no product differentiation launched substantial advertising campaigns and achieved some success. Perdue's aggressive advertising of its broilers along with industry leader Tyson's continual attempts to add value to the basic product are prime examples supporting that position. Few examples exist where agricultural cooperatives have tried such a marketing approach. Whether these are just antidotal examples or are part of a general explanation await further research.

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Appendix 1 The Leading 250 Advertisers in Food and Tobacco Processing, 1967

Rank	Company	Company Total (000)	Percent of Total	Cumulative Percent
1	General Foods Corporation	105,408	6.543	6.543
2	Reynolds RJ Tobacco Company	77,979	4.840	11.383
3	American Tobacco Company	70,017	4.346	15.728
4	Coca-Cola Company	59,232	3.676	19.405
5	National Dairy Products Corporation	43,556	2.703	22.108
6	Kellogg Company	42,508	2.638	24.747
7	Lorillard P Company	41,469	2.574	27.321
8	Philip Morris Inc.	41,424	2.571	29.892
9	General Mills Inc.	40,555	2.511	32.403
10	Distillers Corp-Seagrams Ltd.	39,197	2.433	34.836
11	Liggett & Myers Tobacco Company	38,061	2.362	37.198
12	Brown & Williamson Tobacco	37,994	2.358	39.556
13	Pepsico Inc.	37,235	2.311	41.867
14	Campbell Soup Company	31,794	1.973	43.841
15	Wrigley William Jr. Company	28,605	1.775	45.616
16	Quaker Oats Company	28,419	1.764	47.380
17	Standard Brands Inc.	26,672	1.655	49.036
18	Carnation Company	24,641	1.529	50.565
19	Lever Brothers Company	23,667	1.469	52.034
20	Procter & Gamble Company	22,208	1.378	53.412
21	Ralston Purina Company	21,659	1.344	54.757
22	Continental Baking Company Inc.	20,003	1.242	55.998
23	National Biscuit Company	19,870	1.233	57.232
24	Heublein Inc.	18,606	1.155	58.386
25	Corn Products Company	17,243	1.070	59.457
26	Schlitz Jos Brewing Company	16,645	1.033	60.490
27	Seven-Up Company	16,586	1.029	61.519
28	Anheuser-Busch Inc.	16,526	1.026	62.545
29	National Distill & Chem Corp.	16,229	1.007	63.552
30	Nestle Company Inc.	14,589	0.906	64.458
31	Pillsbury Company	13,910	0.863	65.321
32	Walker Hiran-Good & Worts	13,715	0.851	66.172
33	Hunt Foods & Industries Inc.	13,306	0.826	66.998
34	Canada Dry Corporation	13,250	0.822	67.821
35	Schenley Industries Inc.	13,087	0.812	68.633
36	Borden Company	13,068	0.811	69.444
37	Mars Inc.	12,636	0.784	70.228
38	Warner-Lambert Pharma Company	12,159	0.755	70.983
39	Royal Crown Cola Company	11,766	0.730	71.713
40	American Home Products Corporation	11,746	0.729	72.442
41	Grace W R & Company	10,293	0.639	73.081
42	Heinz H J Company	10,132	0.629	73.710
43	Canadian Breweries Ltd.	10,068	0.625	74.335
44	Pabst Brewing Company	9,310	0.578	74.913
45	Falstaff Brewing Corporation	9,132	0.567	75.480
46	Andersen Clayton & Company	8,865	0.550	76.030
47	Mead Johnson & Company	8,810	0.547	76.577
48	Swift & Company	8,573	0.532	77.109
49	Renfield Importers Ltd.	8,071	0.501	77.610
50	Brown-Forman Distillers Corporation	7,724	0.479	78.089
51	Pet Inc.	7,613	0.473	78.562
52	Rheingold Corporation	7,353	0.456	79.018
53	Hills Brothers Coffee Inc.	7,001	0.435	79.453
54	Del Monte Corporation	6,541	0.406	79.859

55	Armour & Company	6,410	0.398	80.257
56	Consolidated Cigar Corporation	6,385	0.396	80.653
57	Green Giant Company	6,266	0.389	81.042
58	General Cigar Company Inc.	6,124	0.380	81.422
59	French R T Company	5,839	0.362	81.784
60	Libby McNeill & Libby	5,766	0.358	82.142
61	Ballantine P & Sons	5,392	0.335	82.477
62	Beatrice Foods Company	5,286	0.328	82.805
63	Associated Brewing Company	5,220	0.324	83.129
64	Peter Paul Inc.	4,984	0.309	83.438
C 65	Ocean Spray Cranberries Inc.	4,932	0.306	83.745
66	Schaefer F and M Brewing Company	4,771	0.296	84.041
67	Beech-Nut Life Savers Inc.	4,699	0.292	84.332
68	Gerber Products Company	4,329	0.269	84.601
69	Stroh Brewery Company	4,318	0.268	84.869
70	Castle & Cooke Inc.	4,274	0.265	85.134
71	Olympia Brewing Company	4,238	0.263	85.397
72	Gallo E and J Winery	4,009	0.249	85.646
73	International Min & Chem	3,946	0.245	85.891
74	Dr. Pepper Company	3,836	0.238	86.129
C 75	Allied Grape Growers	3,753	0.233	86.362
76	National Brewing Company	3,672	0.228	86.590
77	Stokely-Van Camp Inc.	3,631	0.225	86.815
78	Pearl Brewing Company	3,621	0.225	87.040
C 79	North Pacific Can & Packers	3,587	0.223	87.263
80	Mayer Oscar & Company Inc.	3,581	0.222	87.485
81	Consolidated Foods Corporation	3,415	0.212	87.697
82	Foremost-McKesson Inc.	3,278	0.203	87.901
83	Interstate Bakeries Corporation	3,228	0.200	88.101
C 84	National Grape Co-op Association	2,749	0.171	88.272
85	Golden Grain Macaroni Company	2,653	0.165	88.436
86	Quality Bakers of America	2,481	0.154	88.590
87	Hormel Geore A & Company	2,462	0.153	88.743
88	Ling-Temco-Vought Inc.	2,407	0.149	88.892
89	Underwood William Company	2,376	0.147	89.040
90	Genesee Brewing Company Inc.	2,185	0.136	89.175
91	Schweppes Ltd.	2,171	0.135	89.310
92	Schmidt C & Sons Inc.	2,162	0.134	89.444
93	Filbert J H Inc.	2,153	0.134	89.578
94	Labatt John Ltd.	2,122	0.132	89.710
95	Southern Comfort Corporation	2,059	0.128	89.838
96	American Sugar Company	1,985	0.123	89.961
97	Heileman G Brewing Company Inc.	1,981	0.123	90.084
98	Jackson Brewing Company	1,968	0.122	90.206
99	Publicker Industries Inc.	1,903	0.118	90.324
100	Coors Adolph Company	1,881	0.117	90.441
101	Schieffelin & Company	1,867	0.116	90.557
102	Associated Products Inc.	1,863	0.116	90.672
103	Litton Industries Inc.	1,738	0.108	90.780
104	21 Brands Inc.	1,733	0.108	90.888
105	Monarch Wine Company Inc.	1,650	0.102	90.990
106	Slater Steel Industries Ltd.	1,644	0.102	91.092
107	Rich Products Corporation	1,625	0.101	91.193
108	McAlear E J & Company Inc.	1,622	0.101	91.294
109	McCormick & Company Inc.	1,591	0.099	91.392
110	Keebler Company	1,586	0.098	91.491
111	Tootsie Roll Industries Inc.	1,574	0.098	91.589
112	American Bakeries Company	1,567	0.097	91.686
113	National Bakers Services Inc.	1,556	0.097	91.782
114	Bacardi Imports Inc.	1,555	0.097	91.879
115	Mueller C F Company	1,529	0.095	91.974
116	Mogen David Wine Corporation	1,518	0.094	92.068

117	M J B Company	1,516	0.094	92.162
118	International Milling Company Inc.	1,424	0.088	92.251
119	Schonbrunn S A & Company Inc.	1,413	0.088	92.338
120	Hood H P & Sons Inc.	1,397	0.087	92.425
121	Kobrand Corporation	1,361	0.084	92.509
122	Stitzel Weller Distillery Inc.	1,326	0.082	92.592
123	U S Tobacco Company	1,284	0.080	92.671
124	Campbell-Taggart Bakeries Inc.	1,254	0.078	92.749
125	Ward Foods Inc.	1,253	0.078	92.827
126	Knox Gelatine Inc.	1,194	0.074	92.901
127	Adolphs Ltd.	1,184	0.073	92.975
128	Duquesne Brew of Pittsburgh	1,168	0.072	93.047
129	Lone Star Brewing Company	1,155	0.072	93.119
C 130	Sunsweet Growers Inc.	1,152	0.072	93.190
131	Squirt Company	1,133	0.070	93.261
C 132	California Canners & Growers	1,128	0.070	93.331
133	Wile Julius Sons & Company Inc.	1,107	0.069	93.399
134	Standard Milling Company	1,105	0.069	93.468
135	Grocery Store Products Company	1,102	0.068	93.536
136	Fairmont Foods Company	1,067	0.066	93.603
137	Brooke Bond Tea Company Inc.	1,057	0.066	93.668
138	Laddie Boy Dog Foods Inc.	1,057	0.066	93.734
139	Wander Company	1,047	0.065	93.799
140	Taylor Wine Company Inc.	1,045	0.065	93.864
141	West End Brewing Company	1,008	0.063	93.926
142	Kal Kan Foods Inc.	988	0.061	93.988
C 143	Land O Lakes Creameries Inc.	983	0.061	94.049
144	Austin Nichols & Company Inc.	960	0.060	94.108
145	Roman Meal Company	957	0.059	94.167
146	Abbott Labs	953	0.059	94.227
147	Glenmore Distilleries Company Inc.	930	0.058	94.284
148	Malt-O-Meal Company	888	0.055	94.339
149	Ragu Packing Company Inc.	877	0.054	94.394
150	Smucker J M Company	868	0.054	94.448
151	Falls City Brewing Company	855	0.053	94.501
152	Barton Distilling Company	850	0.053	94.554
153	Crush International Ltd.	842	0.052	94.606
154	Meister Brau Inc.	839	0.052	94.658
155	Dairy Queen National DEV C	836	0.052	94.710
156	Metropolis Brewery of NJ Inc.	780	0.048	94.758
157	Duffy-Mott Company Inc.	779	0.048	94.807
158	Chock Full O Nuts Corporation	777	0.048	94.855
159	Morrell John & Company	765	0.047	94.902
160	La Rose V & Sons Inc.	754	0.047	94.949
161	Ronzoni Macaroni Company Inc.	754	0.047	94.996
162	Quaker City Choc & Confec	749	0.046	95.042
163	Smith Kline & French Labs	739	0.046	95.088
164	Westgate-California Corporation	737	0.046	95.134
165	International Salt Company	688	0.043	95.177
166	Reily William B & Company Inc.	674	0.042	95.219
167	Holsum Bakeries Inc.	656	0.041	95.259
168	Ludens Inc.	637	0.040	95.299
C 169	Calif & Hawaiian Sugar Refini	634	0.039	95.338
170	Dean Foods Company	633	0.039	95.377
171	Stamper F M Company	629	0.039	95.417
172	Atlanta Dairies	619	0.038	95.455
173	Arnold Bakers Inc.	617	0.038	95.493
174	Stella D Oro Discuit Company Inc.	615	0.038	95.531
175	Tropicana Products Inc.	605	0.038	95.569
176	Archway Cookies Inc.	590	0.037	95.606
177	Hill Packing Company	588	0.036	95.642
178	Burger Brewing Company	584	0.036	95.678

179	Sicks Rainier Brewing Company	575	0.036	95.714
180	National Industries Inc.	574	0.036	95.750
181	Gibraltar Industries Inc.	572	0.036	95.785
182	Great Western Sugar Company	572	0.036	95.821
183	Howard Johnson Company	569	0.035	95.856
184	Buitoni Foods Corporation	567	0.035	95.891
185	Riviana Foods Inc.	564	0.035	95.926
186	Pittsburgh Brewing Company	544	0.034	95.960
187	Lewis Food Company	539	0.033	95.993
188	Martha White Foods Inc.	513	0.032	96.025
189	Tasty Baking Company	501	0.031	96.056
190	Grain Belt Breweries Inc.	477	0.030	96.086
191	Hotel Corporation of America	477	0.030	96.116
192	Bell Brand Foods Ltd.	475	0.029	96.145
193	National Sugar Refining Company	468	0.029	96.174
194	Parks H G Inc.	448	0.028	96.202
195	Thomas S B Inc.	445	0.028	96.229
196	Faygo Beverage Company	442	0.027	96.257
197	Erie Brewing Company	436	0.027	96.284
198	Rath Packing Company	435	0.027	96.311
199	Gold Seal Vineyards Inc.	410	0.025	96.336
200	Hammer Beverage Company	406	0.025	96.362
201	Lea & Perrins Inc.	401	0.025	96.387
202	Conwood Corporation	399	0.025	96.411
203	Atlanta Trading Corporation	396	0.025	96.436
C 204	Peter Hand	389	0.024	96.460
205	Prince Macaroni Mfg. Company	388	0.024	96.484
C 206	Blitz Weinhard Company	384	0.024	96.508
207	Mrs. Smiths Pie Company	384	0.024	96.532
208	Gold Kist	382	0.024	96.555
209	Sau-Sea Foods Inc.	381	0.024	96.579
210	Arkansas Rice Growers Co-op	379	0.024	96.603
211	Doric Corporation	378	0.023	96.626
212	General Host Corporation	377	0.023	96.649
213	Di Giorgio Corporation	374	0.023	96.673
214	Comet Rice Mills Inc.	372	0.023	96.696
215	Bakers Franchise Corporation	370	0.023	96.719
216	Romanoff Caviar Company	370	0.023	96.742
217	Uddo & Taormina Corporation	365	0.023	96.764
218	United Fruit Company	363	0.023	96.787
219	Yoo Hoo Choc Beverage Company	361	0.022	96.809
220	Leslie Salt Company	360	0.022	96.832
221	Scottish Brewers & Distill Company	360	0.022	96.854
222	SCM Corporation	354	0.022	96.876
223	Hershey Chocolate Corporation	350	0.022	96.898
224	Henris Food Products Company Inc.	347	0.022	96.919
225	No-Cal Corporation	343	0.021	96.941
226	Jenos Inc.	338	0.021	96.962
227	Spatini Company	338	0.021	96.982
228	Great Atl & Pac Tea Company Inc.	332	0.021	97.003
229	Larsen Company	332	0.021	97.024
230	Popper-Morson Corporation	323	0.020	97.044
231	Van Munching and Company	323	0.020	97.064
232	Oceans of the World Inc.	319	0.020	97.084
233	United Indus Syndicate Inc.	314	0.019	97.103
234	Helme Products Inc.	310	0.019	97.122
235	Seeman Brothers Inc.	309	0.019	97.142
236	Holterbosch Hans Inc.	308	0.019	97.161
237	Latrobe Brewing Company	303	0.019	97.179
238	Grafs Beverages Inc.	291	0.018	97.197
239	Carlsberg Breweries	290	0.018	97.215
240	Gravymaster Company Inc.	289	0.018	97.233

241	Denmark Cheese Association	286	0.018	97.251
242	Schoenling Brewing Company	284	0.018	97.269
243	Bayuk Cigars Inc.	280	0.017	97.286
244	Little Crow Milling Company	280	0.017	97.304
245	Hollywood Brands	271	0.017	97.320
246	Mr. Boston Distiller Inc.	269	0.017	97.337
247	Gorton Corporation	268	0.017	97.354
248	Sun Industries Inc.	267	0.017	97.370
249	Candygram Inc.	249	0.015	97.386
250	Lawrys Foods Inc.	248	0.015	97.401

Note: C = an agricultural Cooperative.
A = an Association.

Appendix 2 All Advertisers of Processed Food and Tobacco Products, 1987

Rank	Company	Company Total (000)	Percent of Total	Cumulative Percent
1	Philip Morris Companies Inc.	769,772.9	13.239	13.239
2	RJR Nabisco Inc.	439,313.9	7.556	20.794
3	Anheuser-Busch Cos Inc.	325,465.8	5.598	26.392
4	Kellogg Company	309,008.9	5.314	31.706
5	General Mills Inc.	263,425.0	4.530	36.237
6	Mars Inc.	203,544.5	3.501	39.738
7	Pepsico Inc.	174,923.2	3.008	42.746
8	Coca-Cola Company	171,662.2	2.952	45.698
9	Nestle Sa	164,886.9	2.836	48.534
10	Kraft Inc.	145,139.2	2.496	51.030
11	Procter & Gamble Company	136,576.6	2.349	53.379
12	Quaker Oats Company	133,101.6	2.289	55.668
13	Campbell Soup Company	129,571.9	2.228	57.897
14	Unilever NV	124,408.1	2.140	60.036
15	Ralston Purina Company	124,147.5	2.135	62.171
16	Wrigley WM Jr Company	102,379.1	1.761	63.932
A 17	American Dairy Association	93,987.1	1.616	65.549
18	BCI Holdings Corporation	86,342.0	1.485	67.034
19	Coors Adolph Company	84,656.8	1.456	68.490
20	Heinz HJ Company	84,441.6	1.452	69.942
21	Grand Metropolitan PLC	78,014.5	1.342	71.284
22	Hicks & Haas	76,115.6	1.309	72.593
23	Gallo E & J Winery	63,322.3	1.089	73.682
24	Hershey Food Corporation	62,406.8	1.073	74.755
25	Seagram Company Ltd.	61,939.7	1.065	75.820
26	American Brands Inc.	57,318.8	0.986	76.806
27	Pillsbury Company	54,994.0	0.946	77.752
28	Stroh Brewery Company	54,487.3	0.937	78.689
29	Loews Corporation	47,205.4	0.812	79.501
30	Warner-Lambert Company	45,518.7	0.783	80.284
31	Bat Industries PLC	39,369.4	0.677	80.961
32	Sara Lee Corporation	39,031.9	0.671	81.632
33	CPC International Inc.	38,854.7	0.668	82.300
34	Cadbury Schweppes PLC	38,080.9	0.655	82.955
35	United Biscuits (Holdings) PLC	37,273.1	0.641	83.596
36	American Home Products Corporation	32,975.1	0.567	84.163
37	IC Industries Inc.	30,157.7	0.519	84.682
38	Brown-Forman Company	29,261.9	0.503	85.185
A 39	National Live Stock & Meat Board	29,074.3	0.500	85.685
40	Canandaigua Wine Company Inc.	23,085.6	0.397	86.082
41	Allied-Lyons PLC	21,633.7	0.372	86.454
42	Castle & Cooke Inc.	20,933.7	0.360	86.814
43	Hormel George A & Company	20,777.5	0.357	87.172
C 44	Ocean Spray CraCranberries Inc.	20,408.7	0.351	87.523
45	Bacardi Corporation	17,894.6	0.308	87.831
46	BSN Groupe	16,729.3	0.288	88.118
47	Rapid-American Corporation	16,483.7	0.283	88.402
48	Borden Inc.	16,111.0	0.277	88.679
49	Heileman G Brewing Company	16,001.2	0.275	88.954
50	Villa Banfi USA	15,110.2	0.260	89.488
51	Tyson Foods Inc.	14,518.0	0.250	89.738
52	Clorox Company	14,458.7	0.249	89.986
A 53	Florida State of	13,657.8	0.235	90.221
54	Guinness PLC	13,441.6	0.231	90.452
55	Conagra Inc.	13,067.8	0.225	90.677

A 56	National Fed of Cof Grwr of Columbia	11,211.4	0.193	90.870
57	Hanson PLC	10,361.9	0.178	91.048
C 58	Sun-Diamond Growers of California	9,954.3	0.171	91.219
59	Chesapeake Financial Corporation	9,941.4	0.171	91.390
60	Holly Farms Corporation	9,695.2	0.167	91.557
61	Molson Cos Ltd.	9,575.2	0.165	91.722
A 62	National Dairy Promo & Research Board	9,054.8	0.156	91.877
63	LVMH Moet Hennessy Louis Vuitton	8,986.0	0.155	92.032
A 64	Calif Oregon Wash Dairymen Assc	8,714.1	0.150	92.182
65	Rickett & Colman PLC	8,641.2	0.149	92.330
66	Liggett Group Inc.	8,299.1	0.143	92.473
67	Perdue Farms Inc.	8,246.0	0.142	92.615
C 68	Agway Inc.	7,882.0	0.136	92.751
69	Braueri Beck & Company	7,851.4	0.135	92.886
70	Gerber Products Company	7,698.0	0.132	93.018
71	Labatt John Ltd.	7,681.5	0.132	93.150
72	Jacobs Suchard Ag	7,484.9	0.129	93.279
73	Vintners International Company Inc.	7,015.0	0.121	93.399
74	Whitbread & Company PLC	6,774.3	0.117	93.516
A 75	Puerto Rico Commonwealth of	6,673.2	0.115	93.631
A 76	California Raisins Advisory Board	6,640.3	0.114	93.745
77	Clabir Corporation	6,119.8	0.105	93.850
78	Alberto-Culver Company	5,965.3	0.103	93.953
79	Smuckers Jm Company	5,942.3	0.102	94.055
80	Pace Foods Inc.	5,897.4	0.101	94.156
81	S & P Corporation	5,620.4	0.097	94.253
82	Dreyers Grand Ice Cream Inc.	5,535.8	0.095	94.348
83	Van Munching & Company Inc.	5,369.6	0.092	94.441
84	Argyll Group PLC	5,132.6	0.088	94.529
85	McCormick & Company Inc.	5,077.1	0.087	94.616
86	Lykes Pasco Packaging Corporation	4,996.5	0.086	94.702
87	US Tobacco Company	4,889.5	0.084	94.786
88	Genesee Corporation	4,878.5	0.084	94.870
89	Reilly William B & Company Inc.	4,774.9	0.082	94.952
C 90	Land O Lakes Inc.	4,627.8	0.080	95.032
91	Evans Bob Farms Inc.	4,601.3	0.079	95.111
92	Kobrand Company	4,538.9	0.078	95.189
93	McKee Baking Company	4,530.6	0.078	95.267
94	United Brands Company	4,035.5	0.069	95.336
95	Monsieur Henri Wines Inc.	3,712.7	0.064	95.400
C 96	Alexander & Baldwin Inc. (C & H Sugar)	3,677.6	0.063	95.463
97	Weaver Victor F Inc.	3,549.9	0.061	95.525
98	Roman Meal Company	3,541.8	0.061	95.585
C 99	Guild Winery & Distillers	3,502.0	0.060	95.646
100	Simplot Jr Company	3,427.8	0.059	95.705
101	William Grant & Sons Ltd.	3,316.0	0.057	95.762
102	Kikkoman Corporation	3,275.4	0.056	95.818
103	Schwans Sales Enterprises	3,146.3	0.054	95.872
104	Polaner M & Son Inc.	3,128.2	0.054	95.926
105	Sargento Cheese Company Inc.	3,117.3	0.054	95.980
106	Stokely USA Inc.	3,045.6	0.052	96.032
107	Fromm & Sichel	3,041.4	0.052	96.084
108	Remy Martin & Company Inc.	2,890.1	0.050	96.134
C 109	California Almond Growers Exchange	2,885.3	0.050	96.184
110	Wyndham Foods Inc.	2,855.9	0.049	96.233
A 111	California Prunes Advisory Board	2,811.0	0.048	96.281
112	Pernod Ricard Sa	2,780.9	0.048	96.329
C 113	National Grape Cooperative Association	2,641.6	0.045	96.374
114	Foster Farms	2,597.2	0.045	96.419
115	Sundor Holdings Inc.	2,587.1	0.044	96.463
116	McKesson Corporation	2,577.8	0.044	96.508
117	Glenmore Distilleries Company	2,542.2	0.044	96.551

118	Stella D'Oro	2,524.8	0.043	96.595
119	Cantisano Foods Inc.	2,467.1	0.042	96.637
120	Culbro Corporation	2,383.4	0.041	96.678
121	4 C Foods Corporation	2,341.4	0.040	96.719
122	Bond Corporation Holdings Ltd.	2,322.6	0.040	96.759
123	Country Pride Foods Ltd.	2,317.8	0.040	96.798
124	La Victoria Foods	2,268.5	0.039	96.837
125	New England Apple Products	2,267.7	0.039	96.876
126	Presto Food Products Inc.	2,228.8	0.038	96.915
127	Grolsch Brewery	2,222.0	0.038	96.953
128	Nissin Food Products Company Ltd.	2,194.2	0.038	96.991
129	Flowers Industries Inc.	2,188.0	0.038	97.028
130	Rocco Inc.	2,062.9	0.035	97.064
131	Interstate Bakeries Corporation	2,001.1	0.034	97.098
132	American Bakeries Company	1,969.3	0.034	97.132
133	Freixenet SA	1,843.0	0.032	97.164
134	Dean Foods Company	1,841.6	0.032	97.195
135	Cargill Inc.	1,833.1	0.032	97.227
136	On-Cor Frozen Foods	1,823.0	0.031	97.258
137	Pilgrims Industries Inc.	1,818.4	0.031	97.290
138	Greyhound Corporation	1,806.4	0.031	97.321
139	American Maize Products Company	1,796.3	0.031	97.352
A 140	Italy Republic of	1,746.2	0.030	97.382
141	National Foods Inc.	1,742.8	0.030	97.412
142	Jones Dairy Farm	1,729.3	0.030	97.441
143	Weston George Ltd.	1,712.3	0.029	97.471
A 144	Sugar Association Inc.	1,706.9	0.029	97.500
145	Odom Sausage Company Inc.	1,697.9	0.029	97.529
146	Buddig Carl & Company	1,693.1	0.029	97.558
147	Malt-O-Meal Company	1,659.2	0.029	97.587
148	Zausner Foods Corporation	1,614.1	0.028	97.615
C 149	Tri-Valley Growers	1,587.4	0.027	97.642
C 150	Tree Top Inc.	1,565.4	0.027	97.669
151	Mrs. Bairds Bakeries Inc.	1,561.0	0.027	97.696
152	Clougherty Packing Company	1,507.8	0.026	97.722
153	Freihofer Charles Baking Company	1,492.2	0.026	97.747
154	Ferrero Worldwide	1,416.7	0.024	97.772
155	Wisdom Import Sales Company Inc.	1,394.9	0.024	97.796
A 156	Catfish Institute	1,393.9	0.024	97.820
157	Rothmans International PLC	1,358.3	0.023	97.843
158	Moctezuma Imports Inc.	1,345.0	0.023	97.866
159	Superior Pet Pdtis Inc.	1,327.2	0.023	97.889
160	National Beverage Corporation	1,320.7	0.023	97.912
C 161	Farmland Inds Inc.	1,308.4	0.023	97.934
162	Wilson Foods Corporation	1,302.0	0.022	97.957
163	Schmidt Baking Company	1,301.5	0.022	97.979
164	FDL Foods	1,301.2	0.022	98.001
165	Gold Bond Ice Cream Corporation	1,258.5	0.022	98.023
166	Alco Standard Corporation	1,252.2	0.022	98.045
167	Pabst Brewing Company	1,237.9	0.021	98.066
168	Iams Company	1,200.1	0.021	98.087
169	Hoffco Inc.	1,197.1	0.021	98.107
170	Steves Homemade Ice Cream Inc.	1,194.9	0.021	98.128
171	McIlhenny Company	1,185.9	0.020	98.148
172	McCain Foods Inc.	1,117.1	0.019	98.167
173	Tootje International Inc.	1,110.5	0.019	98.186
174	Charms Company	1,093.7	0.019	98.205
175	Ragold Inc.	1,093.6	0.019	98.224
176	Goya Foods Inc.	1,050.2	0.018	98.242
177	Tasty Baking Company	1,018.7	0.018	98.260
178	Quality Bakers of Amer Cooperative Inc.	1,018.5	0.018	98.277
179	Southland Corporation	1,014.9	0.017	98.295

180	Japan Tobacco Inc.	995.3	0.017	98.312
C 181	Citrus World Inc.	986.4	0.017	98.329
182	Tootsie Roll Industries Inc.	931.8	0.016	98.345
183	Lancaster Colony Corporation	927.4	0.016	98.361
184	Norseland Foods Inc.	915.5	0.016	98.376
C 185	Gold Kist Inc.	911.2	0.016	98.392
186	Dorman N & Company Inc.	909.0	0.016	98.408
187	Bristol-Myers Company	907.5	0.016	98.423
188	Wilsey Bennett Company	899.6	0.015	98.439
A 189	California Milk Advisory Board	898.7	0.015	98.454
190	Riviana Foods Inc.	885.0	0.015	98.469
191	Macandrews & Forbes Holdings Inc.	884.9	0.015	98.485
192	Blue Bell Creameries	881.9	0.015	98.500
193	Alta Dena Dairy	875.0	0.015	98.515
194	California & Washington Company	864.1	0.015	98.530
195	Western Family Food Products	839.9	0.014	98.544
196	Honey Baked Ham Company	832.3	0.014	98.558
197	Brunckhorst Frank Company	829.0	0.014	98.573
198	Leaf Confectionery Inc.	802.9	0.014	98.587
199	Melitta Inc.	801.0	0.014	98.600
200	Continental Company	794.2	0.014	98.614
201	Rath Packing Company	786.0	0.014	98.627
202	Seneca Foods Corporation	784.0	0.013	98.641
203	Domecq Imports	778.4	0.013	98.654
204	Jacquin Charles Et Cie Inc.	734.3	0.013	98.667
205	Asoliva	721.6	0.012	98.679
206	Atalanta Corporation	716.6	0.012	98.692
207	Zacky & Sons Poultry Company	716.1	0.012	98.704
208	Schwartz Of America	706.4	0.012	98.716
209	Cates Charles F & Sons	705.8	0.012	98.728
210	Johnson SC & Sons Inc.	694.9	0.012	98.740
211	Johnsville Meats	687.9	0.012	98.752
212	Sandoz Ltd.	685.0	0.012	98.764
213	Old Dutch Foods Inc.	669.8	0.012	98.775
214	Showell Farms Inc.	668.5	0.011	98.787
215	Honey Hills Farms	664.8	0.011	98.798
216	American Popcorn Company	657.1	0.011	98.810
217	Weider International	655.3	0.011	98.821
218	Canary Islands Cigars Assn	648.0	0.011	98.832
219	Waci Corporation	646.5	0.011	98.843
220	Original New York Seltzer Company	632.5	0.011	98.854
221	Suntory Ltd.	630.5	0.011	98.865
222	Berkshire Hathaway Inc.	619.0	0.011	98.876
223	Richters Bakery	601.5	0.010	98.886
224	Hudepohl-Schoenling Brewing Company	581.4	0.010	98.896
225	Sanderson Farms Inc.	581.2	0.010	98.906
226	WB Roddenberry Company Inc.	572.3	0.010	98.916
227	Jolt Cola Company	571.5	0.010	98.926
A 228	German Agricultural Marketing Board	568.4	0.010	98.935
229	Allied Old English	565.9	0.010	98.945
230	Continental Grain Company	559.7	0.010	98.955
231	Reynolds Metal Company	543.9	0.009	98.964
232	Kentwood Spring Water Inc.	536.1	0.009	98.973
233	Farm Fresh Inc.	532.5	0.009	98.982
234	Shaw-Ross Importers Inc.	523.5	0.009	98.991
235	Household International Inc.	518.3	0.009	99.000
236	Lotte Company Ltd.	514.2	0.009	99.009
237	Hispanolia	506.2	0.009	99.018
238	California Home Brands Inc.	497.7	0.009	99.026
239	Terson Holdings Ltd.	493.9	0.008	99.035
240	Mussiers Potato Chips Inc.	492.9	0.008	99.043
241	Nissen Baking Corporation	492.7	0.008	99.052

242	Amstar Corporation	455.9	0.008	99.060
243	Herr's Potato Chips Inc.	454.2	0.008	99.068
244	Tradewinds Importing Company Inc.	438.0	0.008	99.075
245	Kern Foods Inc.	432.4	0.007	99.083
246	Arnotts Biscuits Ltd.	420.7	0.007	99.090
247	Chock Full of Nuts Corporation	417.9	0.007	99.097
248	Chef America	412.2	0.007	99.104
249	Imperial Sugar	407.6	0.007	99.111
250	Hanover Brands	404.6	0.007	99.118
A 251	Alaska Seafood Marketing Institute	402.9	0.007	99.125
252	Universal Foods Corporation	400.2	0.007	99.132
253	Admarketing Inc.	397.8	0.007	99.139
A 254	Olive Administration Committee	397.3	0.007	99.145
255	Bays English Muffin Corporation	392.8	0.007	99.152
256	Perugina Chocolates & Confections Inc.	391.7	0.007	99.159
257	C & N Holding Company	391.4	0.007	99.166
258	Maiers Sunbeam Bakery Company	387.2	0.007	99.172
259	Citterio USA Corporation	383.7	0.007	99.179
260	Longacre Horace W Inc.	379.5	0.007	99.185
261	Treewet Coa	379.0	0.007	99.192
262	Wells Blue Bunny Quality Dairy Food	376.1	0.006	99.198
263	Mission Foods Corporation	360.6	0.006	99.205
264	Chatham Importing Company	360.0	0.006	99.211
A 265	American Sheep Producers Council Inc.	357.9	0.006	99.217
266	Bumble Bee Seafoods Inc.	356.3	0.006	99.223
267	Mikesell Daniel W Inc.	354.3	0.006	99.229
C 268	Riceland Foods Inc.	353.0	0.006	99.235
269	Fromageries Bel Inc.	352.8	0.006	99.241
270	L & A Juice Company	351.3	0.006	99.247
271	Anderson Erickson Dairy	346.6	0.006	99.253
272	Sunnyland Food Inc.	344.7	0.006	99.259
273	Hatfield Packing Company	341.8	0.006	99.265
274	Dececco Di Flippo	339.5	0.006	99.271
275	Chicago Brothers	338.5	0.006	99.277
C 276	Sioux Honey Assn	336.7	0.006	99.283
A 277	Switzerland Cheese Association	335.6	0.006	99.288
C 278	United Dairymen/Arizona	332.8	0.006	99.294
279	Saint Brendons Irish Imports Ltd.	331.0	0.006	99.300
280	Huhtamaki Ov	327.2	0.006	99.305
281	Gill James G Company Inc.	323.6	0.006	99.311
282	Archway Cookies Inc.	316.1	0.005	99.316
C 283	Darigold Inc.	315.7	0.005	99.322
284	Joseph Victori Wines Inc.	312.6	0.005	99.327
285	Coles Quality Foods	307.7	0.005	99.333
286	Breeders Choice Pet Foods Inc.	305.5	0.005	99.338
287	Utz Potato Chip Company Inc.	301.6	0.005	99.343
288	Pioneer Flour Mills	301.5	0.005	99.348
A 289	California Dates Administrative Comm	300.7	0.005	99.353
290	Tonys Pizza Service	297.6	0.005	99.358
291	Lou Ana Foods Inc.	294.1	0.005	99.364
292	Celentano	293.1	0.005	99.369
293	Brown & Haley	292.7	0.005	99.374
294	Frederick & Herrud Inc.	291.6	0.005	99.379
295	Schonbrunn Sa & Company	290.9	0.005	99.384
296	Fornaca Family Bakery Company	289.3	0.005	99.389
297	Belgian Chef Foods	289.0	0.005	99.394
298	Daisy Brand Inc.	286.1	0.005	99.398
299	Associated Biscuits International Ltd.	282.5	0.005	99.403
300	Thompson Medical Company Inc.	282.1	0.005	99.408
301	Food & Wines from France Inc.	281.8	0.005	99.413
302	New York State of	281.6	0.005	99.418
303	Continental Mills	280.8	0.005	99.423

304	Lyon Food Cos Inc.	279.8	0.005	99.428
305	Nathans Famous Inc.	273.8	0.005	99.432
C 306	Coble Dairy	272.1	0.005	99.437
307	Cain John E Company	268.8	0.005	99.442
308	Crystal Cream & Butter Company	268.6	0.005	99.446
309	American Health Companies Inc.	264.6	0.005	99.451
C 310	Challenge Dairy Products	263.2	0.005	99.455
311	Bruce Food Corporation	255.7	0.004	99.460
312	DCA Food Industries Inc.	254.0	0.004	99.464
313	Classic Marketing Company	253.5	0.004	99.468
314	Martin Feed Mills Ltd.	252.6	0.004	99.473
315	Heath L S & Sons Inc.	250.0	0.004	99.477
316	Sazerac Company Inc.	245.8	0.004	99.481
A 317	Norwegian Sardine Indus	244.9	0.004	99.485
318	Mayfields Dairy Farms Inc.	243.1	0.004	99.490
319	Rowntree Mackintosh PLC	241.3	0.004	99.494
320	Perry Ice Cream Inc.	239.2	0.004	99.498
321	Better Life Inc.	238.8	0.004	99.502
322	McCarty Farms Inc.	232.2	0.004	99.506
323	Maul Louis Company	230.1	0.004	99.510
324	Republic Tobacco Inc.	229.8	0.004	99.514
325	Dad's Dog Foods Inc.	224.6	0.004	99.518
326	Martinelli S & Company	223.5	0.004	99.522
327	Atlantis Dairy Products	222.2	0.004	99.525
328	Paterno Imports	222.0	0.004	99.529
329	Gravymaster Inc.	221.5	0.004	99.533
330	Lepage Fr Bakery	221.3	0.004	99.537
331	Colgate-Palmolive Company	220.6	0.004	99.541
332	Neese Sausage Company Inc.	220.3	0.004	99.544
333	American Specialty Foods	214.8	0.004	99.548
334	Frank's Beverages	214.8	0.004	99.552
335	Ringnes Brewery	214.7	0.004	99.556
336	Delicious Foods Inc.	214.5	0.004	99.559
337	Savannah Foods & Industries Inc.	213.7	0.004	99.563
338	Kibun Company Ltd.	211.1	0.004	99.567
339	Purity Dairies Inc.	198.7	0.003	99.570
340	Kunzler & Company Inc.	193.1	0.003	99.573
341	Kroger Company	191.6	0.003	99.577
342	Wolfgang Puck	191.5	0.003	99.580
343	Beer Nuts Inc.	187.3	0.003	99.583
344	Cheerwine Bottling Company	186.1	0.003	99.586
345	Purnell F B Sausage Company Inc.	185.9	0.003	99.589
346	Joseph Huber Brewing Company	185.1	0.003	99.593
C 347	Golden Guernsey Dairy Coop	183.5	0.003	99.596
348	Ben & Jerrys Homemade Inc.	183.2	0.003	99.599
349	Waldensian Bakeries Inc.	182.9	0.003	99.602
350	Trauth Louis Dairy Inc.	182.2	0.003	99.605
351	Milk for Health Agency Canada	181.4	0.003	99.608
A 352	Jel Sert Company The	178.6	0.003	99.611
353	Nutrition Industries	177.7	0.003	99.614
354	Goelitz Herman Inc.	173.6	0.003	99.617
355	Daily Juice Pds	171.4	0.003	99.620
A 356	United Dairy Association	168.1	0.003	99.623
357	Deering Ice Cream Corporation	167.1	0.003	99.626
358	Yarnell Ice Cream Company Inc.	165.8	0.003	99.629
359	Marshall Durbin Inc.	165.7	0.003	99.632
360	Gustafsons Dairy	163.5	0.003	99.635
361	Schwebels Bakery Company	163.3	0.003	99.638
362	Heaven Hill Distillers Inc.	163.0	0.003	99.640
363	Hudson Poultry	162.5	0.003	99.643
364	Thompson Cigar Company	160.3	0.003	99.646
365	Mashes Ham Inc.	157.7	0.003	99.649

366	Dellwood Foods Inc.	157.6	0.003	99.651
367	Barber Pure Milk Company	156.8	0.003	99.654
368	Valleydale Packers Inc.	155.7	0.003	99.657
369	Bama Pie Inc.	155.6	0.003	99.659
370	Pacific Food Producers	155.2	0.003	99.662
371	Pine State Creamery Company	154.4	0.003	99.665
372	Kol Foods	154.4	0.003	99.667
373	Polar Breweries	153.1	0.003	99.670
374	Texas Wet	152.6	0.003	99.673
C 375	Tillamook County Creamery Association	151.1	0.003	99.675
C 376	Cream O Weber Dairy Company	146.4	0.003	99.678
377	Fischer Packing Company	143.0	0.002	99.680
378	Metz Baking Company	142.3	0.002	99.683
379	Jack Frost Farms	141.4	0.002	99.685
380	Quaker Maid Meats	140.6	0.002	99.687
381	Elan Foods	139.7	0.002	99.690
382	Kerr Glass Mfg Corporation	139.5	0.002	99.692
383	Staley Continental Company	139.5	0.002	99.695
384	US Bakery	139.3	0.002	99.697
385	American Kefir Corporation	138.7	0.002	99.699
386	Zeigler RL Company Inc.	138.1	0.002	99.702
387	Laird & Company	136.1	0.002	99.704
388	Giorgio Foods	135.9	0.002	99.706
389	Polar Corporation	134.3	0.002	99.709
390	Dunkirk Ice Cream Company	132.4	0.002	99.711
391	Vintners International Company	129.6	0.002	99.713
392	Land O Frost Inc.	128.4	0.002	99.716
A 393	Mid Atlantic Dairy Association	128.4	0.002	99.718
394	Foulds Inc.	126.3	0.002	99.720
395	Plantation Foods Inc.	126.0	0.002	99.722
396	Allens Canning Company	125.9	0.002	99.724
397	Crescent Foods	125.0	0.002	99.726
398	Jerome Enterprises Inc.	124.9	0.002	99.729
399	Duche TM Nut Company	124.2	0.002	99.731
400	Williams Sausage Company	123.8	0.002	99.733
401	Trappay BF Sons Inc.	123.2	0.002	99.735
402	Hygeia Dairy Products	123.1	0.002	99.737
403	Donovan Coffe Company	122.1	0.002	99.739
404	Perri R & Sons Inc.	121.7	0.002	99.741
405	Winchester Farm Sausage Company	119.6	0.002	99.743
406	Besnier America Inc.	119.5	0.002	99.745
407	Reser Fine Foods Inc.	118.9	0.002	99.747
408	Kirschner Joseph Company Inc.	118.8	0.002	99.749
A 409	Vanilla Information Bureau	118.3	0.002	99.751
410	Barq's Inc.	117.6	0.002	99.753
411	Catelli Ltd.	117.2	0.002	99.755
412	Old Neighborhood Meats	115.9	0.002	99.757
413	Schaffer Bakeries	115.9	0.002	99.759
414	Linett Candy Company	115.7	0.002	99.761
415	Monte Cristo Packaging Company	115.0	0.002	99.763
C 416	Prairie Farms Dairy Company	112.3	0.002	99.765
417	Clark Meat Company Inc.	111.9	0.002	99.767
418	Oakhurst Dairy Company	111.8	0.002	99.769
419	Franklin Banking Company Inc.	111.0	0.002	99.771
420	Melody Dairy Company	108.0	0.002	99.773
421	Nickels Bakery Inc.	105.6	0.002	99.775
422	Mount Olive Pickles	104.8	0.002	99.777
423	Ballard Food Company	104.4	0.002	99.778
424	Yuengling Dg & Son Inc.	103.9	0.002	99.780
425	Bush Bros & Company	103.7	0.002	99.782
426	Stichting Holland Cheese Exporters Assn	103.2	0.002	99.784
427	White Castle System Inc.	103.0	0.002	99.786

428	Helluva Good Cheeze	102.4	0.002	99.787
C 429	Dairymen Inc.	102.1	0.002	99.789
430	Gedney May Company	102.1	0.002	99.791
431	Lay Packing Company	101.5	0.002	99.793
432	Giurlani USA	100.9	0.002	99.794
A 433	Norwegian Salmon Marketing Council	100.4	0.002	99.796
434	Night Hawk Foods Inc.	100.2	0.002	99.798
435	Ehmer Karl Quality Meats	100.0	0.002	99.799
436	J & J Snack Foods Corporation	99.7	0.002	99.801
C 437	Upstate Milk Corporation Inc.	98.5	0.002	99.803
438	Van Melle NV	98.0	0.002	99.805
439	Grocers Dairy Company	96.2	0.002	99.806
440	Clifty Farms Meats	95.8	0.002	99.808
441	Colonna Bros	95.8	0.002	99.809
442	Kinnetts Dairies Inc.	95.1	0.002	99.811
443	EMGE Packing Company Inc.	93.8	0.002	99.813
444	Conns Potato Chip Company	92.9	0.002	99.814
445	Masters Bakery	91.2	0.002	99.816
446	Grace Helen Chocolates	90.8	0.002	99.817
447	Arrowhead Mills	90.0	0.002	99.819
448	Schmidts Sunbeam Bakeries	89.5	0.002	99.821
449	Nickels Alfred Bakery Inc.	89.4	0.002	99.822
450	Klostermans Bakery	88.4	0.002	99.824
451	Derst Baking Company	88.2	0.002	99.825
452	Century Importers Inc.	86.8	0.001	99.827
A 453	Oregon Beef Council	86.6	0.001	99.828
454	Goodrich Dairy Company	85.6	0.001	99.830
455	Greens Dairy Inc.	85.4	0.001	99.831
456	Chupa Chups S A	84.1	0.001	99.832
457	Kane-Miller Corporation	82.1	0.001	99.834
458	Golden Orchid	81.0	0.001	99.835
459	Merlino D & Sons	80.2	0.001	99.837
460	Jewel Evans Family Foods Inc.	79.6	0.001	99.838
461	Heiner Bakery	79.4	0.001	99.839
462	Abbott Laboratories	79.4	0.001	99.841
463	Estee Corporation	79.4	0.001	99.842
C 464	Cabot Farmers Co-Op Creamery Company Inc.	79.1	0.001	99.844
465	Sweet Sue Kitchens Inc.	78.7	0.001	99.845
466	Orval Kent Food Company	77.9	0.001	99.846
467	Ripon Foods Inc.	77.1	0.001	99.848
468	Dandee Thrift Stores	76.7	0.001	99.849
469	American Tea & Coffee Company Inc.	76.3	0.001	99.850
470	Usinger Fred Inc.	74.8	0.001	99.851
471	Colemans Dairy of Arkansas	73.2	0.001	99.853
472	Parrot & Company	73.1	0.001	99.854
473	Syfo Water Company	72.7	0.001	99.855
474	Penn Supreme Dairy Products	71.9	0.001	99.856
475	Erlly Industries Inc.	71.6	0.001	99.858
476	Dakota Bake N Service	71.3	0.001	99.859
477	Williams Bakery	71.2	0.001	99.860
478	Steffen Dairy Foods Company Inc.	70.5	0.001	99.861
479	Northern Foods PLC	70.3	0.001	99.863
480	Hudson Foods Inc.	70.2	0.001	99.864
481	Peeler Jersey Farms	70.1	0.001	99.865
482	Bunker Hill Foods	69.8	0.001	99.866
483	Aquaculture Technologies Ltd.	68.5	0.001	99.867
484	King Authur Flour Company	67.9	0.001	99.869
485	Tasty Topping Inc.	67.8	0.001	99.870
486	Shawnees Milling Company	66.8	0.001	99.871
487	Dreikorn Bakery Inc.	65.6	0.001	99.872
488	Roundys Inc.	64.7	0.001	99.873
489	Maison Portier & Fils Inc.	64.4	0.001	99.874

490	American Bread Company	64.1	0.001	99.875
491	Natural Nectar Products Corporation	64.0	0.001	99.876
492	Tobin Packing Company Inc.	63.9	0.001	99.877
493	Koeplingers Bakery Inc.	63.0	0.001	99.879
494	Otto Food Products	61.2	0.001	99.880
495	Bil-Jac Foods Inc.	60.8	0.001	99.881
496	Sheen EA Company	59.9	0.001	99.882
497	Canfield A J Company	59.6	0.001	99.883
C 498	Swiss Valley Farms	59.6	0.001	99.884
499	Shurfine-Central Corporation	59.5	0.001	99.885
500	Dan Dee Pretzel Potato Chip Company	59.3	0.001	99.886
501	Turner Dairies Inc. of Memphis	59.2	0.001	99.887
502	E-II Holdings Inc.	59.0	0.001	99.888
503	Montco Food Company	58.4	0.001	99.889
504	Weimer Packing Company	58.1	0.001	99.890
505	Fleming Foods	57.5	0.001	99.891
506	Palm Bay Imports Inc.	57.1	0.001	99.892
507	Natures Way Products	56.8	0.001	99.893
508	Producers Dairy Delivery Inc.	56.6	0.001	99.894
509	Dairy Fresh Company	56.1	0.001	99.895
510	Good Old Days Foods Inc.	55.9	0.001	99.896
511	ED Phillips & Sons Company	55.6	0.001	99.897
C 512	Norbest Turkey Growers Association	55.1	0.001	99.898
513	Pierres French Ice Cream Company	54.3	0.001	99.898
514	Superior Dairies	53.4	0.001	99.899
515	Red River Resources Inc.	53.3	0.001	99.900
516	Mr. Bee Potato Chip Company	53.0	0.001	99.901
517	Golden Enterprises Inc.	52.4	0.001	99.902
518	Snyders Bakery Inc.	52.4	0.001	99.903
519	CC Associates	52.1	0.001	99.904
520	Kirin Brewery Company Ltd.	52.1	0.001	99.905
521	Decosta J Inc.	51.8	0.001	99.906
522	Brown Dana Private Brands Inc.	51.5	0.001	99.907
523	Samuel Smiths Old Brewery	51.1	0.001	99.907
524	Wilson Lynn Pds Company	51.0	0.001	99.908
525	Delft Blue Provimi Inc.	50.3	0.001	99.909
526	Benson Inc.	49.4	0.001	99.910
527	Jaindis Turkey Farms	49.3	0.001	99.911
528	Hygeia Dairy Company	48.6	0.001	99.912
C 529	Roberts Dairy Company	47.9	0.001	99.913
C 530	Bison Foods	47.8	0.001	99.913
531	Faribault Food Inc.	47.8	0.001	99.914
532	Hanson Ranch Company	47.5	0.001	99.915
533	Decker Meat Company	46.6	0.001	99.916
534	Kelly Food Products Inc.	46.4	0.001	99.917
535	Shaklee Corporation	46.4	0.001	99.917
536	Zeigler Cattle Company	46.4	0.001	99.918
537	Smiths Dairy Products In	46.2	0.001	99.919
538	Dutch Mill Baking Company	45.9	0.001	99.920
539	Frank Wally Ltd.	45.8	0.001	99.921
540	Elliott WV Company	45.5	0.001	99.921
541	Griffin Mfg Company	44.8	0.001	99.922
542	Farmland Dairy	44.6	0.001	99.923
543	Cernitin America Inc.	44.5	0.001	99.924
544	Steinfelds Products Company	44.1	0.001	99.924
545	Old Tavern Farms Inc.	43.9	0.001	99.925
546	Barrister Liquors Corporation Ltd.	43.1	0.001	99.926
547	Quantum Chemical Corporation	42.7	0.001	99.927
A 548	New York Wine & Grape Foundation	42.6	0.001	99.927
549	Frey LA & Sons	42.2	0.001	99.928
550	Field Packing Company	41.2	0.001	99.929
C 551	Knouse Foods Inc.	41.0	0.001	99.930

552	Middleton John Inc.	41.0	0.001	99.930
553	Midial SA	41.0	0.001	99.931
554	Reelfoot Pcking Company	40.8	0.001	99.932
555	Medfords Inc.	40.3	0.001	99.932
556	Bueno Food Products Ind	39.6	0.001	99.933
557	Moores Potato Chip Company	39.6	0.001	99.934
558	Sweet Life Quality Foods	39.5	0.001	99.934
559	Charlotte Charles Inc.	39.1	0.001	99.935
560	Kens Foods Inc.	39.1	0.001	99.936
561	TW Services Inc.	39.1	0.001	99.936
562	Crabtree & Evelyn	38.5	0.001	99.937
563	Paleta International Corporation	38.2	0.001	99.938
564	Plumrose	38.0	0.001	99.938
565	Premier Brands Ltd.	37.9	0.001	99.939
566	Quality Chekd Dairy Pds Assoc	37.9	0.001	99.940
567	Valley Rich Dairy	37.7	0.001	99.940
568	National Raisin Company	37.6	0.001	99.941
569	IU International Corporation	37.5	0.001	99.942
570	Frangi's Italian Maid Food Inc.	37.2	0.001	99.942
571	Miami Margarine Company	36.5	0.001	99.943
572	Carls Sausage Company	36.3	0.001	99.944
573	Grissoms Salad Mrs	36.1	0.001	99.944
574	Cantasano Foods Inc.	35.9	0.001	99.945
575	Garber Bros Inc.	35.9	0.001	99.945
576	Fanny May Candy Shops	35.8	0.001	99.946
577	Pennfield Corporation	35.1	0.001	99.947
578	Holten Meats Inc.	34.7	0.001	99.947
C 579	Lindsay Olive Growers	34.7	0.001	99.948
580	North Country Corporation	34.7	0.001	99.948
581	Tenneco Inc.	34.7	0.001	99.949
582	Moramco Inc.	34.1	0.001	99.950
583	Schoeps	34.1	0.001	99.950
584	Ralphs Food Company	33.6	0.001	99.951
585	EA Sween Company	33.1	0.001	99.951
586	Morton Thiokol Inc.	33.0	0.001	99.952
587	Sinton Dairy Company	32.1	0.001	99.952
588	Pevely Dairy Company	31.9	0.001	99.953
589	Shamrock Foods	31.0	0.001	99.954
590	Koegel Meats	30.9	0.001	99.954
591	Maplehurst Farms Inc.	30.9	0.001	99.955
C 592	Agripac	30.8	0.001	99.955
593	Tofutti Brands Inc.	30.7	0.001	99.956
594	Camp Steak Company Inc.	30.1	0.001	99.956
595	San Miguel Corporation	30.0	0.001	99.957
596	Food Specialties (Nigeria) Ltd.	29.8	0.001	99.957
597	Velvet Ice Cream Company	29.8	0.001	99.958
598	Hiland Quality Checked Dairy	29.5	0.001	99.958
599	Pastene & Company Inc.	29.3	0.001	99.959
600	Stafford County Flour Mills	29.1	0.001	99.959
601	Regal Brands Inc.	29.1	0.001	99.960
602	Cher-Make Sausage Company	29.0	0.000	99.960
C 603	Zarda Brothers Dairy In	29.0	0.000	99.961
604	Asbach International	28.9	0.000	99.961
A 605	Wheat Industry Council	28.8	0.000	99.962
606	Pincoffs Maurice Inc.	28.7	0.000	99.962
C 607	Citrus Central Inc.	28.2	0.000	99.963
608	Freirich Julian Food Prods Inc.	28.1	0.000	99.963
609	Blue Ribbon Packing Company Inc.	28.0	0.000	99.964
610	Wamplers Packing Company	28.0	0.000	99.964
611	Dianes Foods	27.9	0.000	99.965
612	Shadow Creek Wine	27.2	0.000	99.965
613	Famous Chili & Wholesale Meat Company	27.1	0.000	99.966

614	BCA Corporation	26.8	0.000	99.966
615	Sherwood Brands	26.8	0.000	99.966
616	Cento Capri Food Products Inc.	26.2	0.000	99.967
617	Bakers Franchise Corporation	26.1	0.000	99.967
618	Captain Kens Firehouse Beans Inc.	26.0	0.000	99.968
619	Cajun Country Cook Book Inc.	25.8	0.000	99.968
620	Jerrys Market Inc.	25.0	0.000	99.969
621	Oregon Fish Ind	24.0	0.000	99.969
622	Famiglia Industries Inc.	23.9	0.000	99.970
623	Potter Distilleries	23.6	0.000	99.970
624	Glacial Confections Inc.	23.5	0.000	99.970
625	Te Amo Geryl Inc.	23.5	0.000	99.971
626	Paton John Inc.	23.3	0.000	99.971
627	Empire Kosher Poultry	23.1	0.000	99.972
628	Lamberts Pasta & Cheese	22.5	0.000	99.972
629	Saco Foods	22.5	0.000	99.972
630	Superior Brands Inc.	22.4	0.000	99.973
631	The Birkett Mills	22.1	0.000	99.973
632	Elkin Coffee Inc.	22.0	0.000	99.973
633	Scooter Juice Company	22.0	0.000	99.974
634	Stash Tea Company	21.9	0.000	99.974
635	Binding-Brauerei Ag	21.1	0.000	99.975
636	Inprotur	20.7	0.000	99.975
637	Fairdale Farms	20.5	0.000	99.975
638	Louis Sherry Inc.	20.3	0.000	99.976
639	Quality Food Oils Inc.	20.2	0.000	99.976
640	Burberrys Ltd.	19.6	0.000	99.976
641	Mary Sue Candies Inc.	19.4	0.000	99.977
642	Mitchell John E Company	19.3	0.000	99.977
643	Brown W B & Sons Dairy Inc.	19.1	0.000	99.977
644	Astor Chocolates Corporation	19.0	0.000	99.978
645	Paramount Distillers Inc.	18.6	0.000	99.978
646	Southeast United Dairy Industry	18.4	0.000	99.978
647	Distilled Liquor Producers	17.8	0.000	99.979
648	California Collection	17.2	0.000	99.979
649	McDonald Dairy Company	17.2	0.000	99.979
650	Real Fresh Inc.	17.1	0.000	99.979
651	Lapidus Popcorn	17.0	0.000	99.980
652	Eckert Packing Company	16.9	0.000	99.980
653	Vess Beverages Company	16.9	0.000	99.980
A 654	California State Of	16.8	0.000	99.981
655	Oregon Fruit Products Company	16.8	0.000	99.981
656	Spanex USA Inc.	16.8	0.000	99.981
657	BC Tanner Company	16.7	0.000	99.981
658	Tone Bros Inc.	16.7	0.000	99.982
659	Gallikers Dairy Company	16.5	0.000	99.982
660	Pacific Coast Canned Pear Service Inc.	16.5	0.000	99.982
661	Dry Creek Vinyard	16.2	0.000	99.983
662	Purity Sunbeam Baking Company	16.2	0.000	99.983
663	Steakwich Inc.	16.2	0.000	99.983
664	Marken Fred & Daughters Inc.	16.0	0.000	99.983
665	American Nutrition	15.8	0.000	99.984
666	Hiland Potato Chip Company	15.4	0.000	99.984
667	Sumner Butter	15.2	0.000	99.984
668	Texas Coffee Company	14.9	0.000	99.984
669	Tofitness Inc.	14.9	0.000	99.985
670	M & N Cigars Manufacturers	14.6	0.000	99.985
671	Cuddy Farms Inc.	14.5	0.000	99.985
672	Western Commerce Corporation	14.4	0.000	99.985
673	Furman Canning Company	14.3	0.000	99.986
674	Humpty Dumpty Potato Chips Company	13.8	0.000	99.986
675	Hometown Dairies	13.4	0.000	99.986

676	Hulman & Company	13.4	0.000	99.986
677	Morehouse Foods Inc.	13.4	0.000	99.987
678	Gais Bakery	13.2	0.000	99.987
679	Morrell & Company	13.1	0.000	99.987
680	Carens Richard Importers	12.9	0.000	99.987
681	Okura Shuzo Company Ltd.	12.8	0.000	99.988
682	Kessler Meat Products	12.8	0.000	99.988
683	American Whipped Products	12.4	0.000	99.988
684	Legume Inc.	12.0	0.000	99.988
685	Mavar Shrimp & Oyster Company Ltd.	12.0	0.000	99.988
686	Penland Distributors	12.0	0.000	99.989
687	Matt F X Brewing Company	11.8	0.000	99.989
688	Sogrape Vinhos De Portugal	11.8	0.000	99.989
689	Stokes Canning Company	11.6	0.000	99.989
690	Baumer Foods Inc.	11.4	0.000	99.989
691	Sylvest Farms Inc.	11.4	0.000	99.990
692	Modern Products Inc.	11.2	0.000	99.990
693	Swan Bros Inc.	11.2	0.000	99.990
694	Eden Foods Inc.	11.1	0.000	99.990
695	Liberty Orchards	11.1	0.000	99.990
696	Graber Products Inc.	11.0	0.000	99.991
697	Jana Brands	11.0	0.000	99.991
698	Johnsons Dairy Inc.	11.0	0.000	99.991
699	Fassetts Bakery Inc.	10.9	0.000	99.991
700	Community Coffee Company Inc.	10.8	0.000	99.991
701	Island Finest	10.8	0.000	99.992
702	Sauer CF Company	10.6	0.000	99.992
703	Armanino	10.5	0.000	99.992
704	Mrs. Fields Cookies	10.4	0.000	99.992
705	Koninklijke Wessanen Nv	10.2	0.000	99.992
706	Sanwa Foods Inc.	10.2	0.000	99.992
707	Ruinart	9.9	0.000	99.993
708	Whidbeys MW Ltd.	9.8	0.000	99.993
709	Manuels Hot Tamales Inc.	9.7	0.000	99.993
710	All American Food Dist Inc.	9.4	0.000	99.993
711	Dacus Inc.	9.4	0.000	99.993
712	Milwaukee Biscuit Company Inc.	9.4	0.000	99.993
713	CF Burger Company	9.3	0.000	99.994
714	Ohio Valley Provisions Company	9.0	0.000	99.994
715	St Julian Wine Company	8.5	0.000	99.994
716	Rose Gp & Company	8.4	0.000	99.994
717	Bonjour De France	8.3	0.000	99.994
A 718	Utah Dairy Commission	8.1	0.000	99.994
719	William Neilson	8.1	0.000	99.994
720	Sonoma County Wine Growers Assoc	7.9	0.000	99.995
721	Frank Sidney Importing Company Inc.	7.8	0.000	99.995
722	Klinke Bros Ice Cream Company	7.8	0.000	99.995
723	Schneider Dairy	7.8	0.000	99.995
724	Clinton Vineyards	7.7	0.000	99.995
725	JB & Associates	7.7	0.000	99.995
726	Lundys Packing Company	7.3	0.000	99.995
727	Roelof Dairy Inc.	7.2	0.000	99.995
728	Townley Dairies	7.0	0.000	99.996
729	APV Baker Plc	6.8	0.000	99.996
730	Strongheart Product Inc.	6.8	0.000	99.996
731	Martin's Potato Chips Inc.	6.7	0.000	99.996
732	House Atry Mills Inc.	6.6	0.000	99.996
733	Bama Beverages	6.4	0.000	99.996
734	Scottish & Newcastle Breweries Plc	6.2	0.000	99.996
735	Unigate PLC	6.2	0.000	99.996
736	La Cena Food Ltd.	6.0	0.000	99.996
737	Vargas & Sons Bakery	6.0	0.000	99.997

C 738	Sunkist Growers Inc.	5.8	0.000	99.997
739	Hurst NK Company	5.6	0.000	99.997
740	Napa Valley Mustard Company	5.5	0.000	99.997
741	Trausch Baking Company	5.5	0.000	99.997
A 742	Napa Valley Vintners	5.4	0.000	99.997
743	Wyandot Inc.	5.3	0.000	99.997
744	DPF Inc.	5.1	0.000	99.997
745	Popcorn Factory	4.8	0.000	99.997
746	Delicato Vineyard	4.7	0.000	99.997
747	Flavorite Laboratories Inc.	4.7	0.000	99.997
748	Oberto Sausage Company	4.7	0.000	99.998
749	Crispy Crunch Inc.	4.5	0.000	99.998
750	Abersold Foods	4.4	0.000	99.998
751	American Juice Company	4.4	0.000	99.998
752	Baltz Bros Packing Company	4.3	0.000	99.998
753	New England Shrimp Company	4.3	0.000	99.998
754	A-Treat Soft Drinks	4.1	0.000	99.998
755	Chateau Bouchaine	4.1	0.000	99.998
756	Hoodo Corporation	4.1	0.000	99.998
757	Wilson's Corn Products	4.1	0.000	99.998
758	Fleming Companies Inc.	3.9	0.000	99.998
759	Andes Trading Company Importers	3.6	0.000	99.998
760	Gosling Brothers	3.5	0.000	99.998
761	Gunnoe Farms-Sausage & Salad Company	3.5	0.000	99.998
762	Maytag Dairy Farms	3.3	0.000	99.999
763	Claxton Bakery Inc.	3.0	0.000	99.999
764	Kowalski Sausage Company Inc.	3.0	0.000	99.999
765	Monastery Bakery	3.0	0.000	99.999
766	Rubschlager Banking Corporation	3.0	0.000	99.999
767	Bombergers Bologna Inc.	2.9	0.000	99.999
A 768	Indian Coffee Board	2.9	0.000	99.999
769	Chalk Hill Winery	2.7	0.000	99.999
770	Crazy Richards Inc.	2.7	0.000	99.999
771	Markham Vineyard	2.7	0.000	99.999
772	North Coast Cellars	2.7	0.000	99.999
773	Prudence Foods Inc.	2.6	0.000	99.999
774	Smith & Hook	2.6	0.000	99.999
775	Richmond Bakery	2.5	0.000	99.999
776	Richter Bros Inc.	2.5	0.000	99.999
777	British Petroleum Company PLC	2.1	0.000	99.999
778	King Cola World Corporation	2.1	0.000	99.999
779	Artisan Wines	2.0	0.000	99.999
780	Castellblanch	2.0	0.000	99.999
781	Knotts Berry Farm & Ghost Town	1.9	0.000	99.999
782	Calco Food Company Inc.	1.8	0.000	99.999
A 783	New York Wine & Grape Organization	1.6	0.000	99.999
784	Baby Watson Company	1.4	0.000	99.999
785	Castleberries Food Company	1.4	0.000	99.999
786	Buena Vista Winery	1.3	0.000	00.000
787	Clos Du Val	1.3	0.000	00.000
788	Creston Manor Vineyards & Winery	1.3	0.000	00.000
789	Fetzer	1.3	0.000	00.000
790	Freemark Abbey	1.3	0.000	00.000
791	Frogs Leap	1.3	0.000	00.000
792	John Culbertson Winery	1.3	0.000	00.000
793	Maplehurst Farms	1.3	0.000	00.000
794	Pedroncelli J	1.3	0.000	00.000
795	Ridge Vineyards	1.3	0.000	00.000
796	Robert Stemmler Winery	1.3	0.000	00.000
797	Staggs Leap Wine Cellars	1.3	0.000	00.000
798	Wente Bros	1.3	0.000	00.000
799	ACme Packing Company	1.2	0.000	00.000

800	Happy Jack Inc.	1.2	0.000	00.000
801	Medley Distillers	1.2	0.000	00.000
802	Krispy Kreme Doughnut Corporation	1.1	0.000	00.000
803	Henry Colt Enterprises Inc.	1.0	0.000	00.000
804	Adams Natural Beverage Company	0.9	0.000	00.000
805	Maola Dairy	0.9	0.000	00.000
A 806	National Coffee Assn	0.8	0.000	00.000
807	Steltzner	0.7	0.000	00.000
A 808	Oregon Dairy Products Commission	0.6	0.000	00.000
809	Paul	0.6	0.000	00.000
810	Schotts Bakery	0.5	0.000	00.000
811	Leidenheimer George H Baking Company	0.4	0.000	00.000
812	Deep Food Inc.	0.3	0.000	00.000
813	Eagle Industries Inc.	0.3	0.000	00.000
814	Little Lady Foods Inc.	0.3	0.000	00.000
815	Ullman Company	0.3	0.000	00.000
816	Genex	0.2	0.000	100.000
817	Hudson Bay Bakery	0.2	0.000	100.000
818	Mitchers Distillery	0.2	0.000	100.000
819	Mary Jane Bakery Inc.	0.1	0.000	100.000
820	Michters Distillery	0.1	0.000	100.000
821	Old Fashioned Kitchens Inc. The	0.1	0.000	100.000

Note: C = an agricultural cooperative.

A = an association.

Source: Leading National Advertisers, Inc. 1987.

FOOD MARKETING POLICY CENTER RESEARCH REPORT SERIES

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