

Per Capita Use of Dairy Foods

consumption of dairy products studied in relation to size of income, age, and number of persons in a family

Jessie V. Coles

The sixth and last of a series of reports on the consumption of dairy products in urban areas of California made co-operatively by the Department of Home Economics, University of California, California State Department of Agriculture, and United States Department of Agriculture under the authority of the Research and Marketing Act.

A one-week study of 425 representative families in Oakland and 513 families in Los Angeles revealed that the proportions of families using fluid milks did not vary much from one income group to another.

Consumption was measured, in this study, in terms of milk equivalent—the quantity of fluid milk to which the different dairy products, except butter, are equivalent in minerals and protein.

The proportions of the families using half and half, cottage cheese, American Cheddar cheese, ice cream, and butter tended to increase—and the proportions of families using evaporated milk tended to decrease—as size of income increased.

Size of Income

Families with annual incomes of less than \$3,000, after federal income taxes, used smaller quantities of dairy products, on the average, than families with incomes of \$3,000 and over.

Oakland families with annual incomes between \$3,000 and \$4,000 consumed larger quantities of dairy products than any other income group. These families consumed an average of 15.8 quarts per

household as compared with 14.5 quarts by all Oakland families in the study.

In Los Angeles the families with incomes between \$4,000 and \$6,000 used the largest quantities, with an average of 18.0 quarts as compared with 16.7 quarts consumed by all Los Angeles families.

The largest average quantities of fluid milks were used by the same income groups which consumed the largest quantities of all dairy products. When the whole milks—plain, homogenized, and multivitamin—were considered, the group with incomes between \$3,000 and \$4,000 in both cities had the highest average consumption.

The average quantities of half and half, cream—all types—cottage cheese, ice cream, and butter consumed per household were largest in the highest income groups.

In the case of American Cheddar cheese the largest average quantities in both cities were used by families with annual incomes between \$4,000 and \$6,000.

Consumption of evaporated milk was relatively high up to the \$4,000 income level, but in the higher income groups—in Oakland and in Los Angeles—smaller

average quantities were consumed than in the lower income groups.

In Oakland the group with the highest average consumption of all dairy products—\$3,000 to \$4,000 incomes—had 3.23 persons per family as compared with 2.93 for all families in the study.

In Los Angeles, a similar situation existed in that the income groups with the highest average consumption had the largest average number of persons per family.

The differences in consumption per person were much less pronounced when the lower income groups were compared with the higher income groups. There was, however, a tendency—except in the case of evaporated milk—for the average quantity consumed per person to increase as size of annual income increased.

Families with Children

When the families studied were divided into two groups—one with children under 16 years of age and the other without children under 16 years—a considerable difference in consumption between the two groups was quite evident.

In Oakland the families with children consumed an average of 19.8 quarts of all dairy products—except butter—in terms of milk equivalent, while those without children consumed an average of only 9.8 quarts. In Los Angeles families with children consumed an average of 20.5 quarts, but those without children used only 11.9 quarts.

Of the different dairy products, fluid milk showed the greatest difference in consumption by the two groups. In Oakland the families with children consumed over twice as much fluid milk as those without children,—14.5 quarts as compared with 6.3 quarts. In Los Angeles the difference was almost as great, 14.6 quarts as compared with 7.4 quarts.

Families with children consumed larger average quantities of other dairy products—evaporated milk, American Cheddar cheese, and ice cream—than families without children but the differences were not nearly so large as in the case of fluid milk.

Average Quantities of Dairy Products Consumed per Household in Seven Days According to Size of Family Incomes

	All incomes		Annual income class (after Federal income taxes)									
			Under \$2,000		\$2,000-2,999		\$3,000-3,999		\$4,000-5,999		\$6,000 and over	
	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.
Av. no. 21-meal equiv. persons ..	2.93	2.98	2.50	2.25	2.86	2.76	3.23	3.23	2.95	3.08	2.74	3.01
All dairy products* ..	14.5	16.7	10.8	12.7	12.9	14.5	15.8	17.2	15.2	18.0	14.2	17.9
Fluid milk ..	10.1	11.5	7.7	9.3	9.1	9.1	11.8	12.1	10.3	12.4	9.7	12.1
Plain, homo., and multi-vitamin ..	9.2	10.0	6.6	7.3	8.1	8.2	11.3	11.0	9.4	10.9	8.4	10.7
Half and half ..	0.6	0.9	0.5	0.6	0.7	0.6	0.3	0.8	0.6	1.0	0.9	1.2
Cream	0.2	0.2	**	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4
Evap. milk ..	1.1	0.9	1.3	0.9	0.9	1.6	1.3	1.0	0.9	0.7	0.6	0.4
Cottage cheese ...	0.7	0.9	0.4	0.6	0.6	0.9	0.5	0.8	0.8	1.1	0.9	1.1
Am. Ched. cheese ...	0.4	0.5	0.2	0.3	0.3	0.5	0.4	0.5	0.5	0.6	0.4	0.5
Ice cream ..	0.7	0.7	0.4	0.3	0.5	0.5	0.6	0.6	0.9	0.9	0.9	1.1
Butter	0.5	0.5	0.2	0.5	0.4	0.4	0.4	0.4	0.6	0.5	0.9	0.9

* Milk equivalent.

** Less than 0.1 lb.

Oakland families with children averaged 3.82 persons and Los Angeles families averaged 3.64 persons.

The average sizes of the groups without children were 2.15 persons in Oakland and 2.13 persons in Los Angeles.

When the consumption per person in the two groups was compared, the differences became less pronounced for all dairy products as a group and for fluid milk. Oakland families with children consumed—all dairy products—an average of 5.19 quarts in milk equivalent per person; those without children consumed 4.56 quarts. In Los Angeles the quantities were 5.63 and 5.58 quarts respectively. An average of 3.79 quarts of fluid milk were used per person by families with children in Oakland, and 2.94 quarts by those without children. In Los Angeles the respective quantities were 4.02 and 3.47 quarts.

For all other dairy products, except evaporated milk in Oakland, the families without children—in both cities—consumed on the average as much as or more per person than those with children. This was true with a few exceptions, regardless of the income group in which the families fell.

The effect of age of family members on consumption was indicated when families were classified according to age of head. In Oakland 35% of the families in which the head was under 30 years, and in Los Angeles 45%, consumed six or more quarts in milk equivalent per person during the week. About 25% of the families in Oakland and about 35% of those in Los Angeles in which the head was 60 years or more consumed this much per person. Conversely the proportions of the families using less than three quarts per person was about two times as large in groups with the older heads as in those with the younger heads.

The influence of children in a family on the consumption of dairy products was also studied by classifying the families with two adults according to those having one, two, or three children under 16 years.

The average consumption per family of all dairy products combined in terms of milk equivalent was from 2½ to three times as high in families with three children as those without children. Fluid milk consumption was from three to four times as high in families with three children. The average consumption of evaporated milk was from 2½ to 3½ times as high; that of cottage cheese and American Cheddar cheese was less than double, while for ice cream the consumption was about twice as high. The average consumption of butter was only slightly higher in the larger families while that of half and half was lower.

The average consumption per person for most of the products other than fluid milk was lower in the families with one, two, or three children than in those with two adults only. In Oakland the average consumption per person of evaporated milk was higher in families with three children than in those with two adults only but in Los Angeles it was about equal. The consumption of cottage cheese and American Cheddar cheese was lower in the families with children, decreasing with the addition of each child. The average consumption of butter per person in families with three children was only one half that of Oakland families with no children and only about one fifth as much in Los Angeles. The consumption of ice cream per person was also lower in the families with three children than in families without children.

Jessie V. Coles is Professor of Home Economics, University of California, Berkeley.

Average Quantities of Dairy Products Consumed per Person† in Seven Days According to Size of Family Income

	Annual income class (after Federal income taxes)											
	All income		Under \$2,000		\$2,000-2,999		\$3,000-3,999		\$4,000-5,999		\$6,000 and over	
	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.	Oak.	L. A.
All dairy products*	4.9	5.6	4.3	5.6	4.5	5.3	4.9	5.3	5.1	5.8	5.2	6.0
Fluid milk ..	3.5	3.8	3.1	4.1	3.2	3.3	3.6	3.8	3.5	4.0	3.5	4.0
Plain, homo., and multi-vitamin ..	3.2	3.4	2.6	3.3	2.8	3.0	3.5	3.4	3.2	3.5	3.1	3.6
Half and half	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.4
Cream	0.1	0.1	**	0.1	**	0.1	**	0.1	0.1	0.1	0.1	0.1
Evap. milk ..	0.4	0.3	0.5	0.4	0.3	0.6	0.4	0.3	0.3	0.2	0.2	0.2
Cottage cheese ...	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.4	0.3	0.4
Am. Ched. cheese ...	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2
Ice cream ..	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4
Butter	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3

† One person = 21 meals at home.

* Milk equivalent.

** Less than 0.1 lb.

WALNUTS

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to determine whether this had any influence on the control obtained.

The DDT treatments outperformed DDT-standard lead arsenate combinations or standard lead arsenate alone, and the low-volume treatments were as effective as the higher ones. The DDT-standard lead arsenate combination proved to be slightly more effective than standard lead arsenate alone but none of these treatments approached the effectiveness of DDT when used alone.

The conclusion of the tests were confirmed by a grower who compared, on a commercial scale, the DDT-standard lead arsenate combination with DDT alone. Where the former was applied 3.9% of the nuts in the harvested crop were infested while only 0.3% were infested where the DDT was applied.

Spider Mites and Aphid

There was no evidence that any of the mixtures used for the control of the codling moth resulted in any noticeable increase in spider mites. This is in confirmation of the experimental investigations of preceding years which have shown there is little likelihood of the codling moth spray increasing the spider mite problem if DDT is used in a relatively low concentration.

Walnut aphid populations, however, are likely to increase at the concentration at which DDT is used in the codling moth spray. An effective aphicide should always be incorporated in the codling moth spray.

Arsenical Leaf-Burn

Under special conditions arsenical burn to walnut foliage can be expected where standard lead arsenate is applied. It was observed during the past season for the first time in northern California—in experimental blocks at San Jose—where standard lead arsenate alone, and a combination standard lead arsenate-DDT spray had been used. The treatments were applied with an air carrier sprayer and in no case was a safener added.

The injury was confined to the north side of the trees and limited to an arc on the trees which had been wetted during sprinkler irrigation of the orchard. The burn caused no serious tree injury because of the limited area covered.

A. E. Michelbacher is Associate Professor of Entomology, University of California, Berkeley.

O. G. Bacon is Assistant Professor of Entomology, University of California, Berkeley.

W. H. Wade is Research Assistant in Entomology, University of California, Berkeley.