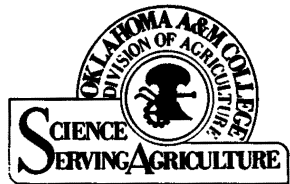


Consumer Preferences For
Dairy Products and Services
In Oklahoma City

By

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EXPERIMENT STATION

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Summary And Conclusions

The Oklahoma Agricultural Experiment Station recently undertook a study in Oklahoma City of consumer preferences for dairy products and services. Specific objectives of the study were to: determine present purchases of milk and milk products as related to family size and family income; obtain opinions of consumers on the richness of milk used for drinking; and determine consumer preferences for the types of services attached to fluid milk.

Researchers interviewed a stratified random one percent of the Oklahoma City population in their survey.

Listed below are the findings of this study . . .

Fresh fluid milk was used by over 95 percent of the sample households in Oklahoma City. The consumption of fresh fluid milk increased as families had more income or were larger in size.

Most of the milk was used for drinking. Generally, there was a decrease in the amount of milk consumed as individuals became older. Males drank more milk than females.

A majority of the families expressed satisfaction with the richness of the milk they were buying. However, they did not know the actual butterfat content. They would like to have the butterfat content marked on the bottle cap or carton. Some of the families wanted richer milk but only about half of these would be willing to pay more for it.

About as many families preferred to get milk at the store as preferred home delivery. In general, the lower income and smaller size families preferred to get milk at the store. Deliveries or purchases of milk three times a week were preferred by about half the families.

If milk is delivered to the home, the glass container was preferred. The paper container was preferred if milk is purchased at the store. There was some dissatisfaction with present paper containers.

The quart size container was most popular but the quantity of milk used was directly related to the preference for size of container. Families using larger quantities of milk preferred the larger size container.

Canned milk (including filled milk) and powdered milk were used by families of all sizes and income levels. A greater percentage of the low income families used these products as compared with the other families. Filled milk represented half of all canned milk used. Buttermilk and cottage cheese were used by many families but fluid cream was used by less than one-fifth of the families. Three times as many families used oleomargarine as used butter. More than twice as many families used ice cream as used mellorine.

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Fluid milk and other dairy products are important items in the food budgets of Oklahoma households. About 20 cents of each dollar spent for food is used to buy fluid milk and milk products.

Most of the milk which is consumed in its fluid form is produced on Oklahoma farms. But some of the processed milk products such as powdered milk, canned milk and cheese can be transported with relative ease; and sizable quantities consumed in Oklahoma are processed from milk produced outside the State.

If the milk producers, milk processors, and milk distributors in Oklahoma are to do a good job of marketing fluid milk, they must have knowledge of consumers' actions and desires. No research on consumer preferences for dairy products has been done in Oklahoma. Consequently, the Experiment Station undertook a study of consumer preferences for dairy products and services.

This bulletin reports on a study conducted in Oklahoma City. The specific objectives of the Oklahoma City study were:

- (1) To determine present purchases of milk and milk products as related to family size and family income;
- (2) To obtain opinions of consumers on the richness of milk used for drinking; and
- (3) To determine consumer preferences for the types of services attached to fluid milk (such as place of purchase, frequency of purchase, type of container, and size of container) as related to family income and family size.

For the study, Oklahoma City was defined as the area included within the corporate city limits. A stratified random one percent sample

was drawn which insured geographic coverage of the area. For the analysis, this sample was considered as a simple random sample with an expansion factor of 100.

A personal interview survey of 821 households was conducted in March and April of 1955. A total of 871 potential households were contacted, but about 50 were vacancies.

Consumption of Milk

Fresh Fluid Milk

Over 95 percent of the 821 families in the survey used fresh fluid milk. In the seven day period just preceding the interview, the weekly consumption of fresh milk per family averaged nine quarts (Table 1). Eight quarts of this was used for drinking.

The consumption of fresh fluid milk tended to vary directly with household income and family size (Table 2). For families with incomes of less than \$1,000 the average consumption was 3.4 quarts per week. Consumption increased with larger incomes until the greatest per family consumption of 11.1 quarts per week was reached at the \$4,800 to \$6,000 income level. For families with incomes over \$6,000 the consumption declined to 9.5 quarts per week.

Canned Milk

Over half the families in the study used canned milk (including filled milk*) during the week preceding the interview. Canned milk was used occasionally by an even greater number of households, since it was stocked as a reserve for emergencies in most homes.

For those families using canned milk, the average consumption was 3.0 cans per week. The low income families were the largest consumers with an average of 3.8 cans consumed per week per family (Table 2). Over 60 percent of this was used for drinking (including use for babies), cereals, and coffee cream. As income increased, the use of canned milk for all purposes declined. The high income families who used canned milk consumed an averaged of 2.2 cans per week. Only about 37 percent of this was used for drinking (including use for babies), cereals, and coffee cream.

Low cost and a substitute for cream were the two most important reasons given for preferring canned milk for drinking, cereals, and coffee

*Filled milk is made from a skim milk base with vegetable fat or animal fat substituted for butterfat.

TABLE 1.—Weekly Consumption of Fluid and Canned Milk by Sample Households; Oklahoma City, March-April, 1955.

Product	Users		Total Quantity	Average Consumption**
	Number	Percentage*		
Fresh fluid milk	782	95.2	7,058 qts.	9.0 qts.
Canned milk	422	51.4	1,268 cans†	3.0 cans†
Filled milk***	230	28.0	615 cans†	2.7 cans†
Powdered milk	156	19.0	644 qts.††	4.1 qts.††
Buttermilk	334	40.7	609 qts.	1.8 qts.
Chocolate milk	46	5.6	96 qts.	2.1 qts.

SOURCE: Survey data from consumers in Oklahoma City, 1955.

* Percentage of total number of households in study.

** Average quantity consumed by each family using this product.

*** Filled milk is made from a skim milk base with vegetable fat or animal fat substituted for butterfat.

† Cans of 13 fluid ounces or 14½ ounces net weight.

†† Quarts equivalent when powdered milk is mixed for use.

TABLE 2.—Weekly Average Quantity of Milk Consumed by Sample Households; Oklahoma City, March-April, 1955.

Family Size	Income Group:						Avg.*
	Under \$1,000	\$1,000-2,999	\$2,400-3,599	\$3,600-4,799	\$4,800-5,999	\$6,000 and over	
Fresh Fluid Milk							
1	3.4	3.2	4.3	3.1	**	2.0	3.5
2	2.4	6.0	5.2	5.7	5.2	4.7	5.3
3	**	8.3	9.5	8.9	10.1	7.3	8.9
4	4.0	8.5	11.6	11.0	12.6	13.9	11.6
5 & 6	12.0	13.4	14.2	14.7	18.0	17.3	15.6
7-over	**	19.1	14.7	15.6	30.0	35.0	18.0
Avg.*	3.4	7.4	8.9	9.7	11.1	9.5	9.0
Canned Milk							
1	1.6	1.5	1.7	**	**	2.0	1.6
2	4.2	2.1	1.8	1.8	1.7	1.2	2.0
3	**	2.6	2.5	2.8	1.5	2.6	2.6
4	9.3	4.4	3.3	3.4	3.5	1.4	3.5
5 & 6	3.0	4.9	3.6	3.8	2.0	4.3	3.5
7-over	10.5	14.9	7.6	4.4	4.0	7.0	9.3
Avg.*	3.8	3.6	2.8	3.1	2.2	2.2	3.0
Powdered Milk							
1	2.3	2.0	1.0	**	**	3.0	1.8
2	4.0	2.1	5.2	2.1	2.8	3.4	3.1
3	**	3.4	8.9	2.0	2.2	3.0	4.4
4	3.0	5.0	4.2	6.4	2.0	1.0	4.4
5 & 6	5.0	4.5	4.0	4.7	3.6	8.0	4.4
7-over	1.0	12.0	8.6	7.3	**	**	7.7
Avg.*	3.4	3.3	5.6	4.3	2.9	3.1	4.1

* Average quantity consumed by each family using this product.

** No users in this class.

(Table 3). Each of these reasons was given by about 50 percent of the households using canned milk in this way. For other uses, primarily cooking and baking, a larger number of reasons for preferring canned milk were listed. Fifty-eight percent of the households preferred canned milk for these other uses because of low cost while 33 percent preferred it because of easy storage and reserve. About 29 percent of the households preferred canned milk for other uses because it was a substitute for cream, and 18 percent used it just because the recipes called for it. Some of the respondents preferred the canned milk for these other uses because of taste or the fact that canned milk was easy to use.

Almost 50 percent of the canned milk used by the households in the survey was filled milk. Filled milk was used by 230 of the 422 households reporting the regular use of canned milk. The use and consumption of filled milk as compared with other canned milk was not related to income. About half the canned milk consumption of each income group was filled milk.

Powdered Milk

Of the 821 families in the survey, 19 percent used powdered milk. An average of 4.1 quarts equivalent of powdered milk was used for all purposes by these households during the seven days just preceding the interview. More than 50 percent of these households used powdered milk for drinking.

Families of all sizes and income levels used powdered milk. About 32 percent of the low income families used powdered milk as compared with 16 percent for the highest income group. The average quantity consumed per family was greater for incomes from \$2400 to \$4800 than it was for incomes below \$2400 (Table 2). With respect to the family

TABLE 3.—Reasons Given for Preferring Canned Milk over Fresh Fluid Milk Products; Oklahoma City, March-April, 1955.

Reasons	Preference of Canned Milk for:	
	Drinking, Cereal, and Coffee	Other Uses
Low cost	114	167
Substitute for cream	117	83
Taste	35	37
Convenience	18	16
Storage and reserve	18	95
Easy to use	14	47
Recipes call for it	4	52
Other	20	9
Total Number	340	506

TABLE 4.—Reasons Given for Preferring Powdered Milk Over Fresh Fluid Milk for Drinking; Oklahoma City, March-April, 1955.

Reasons	Preference of Powdered Milk Over:	
	Whole Milk	Skim Milk
Low cost	40	44
Fewer calories	38	--
Storage and reserve	8	11
Taste	5	10
Convenience	1	10
Other	3	16
Total number	95	91

size of those consumers, average consumption increased from 1.8 quarts per week for one member families to 7.7 quarts per week for seven or more member families.

Families using powdered milk for drinking preferred the powdered milk over fresh whole milk because of low cost and fewer calories (Table 4). Each of these reasons was given by about half the respondents preferring the powdered milk for this use. In actual practice about one out of every five families using powdered milk for drinking mixed the powdered milk with fresh whole milk. They preferred the powdered milk for drinking over the fresh skim milk primarily because of low cost. Other reasons given were storage and reserve, convenience, and taste.

About 78 percent of the households using powdered milk for uses other than drinking preferred the powdered milk because of low cost. Storage and reserve was given as a reason by about 14 percent of those households.

The respondents were asked to state their objections, if any, to the use of powdered milk. About 47 percent or 387 answered the question. Of those answering, almost half had no objections to the use of powdered milk. About 34 percent objected to the taste of powdered milk and about 18 percent objected because of mixing problems. The respondents' opinions on the protein and mineral value of powdered milk as compared with fresh whole milk were tabulated. Of the 376 opinions, 37 percent thought powdered milk had the same protein and mineral value as compared with fresh whole milk, 32 percent thought it had less, and 5 percent thought it had more. A larger percentage of the households with annual incomes below \$3600 considered powdered milk to have less protein and mineral value than was true for families with incomes above \$3600. About 26 percent of the re-

spondents did not know the comparative protein and mineral values of powdered milk.

Buttermilk

About 41 percent of the households in this study reported using buttermilk regularly. The average weekly consumption for all purposes was 1.8 quarts (Table 1). Income group and family size were not related to buttermilk consumption except that a larger percentage of one member families in the \$1000 to \$2400 income group used buttermilk (Appendix Table 1).

Chocolate Milk

Chocolate milk was purchased by only 46 families or about 6 percent of the households in the study. Apparently a large number of housewives preferred to mix their own chocolate milk. The average weekly consumption of the households purchasing this product was two quarts (Table 1). Neither family size nor family income (Appendix Table 1) appeared to be associated with the average per family purchases of chocolate milk.

All Milk Used for Drinking

Separate estimates were obtained from the households of the amounts of fresh fluid milk, powdered milk, canned milk, buttermilk and chocolate milk which were used for drinking (including the use for cereals). These estimates were pooled to obtain the total amount used for drinking. In addition, estimates were obtained of the glasses of milk drunk per day by each member of the household. The glasses were standardized to 5 1/3 ounces for each person.

Both age and sex were related to the number of glasses drunk per day. For males, the number of glasses per day remained essentially unchanged for ages 1 through 20 years at 3.5 to 3.0 glasses per day. (Figure 1 and Appendix Table 2). The slight decline, as shown, was not statistically significant. For ages above 20 years, the number of glasses drunk by males declined to about 2.0 to 2.7 glasses per day until age 70. Consumption tended to increase somewhat for males above age 70.

For females, the number of glasses drunk per day declined an average of almost 0.07 glasses for each year past one year of age, through age 20. At age 20, females drank an average of 2.1 glasses as compared with 3.4 glasses at age 1. This relationship was statistically significant. Moreover, the variation from one age to the next in the number of glasses drunk by females was considerably less than it was for

males (compare the errors of estimate at the 95 percent level in Figure 1). For females above 20 years of age, the number of glasses per day declined to about 1.3 to 1.9 until age 70. After age 70, females tended to drink more milk. This is about 1 glass less per day than the males drank at these ages.

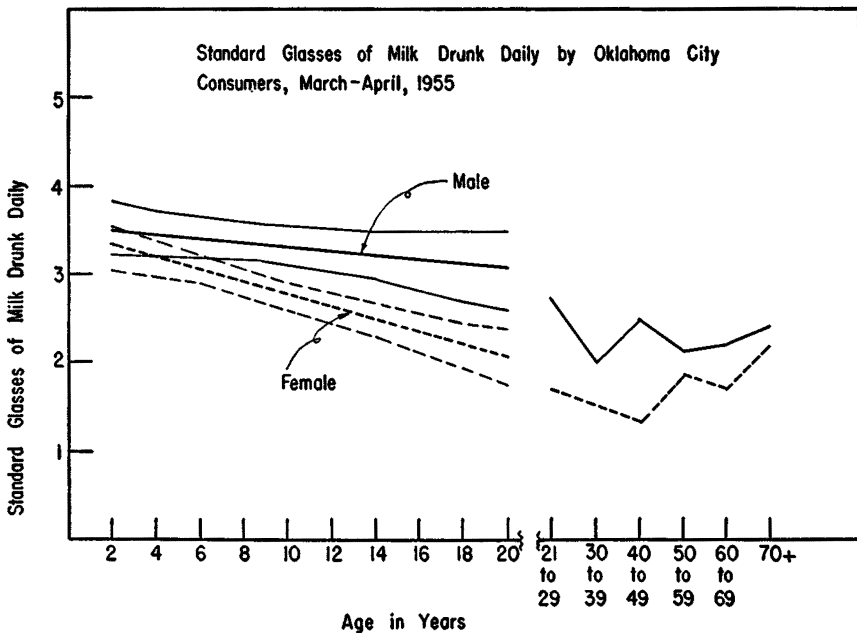
Opinions Of Richness of Fluid Milk

As a general rule, consumers did not know the butterfat content of the milk they purchased. Estimates of the butterfat content of milk varied from two to ten percent in the pretest schedules. However, consumers did have definite opinions on whether or not they were satisfied with the present richness or butterfat content of the milk they were buying. If they were not satisfied, they also had definite opinions on whether they wanted more or less butterfat.

Present Richness

Almost 80 percent of the households in the Oklahoma City survey said they were satisfied with the richness of the milk they are now buying.

Figure 1



Source: Appendix Table "2"

TABLE 5.—Consumers Satisfied with Butterfat Content of Milk They Are Now Buying; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer- rers**	Pct. of Group†
	1	2	3	4	5	6			
1	16	21	12	5	0	1	55	8.1	61.8
2	5	33	58	45	36	35	212	32.9	81.9
3	0	24	50	35	11	19	139	21.5	82.2
4	2	12	36	41	25	16	132	20.5	83.5
5 & 6	0	12	21	24	21	11	89	13.8	73.0
7-over	1	6	4	6	1	0	18	2.8	75.0
Totals	24	108	181	156	94	82	645	---	---
Percentages of: Preferrers**	3.7	16.7	28.1	24.2	14.6	12.7	---	100.0	---
Group†	54.5	74.5	78.0	84.8	80.3	82.8	---	---	78.6

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households who were satisfied with the butterfat content of the milk they are now buying.

† Percentage of the total number of households in this income group or family size.

Chi Square=65.52, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

TABLE 6.—Consumers Who Would Use More, About the Same, or Less Milk if Butterfat Content Were Increased; Oklahoma City, March-April, 1955.

Income Group	More		About Same		Less		Others*	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Under \$1,000	4	9.1	21	47.7	1	2.3	18	40.9
\$1,000-2,399	6	4.1	105	72.4	8	5.5	26	17.9
\$2,400-3,599	8	3.4	166	71.6	11	4.7	47	20.3
\$3,600-4,799	7	3.8	142	77.2	7	3.8	28	15.2
\$4,800-5,999	2	1.7	94	80.3	4	3.4	17	14.5
\$6,000 and over	4	4.0	83	83.3	4	4.0	8	8.1
Total No.	31	—	611	—	35	—	144	—
Percentage**	—	3.8	—	74.4	—	4.3	—	17.5

* Includes qualified and "don't know" answers, as well as no responses.

** Percentage of total number of households in each response group.

TABLE 7.—Consumers Desiring Opportunity to Buy Milk With Butterfat Content Marked on Bottle Cap or Carton; Oklahoma City, March-April, 1955.

Income Group	Yes		No	Don't Know	Other
	Number	Pct.			
Under \$1,000	25	56.8	3	2	14
\$1,000-2,399	95	65.5	16	19	15
\$2,400-3,599	164	70.7	22	39	7
\$3,600-4,799	131	71.2	14	36	3
\$4,800-5,999	88	75.2	10	16	3
\$6,000 and over	68	68.7	21	9	1
Totals	571	—	86	121	43
Percentage*	—	69.5	10.5	14.7	5.3

* Percentage of the total number of households in this response group.

TABLE 8.—Consumers Reasons for Preference of Place of Purchase of Fresh Fluid Milk; Oklahoma City, March-April, 1955.

Reasons	Delivery	Store
Low cost	11	28
Convenience	308	135
Taste, freshness, or quality	50	11
Storage facilities	0	4
Quantity used	19	59
Brand, container, or service	18	6
Unsatisfactory delivery time	—	79
At the store anyway	—	139
Habit	17	7
Other or none	38	47
Number of Respondents	378	378

When these replies were analyzed by income level and family size, more than 50 percent of the consumers in each group expressed satisfaction with the present richness of the milk (Table 5). The percentages ranged from 73 to 85 for most of the groups. The greatest dissatisfaction with the present richness of milk was expressed by the lowest income level and by the smallest family size, where the percentages were 52 and 62, respectively. These consumers were, in general, small consumers of milk. There was also some tendency for the larger family sizes to be less satisfied with present richness of milk than were the two- to four-member families.

Pursuing this question further, consumers not satisfied with the richness of their milk were asked if they wanted more or less butterfat. About 12 percent of all households in the study were involved for this question. Of these households, 88 percent wanted more butterfat, 5 percent wanted less butterfat, and 7 percent gave qualified answers. However, not all the households wanting richer milk would be willing to pay more for it. These respondents were about equally divided in their willingness to pay more for a richer milk and their unwillingness to do so. This is related to the fact that more than 50 percent of all households wanting richer milk had family incomes of less than \$3,600 per year.

As an incidental question pertaining to opinions on the present richness of milk, the persons interviewed were asked if they believed that fresh whole milk was fattening. Significantly, almost 53 percent of the respondents did believe that fresh whole milk was fattening (Appendix Table 3). Only 24 percent believed that whole milk was not fattening. About 5 percent of the respondents qualified their answers while 14 percent did not know. Family income did not appear to be related to this opinion except that the smallest percentage expressing the opinion that whole milk was fattening was in the lowest income group.

Richness and Consumption

Consumers were next asked if an increase in the butterfat content of milk would cause them to change the quantity of milk used. No amount of price change was specified. About 75 percent of the consumers said they would use about the same amount of milk. (Table 6). About 4.3 percent of the consumers said they would buy less milk, while 3.8 percent said they would buy more. Approximately 18 percent were undecided, did not know, or did not answer the question.

Income level was positively related to the use of the same amount of milk if the butterfat content were increased. At the lowest income

level, about 48 percent of the households said they would continue to use the same amount of milk. This percentage increased through the highest income group where about 83 percent of the households would continue present purchases at higher butterfat levels.

On the basis of these results it appears that an increase in the butterfat level could cause a decrease in fresh fluid milk consumption. Slightly more consumers said they would buy less milk than would buy more milk. However, much would depend on whether or not all consumers acted in the same way as they indicated to the enumerators, and on the final preference and action of the 18 percent who were undecided or did not know.

Labeling

While generally satisfied with present butterfat levels, consumers were interested in knowing the butterfat content of milk. In addition, some consumers would like to have a choice of buying milk of different levels of butterfat. About 70 percent of all families said they would like to have the choice of buying milk where the butterfat content was marked on the bottle cap or on the carton (Table 7). Family income did not appear to be related to this answer except that the percentage was somewhat lower for the lowest income group than it was for the other income groups. Housewives in all income groups stated that they would like to know what they are getting.

Place of Purchase

Forty-six percent of the 821 families said they preferred to have their fresh fluid milk delivered to the home. An equal proportion, 46 percent, said they preferred to get their milk at the grocery store. Only about two percent stated a preference for getting milk at a wholesale milk store, and about two percent expressed a preference for getting milk from other places. About four percent of the families did not express a preference for the place of purchase of fresh fluid milk.

Home Delivery

Several reasons for preferring home delivery were given by the respondents, but more than 80 percent listed the single category of convenience (Table 8). About 13 percent listed taste, freshness, or quality. Only very small percentages of these respondents gave reasons other than convenience or taste, freshness, or quality.

This preference for home delivery was significantly related to household income and family size (Table 9). In general, as income increased, a larger percentage of the households preferred home delivery. For the lowest income group, 18 percent of the households preferred home delivery, if they consumed milk at all. This percentage increased with increasing income until the maximum was reached for incomes over \$6,000. Fifty-seven percent of these high-income families preferred home delivery.

Two elements in household size had opposite effects on the preference for home delivery of milk. Both were evident in the analysis. The first was related to the amount of milk used. As household size increased,

TABLE 9.—Consumer Preferences as to Home Delivery and Store Purchase of Fresh Fluid Milk; Oklahoma City, March-April, 1955.

Family Size	Income Group: [*]						Totals	Pct. of Prefer-ers**	Pct. of Group†
	1	2	3	4	5	6			
Prefer Home Delivery††									
1	8	11	12	1	0	1	33	8.7	37.1
2	0	17	23	17	16	17	90	23.8	34.7
3	0	4	27	19	8	13	71	18.8	42.0
4	0	6	30	34	23	10	103	27.2	65.2
5 & 6	0	5	14	21	16	15	71	18.8	58.2
7-over	0	2	3	4	1	0	10	2.7	41.7
Totals	8	45	109	96	64	56	378	---	---
Percentages of:									
Prefer-ers**	2.1	11.9	28.8	25.4	17.0	14.8	---	100.0	---
Group†	18.2	31.0	47.0	52.2	54.7	56.6	---	---	46.0
Prefer Buying at Store***									
1	10	20	5	6	0	0	41	10.8	46.1
2	7	26	47	30	17	21	148	39.2	57.1
3	0	23	30	19	10	9	91	24.1	53.8
4	1	5	15	14	8	4	47	12.4	29.7
5 & 6	1	6	13	9	10	4	43	11.4	35.2
7-over	0	4	2	1	0	1	8	2.1	33.3
Totals	19	84	112	79	45	39	378	---	---
Percentages of:									
Prefer-ers**	5.0	22.2	29.6	20.9	11.9	10.4	---	100.0	---
Group†	43.2	57.9	48.3	42.9	38.5	39.4	---	---	46.0

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring to obtain their fresh fluid milk from source indicated.

† Percentage of the total number of households in this income group or family size.

†† Chi Square=61.69, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

*** Chi Square=45.06, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

a larger quantity of milk usually was purchased and it was generally more convenient to have this larger quantity delivered. The second was related to per capita income. The larger the family size for a given family income, the less was the income per person that could be spent for food and the various services such as delivery. This meant that there was an incentive for the larger families to buy milk at the store if they could thereby save money.

For the market as a whole, the preference for home delivery tended to increase with family size up to size 4. For this family size, 65 percent of the families preferred home delivery. The percentage of families preferring home delivery declined to 58 for family size 5 and 6, then further declined to 42 for family size 7 and over. These latter percentages reflect the influence of declining per capita income as family size increased.

The families expressing a preference for home delivery were asked how much of a price reduction at the store it would take to get them to stop buying from the route and start buying at the store. Slightly over 340 out of the 378 families answered the question. Only small percentages of these families said they would buy at the store for one or two cents lower per quart store prices. However, about 20 percent of these families said they would start buying at the store at a reduction of three cents per quart. An additional 17 percent said they would start buying at the store if the store price were 4 cents lower per quart. About 29 percent indicated that they would change if the store price went down 5 cents per quart. Some of the respondents (10 percent) said they could not get milk at the store regardless of the size of the discount, while others (20 percent) indicated that the reduction would have to be 6 cents per quart, or more. Thus, about 25 percent of the families said they would stop the route delivery and start buying milk at the store for a lower store price of as much as 3 cents per quart. For as much as 5 cents lower per quart milk prices at the store, a total of about 70 percent of the families said they would switch from the route to the store.

Grocery Store

A total of 46 percent of 378 families in the survey said they preferred to buy their milk at the grocery store. A larger number of reasons was given by the respondents preferring the grocery store than was given by respondents preferring home delivery (Table 8). However, many of these reasons could be classed under the broad heading of convenience. The single answer of convenience was given by about 35 percent of the households. About 36 percent of the respondents

answered that they were at the store anyway, 20 percent said the delivery time was unsatisfactory to them, and 16 percent said they preferred the store because of the quantity of milk used. It was primarily the small families who gave the quantity of milk used as a reason for preferring to get their milk from the grocery store.

The preferences for buying milk at the grocery store were significantly related to household income and family size (Table 9). The relationships were almost the reverse of preferences for home delivery except for the lowest income group and smallest family size. About 43 percent of the families with incomes less than \$1,000 said they preferred the store. However, if only those families are considered which actually bought milk, the percentage would be close to 70. For incomes between \$1,000 and \$2,400 about 58 percent expressed a preference for the store. The preference for the store declined with increasing income until a low was reached of 39 percent of the families preferring the store at incomes of \$4,800 or more.

As family size increased up to 4 members there was a tendency for a smaller percentage of the households to prefer getting milk at the store. Family size 1 appeared to be an exception to this trend. When the family included 5 or more members, the preference for the store increased somewhat over the low reached for family size 4.

Frequency of Purchase

Over 51 percent of the households in the sample preferred to get their milk three times each week. This included those buying milk at the store as well as those who had their milk delivered. However, a considerable number of households preferred to get their milk more often than this. About 14 percent of the households preferred every other day and about 16 percent preferred daily purchases (Appendix Table 4). On the other hand, about 14 percent of the households preferred to get their milk less often than three times a week. These preferences were for once a week, twice a week, or some indefinite pattern of purchase and were usually associated with the one- and two-member families.

Three Times A Week

Most of the Oklahoma City milk distributors delivered milk on each route area three times a week—either on Monday, Wednesday, and Friday or on Tuesday, Thursday, and Saturday. This was an important factor in the preference for frequency of purchase, particularly for those

households preferring home delivery. Apparently most of the households were satisfied with delivery three times a week.

Taste, freshness, or quality was the most frequent reason given for the preference of getting milk three times a week (Table 10). This reason was given by about a third of the families. Convenience and brand, container, or service each were reasons given by about a fourth of the families who preferred to get milk three times a week. Quantity used was also given as a reason for this preference.

There was a significant relationship of household income and family size to the preference for getting milk three times a week (Table 11). However, this reflected, in part, the influence of income group and family size on the quantity of milk used. In general, the preference for purchasing milk three times a week increased with income up to \$4,800, then declined somewhat for incomes over \$6,000.

Less than 50 percent of the families with three members or less stated a preference for getting milk three times a week. This compares with more than 50 percent of the families with 4 or more members who preferred this frequency.

Every Other Day

A total of 14 percent, or 111 families, preferred to buy milk every other day. Quantity used and taste, freshness or quality were the two most important reasons given for preferring to get milk this often. Convenience, at the store anyway, and storage facilities were other frequent reasons given (Table 10).

There appeared to be no relation between income and the preference for every other day purchases except that the lowest income families did not prefer to get milk this often (Appendix Table 4). There was very little relationship between this preference and family size. The majority of the households preferring to get milk every other day was in family sizes 2 and 3.

Daily

A total of 16 percent or 128 families said they preferred to purchase their milk daily. The most frequent reason given for preferring daily purchases was taste, freshness, or quality (Table 10). About 55 percent of the families preferring daily purchases gave this as one of their reasons. Twenty percent said they were at the store anyway, and 14 percent preferred daily purchases because of the amount of milk

used. Storage facilities and convenience each accounted for about 10 percent of the respondents' reasons.

No consistent relationship existed between the preference for daily purchases and the amount of household income (Appendix Table 4). Moreover, the relationship between this preference and family size was not consistent. There was, however, some tendency for a greater percentage of the larger families to prefer daily purchases than existed for the smaller families.

TABLE 10.—Reasons for Preference as to Frequency of Purchase of Fresh Fluid Milk; Oklahoma City, March-April, 1955.

Reasons	Daily	Every Other Day	Three Times A Week	Once A Week
Low cost	2	1	4	3
Convenience	15	18	100	11
Taste, freshness, or quality	71	41	137	0
Storage facilities	17	13	15	1
Quantity used	24	40	72	32
Brand, container, or service	2	0	102	2
Unsatisfactory delivery time	6	0	0	2
At store anyway	26	16	32	7
Habit	3	3	8	0
Other	3	5	51	6
Number Preferring	128	111	422	59

TABLE 11.—Preferences for Purchasing Fresh Fluid Milk Three Times A Week; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer-ers**	Pct. of Group†
	1	2	3	4	5	6			
1	7	11	9	2	0	0	29	6.9	32.6
2	1	29	30	26	22	20	128	30.3	49.4
3	0	7	27	25	11	11	81	19.2	47.9
4	0	5	29	37	23	11	105	24.9	66.5
5 & 6	0	6	16	17	10	15	64	15.2	52.5
7-over	0	4	4	6	1	0	15	3.6	62.5
Total	8	62	115	113	67	57	422	---	---
Percentages of:									
Prefer-ers**	1.9	14.7	27.3	26.8	15.9	13.5	---	100.0	---
Group	18.2	42.8	49.6	61.4	63.6	57.6	---	---	51.4

* (1) Under \$1,000. (2) \$1,000 to \$2,599. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring to purchase their milk three times a week.

† Percentage of the total number of households in this income group or family size.

Chi Square=56.13, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

TABLE 12.—Reasons Given by Consumers for Preference for Type of Container; Oklahoma City, March-April, 1955.

Reasons	When Milk Is Delivered		When Milk Is Not Delivered	
	Paper Carton	Glass Bottle	Paper Carton	Glass Bottle
Low cost	13	10	17	1
Convenience	35	41	65	25
Taste; keeps better	2	220	8	162
Storage facilities	15	9	15	8
Amount used	2	4	8	5
More sanitary	18	98	16	61
No bottles to handle	208	0	362	6
Visual inspection	0	88	0	69
Wax problem	3	98	3	54
Other	20	47	20	15
Respondents	257	457	441	312

TABLE 13.—Consumer Preferences of Milk Containers, for Home Delivery and for Purchase at Store; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer-ers**	Pct. of Group†
	1	2	3	4	5	6			
Glass Container Delivered at Home††									
1	11	17	8	4	0	1	41	9.0	46.1
2	6	22	36	29	26	20	139	30.4	53.7
3	0	9	33	23	9	11	85	18.6	50.3
4	1	6	27	39	20	9	102	22.3	64.6
5 & 6	1	6	21	21	14	15	78	17.1	63.9
7-over	0	3	5	2	1	1	12	2.6	50.0
Totals	19	63	130	118	70	57	457	---	---
Percentages of:									
Pre-ferrers**	4.2	13.8	28.4	25.8	15.3	12.5	---	100.0	---
Group†	43.2	43.4	56.0	64.1	59.8	57.6	---	---	55.7
Paper Container at Store***									
1	11	18	8	5	0	1	43	9.8	48.3
2	4	26	37	28	21	22	138	31.3	53.3
3	0	20	27	28	14	18	107	24.3	63.3
4	0	6	18	26	18	11	79	17.9	50.0
5 & 6	0	7	14	14	15	13	63	14.3	51.6
7-over	0	4	1	6	0	0	11	2.5	45.8
Totals	15	81	105	107	68	65	441	---	---
Percentages of:									
Pre-ferrers**	3.4	18.4	23.8	24.3	15.4	14.7	---	100.0	---
Group†	34.1	55.9	45.3	58.2	58.1	65.7	---	---	53.7

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring the indicated container for indicated method of purchase.

† Percentage of the total number of households in this income group or family size.

†† Chi Square=70.42, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

*** Chi Square=47.27, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

Type of Container

Preferences for the type of container for fresh fluid milk depend on the place of purchase, previous experience with the type of container, advertising, and other factors important in the consumers' minds. An attempt was made in this study to get preferences for the type of containers for two places of purchase. First, consumers were asked to state their preferences for type of container if milk were delivered to their homes. Second, consumers were asked to give their preferences if milk were not delivered to their homes. These two questions were used in order to get a better understanding of the direction of change in preferences if home delivery sales went down and store sales went up or vice versa.

On Delivery Route

Glass Containers

When milk is delivered to the home, about 56 percent of the families surveyed preferred the glass containers. These families used 63 percent of the milk used by all sample families. Of the reasons given for preferring the glass containers, taste or keeps better was most important and was given by almost half the respondents (Table 12). Glass is more sanitary, glass permits visual inspection, and wax problems with paper each were given as reasons for preferring glass by about 20 percent of the respondents.

Preferences for the glass container were significantly related to household income and family size (Table 13). Preferences for the glass container tended to increase with income level. These preferences changed very little between income groups 1 and 2 but increased sharply for incomes between \$2,400 to \$4,800. There was a slight decline in the preferences for the glass container for incomes above \$4,800.

Preferences for the glass container also tended to increase with family size. Family size 1 expressed the least preference (46 percent) for the glass container. Family size 4 expressed the greatest preference, with 65 percent of these families preferring glass. Family size 7 and over was an exception to this relationship, with only 50 percent of the families preferring glass.

Paper Containers

Of the 821 families in the sample, 257 families said they preferred the paper carton. This is approximately 31 percent of the total. Over 80 percent of these households stated that they preferred paper

because there were no bottles to handle (Table 12). Convenience was given by 14 percent of the respondents as a reason for preferring paper milk containers.

There was no consistent relationship between the preference for paper containers and income level (Appendix Table 5). However, 42 percent of all families in income group \$1,000 to \$2,400 said they preferred the paper if their milk were delivered.

By family size, the greatest concentration of preferences for the paper containers was in the households having 3 members or less. About 41 percent of three-member families and 35 percent of two-member families preferred the paper carton if milk is delivered. In general, the larger size families did not prefer the paper container with milk delivery.

At the Store

Glass Containers

Consumers did not prefer the same type of carton when they had to get milk at the store as they did when the milk was delivered. Only 38 percent of the households said they preferred the glass container when they had to go to the store as compared with 56 percent when milk was delivered.

About 52 percent of these respondents preferred the glass container at the store because of taste or keeps better (Table 12). Visual inspection and more sanitary were each given as a reason by about 20 percent of the respondents. Wax problems with paper was the reason given for selecting the glass container at the store by 17 percent of these households.

Neither household income nor family size was consistently related to the preference for glass containers at the store (Appendix Table 5). By income levels, the greatest preference for glass was expressed by the income group \$2,400 to \$3,600. About 46 percent of this group preferred the glass. The least preference for the glass container at the store was associated with the highest income group. By family size, the greatest preference for glass at the store was expressed by the four-member families and the least preference was expressed by three-member families.

Paper Containers

About 54 percent of the families in the survey said they preferred to buy their milk in the paper carton if their milk were not delivered.

These families used about 55 percent of the milk used by the sample families. This compares with only 31 percent preferring paper when milk was delivered. Approximately 82 percent of the households said they preferred the paper carton at the store because there were no bottles to handle (Table 12). About 15 percent gave convenience as a reason. Convenience in this case may have been closely related to the reason of no bottles to handle, since these were free-answer questions. Some families preferred the paper even though they had experienced some difficulty with paper containers or were not entirely satisfied with present cartons. Additional comments to the enumerators concerned leaky cartons, wax taste, coldness of milk, lack of visual inspection, difficulty of pouring the milk, and others.

Preferences for the paper container at the store increased with household income except for the income level of \$1,000 to \$2,400 (Table 13). At the extremes, 34 percent of the families in the lowest income group preferred the paper container at the store as compared with 66 percent of the families in the highest income group.

By family size, the preference for the paper container at the store increased from 48 percent for family size 1 up to 63 percent for family size 3. However, for families with four or more members, the preference for paper at the store declined to around 50 percent.

Size of Container

The preference of the housewife for the size of container when milk is delivered to the home could be quite different from the preference when milk is purchased at the grocery store. Consequently, consumers were asked to state their preferences for size of container under these two situations. In the analysis there was no appreciable difference. Most consumers preferred a particular size whether the milk was delivered or whether they purchased their milk from the grocery store. This was particularly true for the middle income and middle family size groups.

In view of the similarity of preferences for container sizes at the two places of purchase, this section will include only the data on preferences when milk is purchased from the grocery store. The data on preferences for container sizes when milk is delivered are presented in Appendix Table 6.

Quart

Over 50 percent of the households preferred the quart size container. The amount of milk used in the home was the most important reason

for this preference and was stated by 53 percent of these families (Table 14). About 34 percent of the respondents gave convenience as a reason for preferring the quart size, and about 18 percent gave storage facilities. Taste or keeps better was an important reason for some of the respondents.

Preferences for the quart container were significantly related to household income and family size. In both cases, however, the effect comes from the quantity of milk used. Less milk is generally consumed by the lower income families and about 58 percent of these families preferred the quart size (Table 15). As income increased, the families consumed more milk and the preference for the quart container decreased. Only 40 percent of families with incomes of \$4,800 to \$6,000 expressed a preference for the quart size container. This relationship was reversed for families with incomes over \$6,000. About 72 percent of these high income families preferred the quart. From the limited information available, it appeared that the preference in this income group was a result of less need for economy and the easy-to-handle feature of the quart container.

Preferences for the quart container decreased as family size increased. For one member families, 73 percent preferred the quart. As family size increased, the preferences for the quart container decreased until only 21 percent of family size 7 and over said they preferred the quart.

Half Gallon

Of the 821 families in the sample, 308, or about 38 percent, preferred the half gallon size container. The amount of milk used in the home was given as a reason for this preference by 46 percent of these families (Table 14). About 34 percent gave storage facilities and 20 percent gave convenience as a reason for preferring the half gallon. Lower cost of the half gallon was also important to some of the respondents.

Three factors influenced the preference for the half gallon size container. First, as family size increased, total milk consumption increased. Second, as household income increased, total milk consumption increased. Third, there was a one cent per quart reduction in the price per quart when the milk was purchased in the larger containers. All these factors provided a stimulus for the use of medium to large size containers except for the highest income group.

TABLE 14.—Reasons Given by Consumers for Preference for Container Size When Milk Is Not Delivered; Oklahoma City, March-April, 1955.

Reasons	Quart	Half Gallon	Gallon
Low cost	1	33	10
Convenience	161	63	6
Taste, or keeps better	22	7	3
Storage facilities	71	104	6
Amount used	229	141	18
More sanitary	0	3	2
Other	7	16	1
Respondents	431	308	30

TABLE 15.—Consumer Preference for Size of Container When Milk Is Not Delivered to the Home; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer- ers**	Pct. of Group†
	1	2	3	4	5	6			
Quart Container††									
1	19	30	10	5	0	1	65	15.1	73.0
2	5	31	46	33	21	30	166	38.5	64.1
3	0	17	27	22	8	17	91	21.1	53.8
4	0	3	18	22	11	10	64	14.8	40.5
5 & 6	1	2	14	4	7	12	40	9.3	32.8
7-over	0	1	1	2	0	1	5	1.2	20.8
Totals	25	84	116	88	47	71	431	---	---
Percentages of:									
Pre-ferers**	5.8	19.5	26.9	20.4	10.9	16.5	---	100.0	---
Group†	56.8	57.9	50.0	47.8	40.2	71.7	---	---	52.5
Half Gallon Container									
1	1	1	4	2	0	0	8	2.6	9.0
2	2	8	23	15	18	8	74	24.0	28.6
3	0	11	25	17	10	5	68	22.1	40.2
4	1	6	22	26	19	6	80	26.0	50.6
5 & 6	0	8	12	25	17	6	68	22.1	55.7
7-over	0	3	3	3	1	0	10	3.2	41.7
Totals	4	37	89	88	65	25	308	---	---
Percentages of:									
Pre-ferers**	1.3	12.0	28.9	28.6	21.1	8.1	---	100.0	---
Group†	9.1	25.5	38.4	47.8	55.6	25.3	---	---	37.5

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring the indicated size for indicated method of purchase.

† Percentage of the total number of households in this income group or family size.

†† Chi Square=85.51, significant at the 1% level for income groups 2 through 6 and family sizes 1 through 5 or more members.

In general, the preferences for the half gallon container increased with income up to the \$4,800 to \$6,000 level (Table 15). For this income group about 56 percent of the households preferred the half gallon as compared with only 9 percent of the lowest income group. For incomes over \$6,000 the preference for the half gallon container dropped sharply with only 25 percent preferring this size.

As related to family size the preference for the half gallon container increased directly with larger families. Nine percent of one member families preferred the half gallon as compared with 56 percent for five and six member families. Family size 7 and over preferred even larger size containers.

Gallon

Apparently consumers in the Oklahoma City area were not too familiar with the gallon size container. Only about 5 percent of the households in the survey said they preferred this size. Amount of milk used and lower costs were the most frequent reasons given for preferring the gallon size container. About 21 percent of the families of seven or more members said they preferred this size (Appendix Table 7). Only a few of the smaller families preferred the gallon container.

Consumption of Selected Products

Cream

Although many families used cream for special occasions, less than 19 percent of the households reported using cream regularly. This use was directly related to income (Appendix Table 8). The percentage of households using cream was lowest for families with \$1,000 or less income. About 7 percent of these families used cream. The percentage increased with income up to 33 percent of the households, with incomes over \$6,000 reporting the regular use of cream.

The average consumption for all households using cream was 1.2 pints per week (Table 16). Half-and-half was used in the majority of these households.

Cottage Cheese

Over 57 percent of the households in the study used cottage cheese during the seven-day period prior to the interview. The per family cottage cheese consumption of these families was 19 ounces or about 1½ 12-ounce cartons each week (Table 16). The use of cottage cheese

TABLE 16.—Weekly Consumption of Selected Milk Products and Substitutes by Sample Households; Oklahoma City, March-April, 1955.

Product	Users		Total Quantity	Average Consumption**
	Number	Percentage*		
Cream	149	18.2	179 pts.	1.2 pts.
Half & half	85	10.4	120 pts.	1.4 pts.
Coffee	35	4.3	33 pts.	0.9 pts.
Whipping	29	3.5	27 pts.	0.9 pts.
Cottage cheese	469	57.1	761 cartons†	1.6 cartons†
Ice cream	325	39.6	958 pts.	2.9 pts.
Ice milk	27	3.3	81 pts.	3.0 pts.
Mellorine	132	16.1	545 pts.	4.1 pts.
Butter	219	26.7	234 lbs.	1.1 lbs.
Oleomargarine	680	82.8	913 lbs.	1.3 lbs.

* Percentage of the total number of households in the study.

** Average quantity consumed by each family using this product.

† Cartons were standardized at 12 ounces net wt.

increased directly with family income. About 39 percent of the lowest income families used cottage cheese as compared with about 72 percent of the families in the highest income group.

Ice Cream, Ice Milk and Mellorine

About 40 percent of the families reported using an average of 2.9 pints of ice cream each week (Table 16). The proportion of families using ice cream was directly related to family income. About one-fourth of the lower income families reported using ice cream. This proportion increased with income up to one-half for the highest income families.

Very few families used ice milk, a relatively new product to the consumers. About 9 percent of the consumers in the highest income group reported the regular use of ice milk, but the percentage was 5 or less for the other income groups. Families in the survey with incomes below \$1000 did not report any use of ice milk. For those consumers using ice milk, the average consumption was 3.0 pints or about the same as reported for ice cream consumers.

About 16 percent of the families reported the regular use of mellorine or a similar frozen dessert. Moreover, the average consumption of mellorine was higher than ice cream at 4.1 pints per week. For families with incomes above \$2,400 per year, the percentage using mellorine varied from 14 to 19. The greatest proportion of the families using mellorine was in the \$1,000 to \$2,400 family income group. About 23 percent of these families used mellorine. Only 2 percent of the families with incomes under \$1,000 reported using any mellorine.

Butter and Oleomargarine

Of the 821 families in the study, only about one-fourth reported using butter in the week just preceding the interview (Table 16). The proportion of the families using butter was somewhat less for families with incomes below \$2,400 than it was for families with incomes above \$2,400, but the difference was small. Between 21 and 23 percent of the lower income families used butter, as compared with 25 to 35 percent of the middle and higher income families.

The average weekly consumption of butter per family was 1.1 pounds. Consumption varied from 1.0 pounds for the lower to middle income groups to 1.2 pounds for the higher income groups.

About 83 percent of the families said they used oleomargarine (Table 16). There appeared to be very little relationship of family income with the proportion of families using oleomargarine, except for the highest and the lowest income groups. Relatively fewer consumers with family incomes above \$6,000 used oleomargarine than consumers with incomes from \$1,000 to \$6,000. In the lowest income group (below \$1,000) only about 70 percent of the families used oleomargarine. This was lower than for any other income group and reflected in part the fact that some families in this income level do not use either butter or oleomargarine.

The weekly consumption of oleomargarine per family averaged 1.3 pounds. The average increased from 1.1 pounds per week for families with incomes below \$1,000 to 1.5 pounds per week for families with annual incomes between \$3,600 and \$4,800. For families with incomes above \$4,800 per year the average consumption declined to 1.3 pounds per week.

APPENDIX TABLE 1.—Weekly Consumption* of Buttermilk and Chocolate Milk; Oklahoma City, March-April, 1955.

Income Group	Buttermilk			Chocolate Milk		
	Consumers	Quantity	Average	Consumers	Quantity	Average
Under \$1,000	9	14	1.6	1	2	2.0
\$1,000-2,399	62	114	1.8	11	14	1.3
\$2,400-3,599	103	178	1.7	18	34	1.9
\$3,600-4,799	73	148	2.0	8	30	3.8
\$4,800-5,999	46	88	1.9	5	12	2.4
\$6,000 and over	41	70	1.7	3	4	1.3
Totals	334	609	--	46	96	--
Weighted Avgs.	---	---	1.8	--	--	2.1

* Quantities and averages are tabulated in quarts.

APPENDIX TABLE 2.—Quantity of Milk Drunk Daily by Individuals in Sample Households, by Age and Sex; Oklahoma City, March-April, 1955.

For Ages 1 through 20 years		
<i>Female</i>		<i>Male</i>
$Y = 3.459 - 0.0697 X$		$Y = 3.582 - 0.0269 X$
$Sy.x = 1.625$		$Sy.x = 1.852$
$t = 5.2406^*$ with $n = 456$		$t = 1.4944$ with $n = 375$
For Ages 21 through 70 years and over:		
Average Number of Standard Glasses of Milk Drunk Per Day		
<i>Age</i>	<i>Female</i>	<i>Male</i>
21-29	1.7	2.7
30-39	1.5	2.0
40-49	1.3	2.5
50-59	1.9	2.1
60-69	1.7	2.2
70-Over	2.2	2.4

* Significant at the 99% level.

APPENDIX TABLE 3.—Consumers Reporting Belief that Fresh Whole Milk Is Fattening; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of Total**	Pct. of Group†
	1	2	3	4	5	6			
1	11	19	11	2	0	1	44	10.1	49.4
2	5	23	42	31	22	29	152	35.0	58.7
3	0	16	41	22	6	12	97	22.4	57.4
4	1	10	20	28	17	7	83	19.1	52.4
5 & 6	0	6	11	15	11	5	47	11.1	39.3
7-over	0	3	4	3	0	0	10	2.3	41.7
Totals	17	77	129	101	56	54	434	---	---
Percentages of:									
Total**	3.9	17.7	29.7	23.4	12.9	12.4	---	100.0	---
Group†	38.6	53.1	55.6	54.9	47.9	54.5	---	---	52.9

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households who believe fresh whole milk is fattening.

† Percentage of the total number of households in this income group or family size.

APPENDIX TABLE 4.—Consumer Preference for Frequency of Purchasing Fresh Fluid Milk; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer- ers**	Pct. of total in group†
	1	2	3	4	5	6			
				Every	Other	Day			
1	0	8	0	1	0	0	9	8.1	10.1
2	2	7	13	7	3	3	35	31.5	13.5
3	0	8	11	6	5	5	35	31.5	20.7
4	0	1	5	6	5	2	19	17.1	12.0
5 & 6	0	1	1	5	4	2	13	11.8	20.7
7-over	0	0	0	0	0	0	0	0.0	0.0
Totals	2	25	30	25	17	12	111	---	---
Percentages of:									
Pre-ferrers**	1.8	22.5	27.1	22.5	15.3	10.8	---	100.0	---
Group†	4.5	17.2	12.9	13.6	14.5	12.1	---	---	13.5
				Daily					
1	3	1	3	0	0	0	7	5.5	7.9
2	1	4	6	6	4	5	26	20.3	10.0
3	0	12	15	4	1	3	35	27.3	20.7
4	0	3	6	6	2	2	19	14.9	12.0
5 & 6	1	4	10	7	12	2	36	28.1	29.5
7-over	0	1	2	1	0	1	5	3.9	20.8
Totals	5	25	42	24	19	13	128	---	---
Percentages of:									
Pre-ferrers**	3.9	19.5	32.8	18.8	14.8	10.2	---	100.0	---
Group†	11.4	17.2	18.1	13.0	16.2	13.1	---	---	15.6

* (1) Under \$1,000. (2) \$1,000 to \$2,999. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring to purchase their milk at interval indicated.

† Percentage of the total number of households in this income group or family size.

APPENDIX TABLE 5.—Consumer Preferences of Milk Containers for Home Delivery and for Purchase at Stores; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer-ers**	Pct. of total in group†
	1	2	3	4	5	6			
Paper Container Delivered to Home									
1	8	13	4	3	0	0	28	10.9	31.5
2	2	19	27	15	11	16	90	35.0	34.7
3	0	18	23	8	9	11	69	26.8	40.8
4	0	4	9	8	8	7	36	14.0	22.8
5 & 6	0	5	5	7	11	2	30	11.7	24.6
7-over	0	2	0	2	0	0	4	1.6	16.7
Totals	10	61	68	43	39	36	257	---	---
Percentages of:									
Pre-ferrers**	3.9	23.7	26.5	16.7	15.2	14.0	---	100.0	---
Group†	22.7	42.1	29.3	23.4	33.3	36.4	---	---	31.3
Glass Container at the Store									
1	9	13	6	2	0	0	30	9.6	33.7
2	4	17	31	19	18	16	105	33.7	40.5
3	0	7	28	10	4	5	54	17.3	32.0
4	1	4	22	23	13	4	67	21.5	42.4
5 & 6	1	4	15	14	9	5	48	15.4	39.3
7-over	0	1	4	1	1	1	8	2.5	33.3
Totals	15	46	106	69	45	31	312	---	---
Percentages of:									
Pre-ferrers**	4.8	14.7	34.0	22.1	14.4	9.9	---	100.0	---
Group†	34.1	33.7	45.7	37.5	38.5	31.3	---	---	38.0

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring the indicated container.

† Percentage of the total number of households in this income group or family size.

APPENDIX TABLE 6.—Consumer Preferences Among Container Sizes When Milk Is Delivered to the Home; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer- rers**	Pct. of total in group†
	1	2	3	4	5	6			
Quart									
1	19	29	13	6	0	1	68	15.3	76.4
2	5	31	47	35	22	31	171	38.5	66.0
3	0	16	29	20	7	16	88	19.8	52.1
4	0	3	17	25	13	12	70	15.8	44.3
5 & 6	1	3	13	4	7	13	41	9.2	33.6
7-over	0	1	1	2	1	1	6	1.4	25.0
Totals	25	83	120	92	50	74	444	---	---
Percentages of:									
Pre-ferrers**	5.6	18.7	27.0	20.7	11.3	16.7	---	100.0	---
Group†	56.8	57.2	51.7	50.0	42.7	74.7	---	---	54.1
Half Gallon									
1	1	2	3	1	0	0	7	2.3	7.9
2	2	8	22	13	17	8	70	23.3	27.0
3	0	12	25	18	11	6	72	23.8	42.6
4	1	7	25	24	17	4	78	25.8	49.4
5 & 6	0	8	14	24	18	3	67	22.2	54.9
7-over	0	3	3	2	0	0	8	2.6	33.3
Totals	4	40	92	82	63	21	302	---	---
Percentages of:									
Pre-ferrers**	1.3	13.2	30.5	27.2	20.9	7.0	---	100.0	---
Group†	9.1	27.6	39.7	44.6	53.8	21.2	---	---	36.8
Gallon									
1	0	0	0	0	0	0	0	0.0	0.0
2	1	5	1	0	0	0	7	18.9	2.7
3	0	0	4	2	0	1	7	18.9	4.1
4	0	1	2	0	1	0	4	10.9	2.5
5 & 6	0	1	2	3	2	3	11	29.7	9.0
7-over	0	3	2	3	0	0	8	21.6	33.3
Totals	1	10	11	8	3	4	37	---	---
Percentages of:									
Pre-ferrers**	2.7	27.0	29.7	21.6	8.1	10.9	---	100.0	---
Group†	2.3	6.9	4.7	4.4	2.6	4.0	---	---	4.5

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring container of size indicated when milk is delivered.

† Percentage of the total number of households in this income group or family size.

APPENDIX TABLE 7.—Consumer Preference of One-gallon Size Container When Milk Is Not Delivered to the Home; Oklahoma City, March-April, 1955.

Family Size	Income Group:*						Totals	Pct. of prefer-rers**	Pct. of total in group†
	1	2	3	4	5	6			
1	0	0	0	0	0	0	0	0.0	0.0
2	1	5	1	0	0	0	7	23.3	2.7
3	0	0	4	1	0	1	6	20.0	3.6
4	0	1	2	1	1	0	5	16.7	3.2
5 & 6	0	1	3	2	1	0	7	23.3	5.7
7-over	0	1	2	2	0	0	5	16.7	20.8
Totals	1	8	12	6	2	1	30	---	---
Percentages of:									
Pre-ferrers**	3.3	26.7	40.0	20.0	6.7	3.3	---	100.0	---
Group†	2.3	5.5	5.2	3.3	1.7	1.0	---	---	3.7

* (1) Under \$1,000. (2) \$1,000 to \$2,399. (3) \$2,400 to \$3,599. (4) \$3,600 to \$4,799. (5) \$4,800 to \$5,999. (6) \$6,000 and over.

** Percentage of the total number of households preferring the one gallon size container.

† Percentage of the total number of households in this income group or family size.