

DIETS OF LOW-INCOME FAMILIES IN CLEVELAND, DETROIT, AND SYRACUSE¹

by DOROTHY G. WIEHL

THE average weekly food supply of families in various low-income groups and of families dependent on relief is presented in this report for about three hundred families in Cleveland, Detroit, and Syracuse. The families were selected at random from those living in the poorer neighborhoods of these cities and were visited by special enumerators who questioned the informant about the food bought and amounts used during one week. In all three cities, the data were collected between April 24th and May 15th. The amount of wages or other income and the sources of income were obtained also for the week for which the food supply was recorded. After classifying the families according to their weekly income per person, the average quantity of various foods or groups of foods was computed for the families in each income group. The quantities represent the family food supply, some of which will be wasted. But no allowance for waste has been made in calculating the average diet and calories because waste is such a variable factor in households and some allowance for waste or margin of safety is included in standards for adequate diet.

The numbers of families in the various income classes in each city are small and may not be entirely typical of fami-

¹From the Division of Research, Milbank Memorial Fund, and the Office of Statistical Investigation, United States Public Health Service.

This is the second in a series of reports on diets reported by low-income families in nine cities. The first report was on New York City and was published in this *Bulletin*, October, 1933. The data were collected as one part of the study on the health of wage-earning families made by the United States Public Health Service and the Milbank Memorial Fund. The general purpose of the complete study, its other phases and the method were described in the *Quarterly Bulletin* for October, 1933.

WEEKLY INCOME PER CAPITA	NUMBER OF FAMILIES	NUMBER OF PERSONS	NUMBER OF EQUIVALENT ADULT MALES	CALORIES PER DAY PER ADULT MALE
Relief families	38	220	167.9	2,320
Less than \$2.00	17	121	100.1	2,390
\$2.00-\$2.99	16	84	72.1	2,710
\$3.00-\$3.99	12	66	52.8	3,200
\$4.00 or more	23	86	70.3	3,380

Table 6. Average calories per day per equivalent adult male in a week's food supply of families of different economic status in Cleveland, Ohio.

lies of similar incomes in the same city. Any comparisons between cities, therefore, should be made with great caution.

CLEVELAND

In Cleveland, diet records were obtained for 106 families. One-third of them received grocery orders from the Associated Charities and the remaining two-thirds were not the recipients of relief during the week for which the food supply was recorded. In about fifty per cent of the families both husband and wife were foreign-born and this proportion held for both relief and non-relief families. Either husband or wife was foreign-born in another 14 per cent of the families, and both were native-born in 38 per cent of the families. One-half of the foreign-born were from Czechoslovakia, Hungary, or Yugoslavia and the remainder from various countries, including Poland, Germany, Finland, and Ireland.

Calories in Diets of Different Income Groups. The average calories per day per equivalent adult male² in the diets reported by families of each income class is shown in Table 6.

A diet fully adequate in energy value was reported by

²The method of computing the equivalent adult males in a family or group was given in detail in the first report. An adult male aged 18 to 59 years is taken as 100 per cent and relative allowances for other persons are made according to the scale of energy and protein requirements of each sex at different ages compiled by the Bureau of Home Economics of the United States Department of Agriculture.

families with a weekly income of \$3.00 or more per person per week. The average number of calories in the food supply reported by families with \$2.00 to \$3.00 per person was about 10 per cent below the accepted standard of 3,000 calories daily per adult male; and the calories yielded by the diets of families with less than \$2.00 per person and also by the diets of relief families were between 2,300 and 2,400 calories or 20 per cent below this standard. In restricted diets for marginal requirements, the allowance for energy value is about 2,700 calories per day for moderately active persons.

Kinds of Foods Purchased. The average supply of each general group of foods and of certain specific foods or classes of foods is given in Table 7 and compared with amounts recommended for an adequate balanced diet, according to modern standards of nutrition. Certain variations and substitutions obviously are possible, but these standard diets are valuable as a guide in evaluating the diets reported. Careful study of Table 7 will give much information concerning the adequacy of certain foods in the diet and the food habits of these families which probably are typical of large groups of the population in similar economic conditions. A few general indications may be referred to.

For families with \$4.00 or more per person per week the average consumption of each major group of foods, such as milk, meat and eggs, fats, cereals, sugars, and vegetables and fruits, equalled or exceeded the allowance in the adequate low-income diet.

Families with \$3.00 to \$4.00 per week, for which the energy value of the diet was adequate, used somewhat less than the recommended minimum quantity of milk and very much less of vegetables other than potatoes, and more than suggested amounts of meat and eggs, cereals, and sugars.

Families in the two low-income classes reported diets which

TYPE OF FOOD	POUNDS PER WEEK PER ADULT MALE						
	Standard Low Income ¹	Relief Fami- lies	Weekly Income Per Capita				
			Under \$2.00	\$2.00- \$2.99	\$3.00- \$3.99	\$4.00 or More	
<i>Protein Foods</i>							
Milk—quarts	4.5- 5.2	3.08	2.29	2.46	3.71	4.49	
Total meats, etc.	1.5- 2.0	1.93	2.05	2.74	3.02	3.75	
Meat, fowl, and fish	1.0- 1.5	1.01	1.32	1.78	1.95	2.60	
Eggs	.2- .3	.76	.68	.86	.85	1.01	
Cheese	.25	.16	.05	.10	.22	.14	
<i>Fats and Fat Foods—Total</i>	.8- 1.0	.72	.70	.65	.95	1.09	
Lard and subst. fats	.3	.64	.33	.39	.42	.50	
Bacon and pork sausage	.3	.06	.06	.03	.21	.11	
Butter	.3	.02	.28	.23	.31	.45	
Cream			.03		.01	.03	
<i>Cereal Foods—Total</i>	5.0- 6.0	3.43	4.75	5.33	6.53	5.99	
Flour and cereals		2.78	2.62	2.65	3.31	1.99	
Bread		.64	2.01	2.57	3.04	3.85	
Cakes and pastry		.01	.12	.11	.18	.15	
<i>Sugary Foods—Total</i>	.8- 1.3	1.37	1.40	1.60	1.46	1.45	
Sugar and candy	.3- .6	1.04	1.22	1.37	1.30	1.28	
Syrup and molasses	.6	.14	.05		.06	.04	
Jelly and preserves		.18	.12	.20	.08	.12	
Cocoa		.01	.01	.03	.02		
<i>Vegetables and Fruits—Total</i>	8.8-10.0	7.07	6.77	7.66	8.05	11.85	
Potatoes	3.5	3.48	4.03	4.30	4.07	4.44	
Tomatoes, canned—fresh	1.5	.54	.15	.20	.10	.43	
Green leafy vegetables	1.0- 1.3	.77	.41	.48	.60	1.08	
Other veg., canned—fresh	1.5- 1.8	.71	.60	.45	.86	1.61	
Dried vegetables	.3- .6	.26	.05	.12	.11	.11	
Fruits, canned—fresh	1.0	1.08	1.44	1.96	2.21	4.06	
Fruits, dried	.3	.23	.09	.15	.10	.17	

¹Derived from data in Miscellaneous Publication No. 113, of the United States Department of Agriculture, April, 1931. Hazel K. Stiebeling and Miriam Birdseye: Adequate Diets for Families with Limited Incomes. The quantities given are sufficient for average requirements for maintenance and growth and furnish some margin of safety.

Table 7. Average weekly supply of various foods per adult male reported by families on relief and by non-relief low-income families in Cleveland, Ohio, 1933.

were on the average 40 to 50 per cent deficient in milk, and about 70 per cent deficient in vegetables other than potatoes, according to the standard for adequate amounts. The consumption of fruit was somewhat above the allowance in the standard diet but not high enough to offset the low consumption of vegetables. These families with very limited money to spend on food had relatively large amounts of sugar, meat and eggs, bread and cereals, used very little dried vegetables or fruits, and reduced the consumption of the "protective" foods, such as milk, green leafy vegetables, and tomatoes to a very low level.

The families receiving grocery orders reported a diet low in all food groups except sugars and meat, fish and eggs but containing more of the "protective" foods than the lowest income families not on relief and therefore with no restrictions in choice of foods. The milk supply of the relief families averaged 30 per cent less than the minimum for an adequate diet and the supply of vegetables other than potatoes about 50 per cent less than the minimum. The consumption of bread, flour, and cereals is unusually low for this type of family, and may be the result of the fact that they were not allowed to buy bread on their food orders. Sacks of flour were distributed to the families, usually bi-weekly or monthly, and it is possible that some families failed to report the use of flour left over from the preceding week. It seems more probable, however, that most of the eleven families which reported neither bread nor flour previously had used all the flour.

Consumption of Milk. The distribution of families according to their weekly milk supply is shown in Table 8. Two-thirds of the families with an income of \$3.00 or more per person bought six quarts of fresh milk or its equivalent weekly for each child 16 years of age or less, but only one-third of the families with \$2.00 to \$3.00 a week had this much milk. One-

fourth of the families in the lowest income class and of those on relief had six quarts or more per child. Two-fifths of the families in the lowest income class and one-fifth of the relief families had less than three quarts per week for each child.

DETROIT

For 91 families in Detroit, the food supply reported for a week has been tabulated according to the income of the family. One-third of the families were dependent on relief and, except for seven families on work relief, they received food orders. Both husband and wife were foreign-born in 50 per cent of the families, one or the other was foreign-born in 10 per cent, and both were native-born in 40 per cent of the families. The proportion of foreign-born families was a little higher (60 per cent) in the relief group than in the higher income non-relief group (40 per cent of the \$3.00 or more per person per week group). Many nationalities were represented among the foreign-born, with Italians, Russians, and Poles comprising about 40 per cent of the total foreign-born.

Calories in Diets of Different Income Groups. The average food supply reported by the families in each income class was fully adequate or reasonably adequate to provide the calories

Table 8. Quarts of milk¹ per week per person 16 years of age or less purchased by families in various low-income classes in Cleveland, Ohio.

WEEKLY INCOME PER CAPITA	NUMBER OF FAMILIES	PER CENT OF FAMILIES USING SPECIFIED NUMBER OF QUARTS				
		Any Number	0.1-2.9	3.0-5.9	6.0-8.9	9.0 or More
Relief families	38	100.1	21.1	52.6	21.1	5.3
Less than \$2.00	17	100.0	41.2	35.3	23.5	0
\$2.00-\$2.99	16	100.1	18.8	50.0	6.3	25.0
\$3.00 or more	33 ²	100.1	6.1	27.3	27.3	39.4

¹Includes fluid milk and equivalent amounts of evaporated and condensed milk.

²Two families in this income class had no children under 17 years of age.

WEEKLY INCOME PER CAPITA	NUMBER OF FAMILIES	NUMBER OF PERSONS	NUMBER OF EQUIVALENT ADULT MALES	CALORIES PER DAY PER ADULT MALE
Relief—Food orders	30	169	136.5	2,900
Under \$2.00	16	103	79.5	2,630
\$2.00—\$2.99	12	56	45.5	3,040
\$3.00—\$3.99	15	90	71.5	3,320
\$4.00 or more	18	88	71.7	3,540

Table 9. Average calories per day per equivalent male unit in a week's food supply of families of different economic status in Detroit, Michigan.

needed by moderately active persons. The average calories per day per equivalent adult male are shown in Table 9. The families on relief³ reported food yielding 2,900 calories per adult male or very close to the standard of 3,000 calories for adequate energy value. The families with less than \$2.00 per person per week had a diet yielding 2,630 calories per day.

Kinds of Food Purchased. The food selection by families in the various income groups is shown in Table 10, which gives the average quantity of various foods. The diet of the higher income families contained liberal amounts of all foods except milk, and vegetables other than potatoes. These "protective" foods were used in minimal amounts. The diet of the lowest income families and the relief families contained adequate amounts of all foods except milk and vegetables. The average consumption of milk was 40 to 50 per cent less than the amount recommended for low-income diets, and the use of all vegetables other than potatoes was about 25 per cent below the minimum quantity recommended.

Consumption of Milk. The milk supply for children under 17 years of age for families of different incomes is shown in Table 11. The use of milk increased greatly when income was

³Diets of families on home-relief and on work-relief are not shown separately because the seven work-relief families had a food supply very similar to that of the home-relief families.

TYPE OF FOOD	POUNDS PER WEEK PER ADULT MALE					
	Standard Low Income ¹	Relief Fami- lies	Weekly Income Per Capita			
			Under \$2.00	\$2.00- \$2.99	\$3.00- \$3.99	\$4.00 or More
<i>Protein Foods</i>						
Milk, fresh and canned, qts.	4.5- 5.2	2.59	2.14	2.98	3.12	3.15
Total meat, eggs, cheese	1.5- 2.0	2.32	2.64	2.69	3.81	4.10
Meat, fowl, and fish	1.0- 1.5	1.32	1.97	1.63	2.80	2.86
Eggs	.2- .3	.89	.50	.99	.90	1.03
Cheese	.25	.11	.17	.07	.11	.21
<i>Fats and Fat Foods—Total</i>	.8- 1.0	1.12	.85	1.29	1.18	1.40
Lard and substitutes	.3	.72	.56	.71	.61	.56
Bacon and pork sausage	.3	.14	.07	.34	.18	.23
Butter	.3	.26	.22	.24	.38	.56
Cream					.01	.05
<i>Cereal Foods—Total</i>	5.0- 6.0	5.65	5.29	5.55	5.27	6.22
Flour and cereals		2.39	2.64	2.42	2.49	2.41
Bread		3.20	2.55	2.91	2.80	3.49
Cakes and pastry		.06	.10	.22	.28	.32
<i>Sugary Foods—Total</i>	.8- 1.3	1.30	1.02	1.21	1.63	1.73
Sugar and candy	.3- .6	1.06	.86	1.02	1.31	1.31
Syrup and molasses	.6	.11	.12	.08	.15	.18
Jelly and preserves		.11	.03	.09	.13	.19
Cocoa		.02	.01	.02	.04	.04
<i>Vegetables and Fruits—Total</i>	8.8-10.0	8.54	7.63	10.49	10.91	9.63
Potatoes	3.5	4.59	3.96	4.23	4.38	3.82
Tomatoes, canned—fresh	1.5	.47	.57	.59	.54	.45
Green leafy vegetables	1.0- 1.3	.62	.57	1.14	1.17	1.07
Other veg., canned—fresh	1.5- 1.8	1.20	1.19	1.45	1.68	1.35
Dried vegetables	.3- .6	.19	.05	.24	.15	.08
Fruits, canned—fresh	1.0	1.31	1.16	2.75	2.85	2.70
Fruits, dried	.3	.16	.13	.09	.14	.15
<i>Miscellaneous</i>		.01	.03	.01	.03	

¹See footnote to Table 7.

Table 10. Average weekly supply of various foods per adult male reported by families on relief and by non-relief low-income families in Detroit, Michigan.

more adequate and slightly over 50 per cent of the families with \$3.00 a week had six quarts or more per week for each child, while not quite 20 per cent of those with less than \$2.00 per week had six quarts per child. A considerably larger proportion of the relief families had three quarts or more weekly for each child than of the lowest income families. Nevertheless, the children in one-fourth of the relief families and the children in three-fourths of the lowest income families had less than three quarts of milk.

SYRACUSE

Data on the food supply of 98 families in Syracuse were collected and tabulated according to the economic status of the family. There were 42 families receiving relief of which 26 were on emergency work relief and received a wage and 16 received food orders. In about 40 per cent of the families both husband and wife were foreign-born, in 20 per cent either husband or wife were foreign-born and in 40 per cent both were native-born. Slightly more than one-half of the foreign-born were Italians, and another one-fourth were from Russia or Poland. There were proportionately more of the native-born families in the relief group and in the relatively high income group than in the lower income groups.

Table 11. Quarts of milk¹ per week per person 16 years of age or less purchased by families in various low-income classes in Detroit, Michigan.

WEEKLY INCOME PER CAPITA	NUMBER OF FAMILIES	PER CENT OF FAMILIES USING SPECIFIED NUMBER OF QUARTS				
		Any Number	0.1-2.9	3.0-5.9	6.0-8.9	9.0 or More
Relief families	30	100.0	26.7	53.3	16.7	3.3
Less than \$2.00	16	100.1	43.8	37.5	12.5	6.3
\$2.00-\$2.99	12	99.9	8.3	75.0	8.3	8.3
\$3.00 or more	33	99.9	9.1	33.3	33.3	24.2

¹Includes fluid milk and equivalent amounts of evaporated and condensed milk.

WEEKLY INCOME PER CAPITA	NUMBER OF FAMILIES	NUMBER OF PERSONS	NUMBER OF EQUIVALENT ADULT MALES	CALORIES PER DAY PER ADULT MALE
Relief—Food orders	16	85	64.8	2,300
Relief—Wage	26	163	122.2	2,860
Under \$2.00	17	112	86.4	2,680
\$2.00—\$2.99	12	70	55.0	2,690
\$3.00—\$3.99	5	23	18.0	3,130
\$4.00 or more	22	90	71.8	3,430

Table 12. Average calories per day per equivalent adult male in a week's food supply of families of different economic status in Syracuse, New York.

Calories in the Diets of Different Income Groups. The calories afforded by the average diet of families in various income groups are shown in Table 12. For families on food relief, the calories averaged 2,300 per adult male per day or about 23 per cent below the standard of 3,000 calories for energy requirements. Families on work relief reported a diet only about 5 per cent low in calories. The energy value of the diets of families with less than \$3.00 per person per week was about 10 per cent below the 3,000 calories recommended as a minimum and that of families on higher incomes was above this standard.

Kinds of Food Purchased. A general indication of the balance in the diet of families in different income classes and of the adequacy of the supply of certain foods may be obtained from Table 13 in which is shown the average supply of various groups of foods.

The home-relief families reported a diet somewhat lower in the quantity of all major foods except sugar, eggs, and potatoes than the minimum allowance in the adequate low-income diet. The consumption of milk by this group was 20 per cent lower than that recommended for adequate diets but it was much higher than that by the work-relief families or by other low-income families. This relatively high consumption of milk,

TYPE OF FOOD	POUNDS PER WEEK PER ADULT MALE						
	Standard Low Income ¹	Home Relief	Work Relief	Weekly Income Per Capita			
				Less than \$2.00	\$2.00- \$2.99	\$3.00- \$3.99	\$4.00 or More
<i>Protein foods</i>							
Milk—qts.	4.5- 5.2	3.58	2.76	2.42	2.40	3.40	3.57
Total meat, etc.	1.5- 2.0	1.21	2.15	1.84	2.81	3.36	4.18
Meat, fowl, fish	1.0- 1.5	.75	1.54	1.08	1.84	2.05	2.81
Eggs	.2- .3	.38	.53	.62	.82	1.17	1.17
Cheese	.25	.08	.08	.14	.15	.14	.20
<i>Fats and Fat Foods—Total</i>	.8- 1.0	.75	.94	.93	1.01	1.01	1.51
Lard and subst.	.3	.26	.56	.67	.67	.52	.52
Bacon and pork sausage	.3	.07	.05	.02	.04	.05	.18
Butter	.3	.42	.31	.24	.30	.44	.59
Cream			.02				.21
<i>Cereal Foods—Total</i>	5.0- 6.0	4.66	5.52	5.47	4.83	6.19	5.92
Flour and cereals		1.85	2.80	2.54	2.69	1.74	2.65
Bread		2.71	2.54	2.86	2.08	4.30	2.93
Cakes and pie		.10	.18	.07	.06	.15	.34
<i>Sugary Foods—Total</i>	.8- 1.3	.83	1.29	1.21	.98	1.25	1.34
Sugar and candy	.3- .6	.79	1.21	1.06	.90	1.17	1.18
Syrup and honey		.02	.04	.02			.05
Jelly and preserves			.01	.04	.03		.09
Cocoa		.02	.03	.09	.05	.08	.02
<i>Vegetables and Fruits—Total</i>	8.8-10.0	7.50	8.84	8.70	8.75	8.23	10.91
Potatoes	3.5	4.02	5.90	5.12	3.68	4.38	3.57
Tomatoes, canned—fresh	1.5	.67	.41	.44	.35	.67	.75
Green leafy vegetables	1.0- 1.3	.75	.74	.80	.66	.83	1.20
Other veg. canned—fresh	1.5- 1.8	1.10	.62	.48	1.51	.29	1.38
Dried vegetables	.3- .6	.21	.18	.16	.19	.17	.08
Fruits—canned or fresh	1.0	.64	.87	1.68	2.34	1.78	3.83
Fruits—dried	.3	.11	.12	.02	.02	.11	.10
<i>Miscellaneous</i>		.07	.07	.02	.05		.02

¹See footnote to Table 7.

Table 13. Average weekly supply of various foods per adult male reported by families on relief and by non-relief low-income families in Syracuse, New York, 1933.

together with a fairly good supply of tomatoes and leafy vegetables gives this diet a balanced although low nutritive value.

The work-relief families had a diet adequate in most foods but low in milk and in vegetables, except potatoes, and fruits,

WEEKLY INCOME PER CAPITA	NUMBER OF FAM- ILIES ²	PER CENT OF FAMILIES USING SPECIFIED NUMBER OF QUARTS				
		Any Number	0.0-2.9	3.0-5.9	6.0-8.9	9.0 or More
Home-relief	13	100.1	15.4	46.2	23.1	15.4
Work-relief (wage)	24	100.0	20.8	75.0	4.2	0
Less than \$2.00	16	100.0	43.7 ³	43.7	6.3	6.3
\$2.00-\$2.99	11	100.0	27.3	54.5	18.2	0
\$3.00 or more	22	99.9	4.5	50.0	22.7	22.7

¹Includes fluid milk and equivalent amounts of evaporated and condensed milk.

²Twelve families had no children under 17 years of age.

³One family in this income class had no milk, all families in other classes had some milk.

Table 14. Quarts of milk¹ per week per person 16 years of age or less purchased by families in various low-income classes in Syracuse, New York.

and therefore not well provided with the protective foods most useful in maintaining good nutrition, especially for children.

The low-income families not receiving relief had a diet similar to that of the work-relief families but somewhat lower in the amount of milk.

Families with \$4.00 or more per person per week had a liberal amount of all foods except milk and vegetables and these were represented fairly well in the diet.

Consumption of Milk. The proportion of families of different income using various amounts of milk is shown in Table 14. This table brings out more specifically than Table 13 that the home-relief families were generally well supplied with milk and that only families with \$3.00 or more per person were as adequately supplied. The work-relief families used more milk than the non-relief families of corresponding low income⁵ but among non-relief families the use of milk increased definitely with income.

⁵The average income of work-relief families was \$1.75 per person per week.