Household Food Consumption Survey 1955
Report No. 16

DIETARY EVALUATION of FOOD USED in HOUSEHOLDS in the UNITED STATES

U. S. DEPARTMENT OF AGRICULTURE Washington, D. C.

Dietary Evaluation of Food Used in Households in the United States

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PREFACE

The nationwide survey of household food consumption on which this report is based was made in April-June 1955 by the Agricultural Research Service and the Agricultural Marketing Service of the U. S. Department of Agriculture. The work was conducted in the Agricultural Research Service by the Household Economics Research Division and in the Agricultural Marketing Service by the Market Development Research Division and the Agricultural Economics Division. The data were collected and tabulated by National Analysts, Inc., under contract with the Department.

The survey was based on a national probability sample of approximately 6,000 housekeeping households of 1 or more persons. Institutions and persons living on military reservations were not represented.

Collection of the data was by personal interview with household members, usually the homemaker. Information was obtained on the number of meals eaten at home and away from home by each individual in the family, the expenditures for food eaten away from home, quantities of all food items used at home during the 7 days preceding the interview and the expenditures for the purchased items, selected household food practices during the previous year, and various family characteristics such as income needed for classification of the data.

In requesting the information from households, trained interviewers used a detailed food list to help respondents recall the quantities of foods used during the week and the amounts paid for purchased items. (This method is sometimes referred to as the "recall-list method.")

This report includes a summary of some of the findings already presented in the Highlights of Reports 6-10 of the 1955 Household Food Consumption Survey Series as well as analyses of data not shown elsewhere. The authors acknowledge the valuable assistance of Constance Ward in the preparation of the report.

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DIETARY EVALUATION OF FOOD USED IN HOUSEHOLDS IN THE UNITED STATES

SUMMARY

Diets in the United States have improved markedly since the 1930's. In 1936 when a large-scale household food consumption survey was made, a third of the diets were classed as "poor." When we apply the same standards to diets of the households surveyed in 1955, only a little over a tenth (13 percent) may be considered "poor."

Average family food supplies for a week in 1955 were sufficient to provide more than the National Research Council's recommended allowances for calories and eight nutrients for which values were calculated. However, many households (48 percent) had diets that did not fully meet the allowances in one or more nutrients. In diets that fell below these recommended quantities in any one nutrient, calcium or ascorbic acid was most likely to be in short supply; the diets of about 3 out of every 10 households failed to meet the recommendations for calcium and those of 1 in 4 provided less than the recommended amounts of ascorbic acid. Very few households, however, had diets that failed to provide at least two-thirds of the recommended allowance in any nutrient--only about 1 in 10 fell below that level in calcium or ascorbic acid.

The few household diets not fully meeting protein allowances were generally low in at least three other nutrients. Three out of five diets not meeting the allowance in either calcium or ascorbic acid were below allowances in that nutrient alone or in combination with only one or two others. Diets short in vitamin A or thiamine were more likely to be short in the one nutrient only than were those short in protein, and less likely to be short in the single nutrient than were those short in calcium or ascorbic acid.

In 1942, city family diets contained more of all nutrients than in 1936 but about the same amount of calories. Thus, without changing the total quantity of foods as measured by energy value, families were making choices that gave them more protein, minerals, and vitamins. Between 1942 and 1948 calories increased slightly. However, the greatest increases were in iron, thiamine, riboflavin, and niacin, the nutrients used in enriching white bread and white flour. The calcium content of diets also increased. Between 1948 and 1955 the increase in nutrient content of the average city diet was smaller than it had been in earlier years. There was no change in energy value. The greatest increases were in protein, thiamine, niacin, and iron--all related to increased consumption of meat.

Diets of families in the lowest income third showed much greater improvement between 1936 and 1942 and between 1942 and 1948 than did diets of families in the upper income third. Between 1948 and 1955 all of the income groups shared fairly equally in the moderate changes.

In general, households in the South did not fare as well, nutritionwise, as those in the North and West. The chief exception was in thiamine; dietary shortage of this nutrient was more likely to occur in the Northeast than in any other region. Farm diets furnished larger amounts of all nutrients except vitamins A and C than did city diets.

The average amounts of nutrients in foods used in a week were much higher for one-person than for larger families. Yet the proportion of diets meeting recommendations in all nutrients was the same in both groups.

Among city families dietary adequacy, as measured by the percentage of household diets meeting National Research Council's allowances in eight nutrients, was closely related to income. At each successively higher income level a greater percentage of households had diets that met allowances. There was a tendency for those at higher income levels whose diets did not meet allowances in one or more nutrients to fail in a single nutrient only. At the lower income levels a somewhat larger percentage of households had diets that failed in four or more nutrients.

In general, households in the United States with homemakers 60 years of age and over had food supplies somewhat poorer in most nutrients than did younger households.

Homemakers at higher educational levels generally provided better diets than those with fewer years of formal education.

When household diets were sorted into three groups according to the percentage of calories from fat, the proportion of saturated and unsaturated fatty acids did not differ among the three groups of diets. The principal difference in quantities of food used in diets at higher versus lower fat levels was in greater quantities from (1) the meat, poultry, and fish group, and (2) the fats and oils group. The higher fat diets also contained more eggs but no more of milk and milk products. Foods that were used in smaller quantities at the higher fat levels were all relatively high in carbohydrate--flour and other cereal products, commercial baked goods, sugars and sweets, and potatoes and sweetpotatoes.

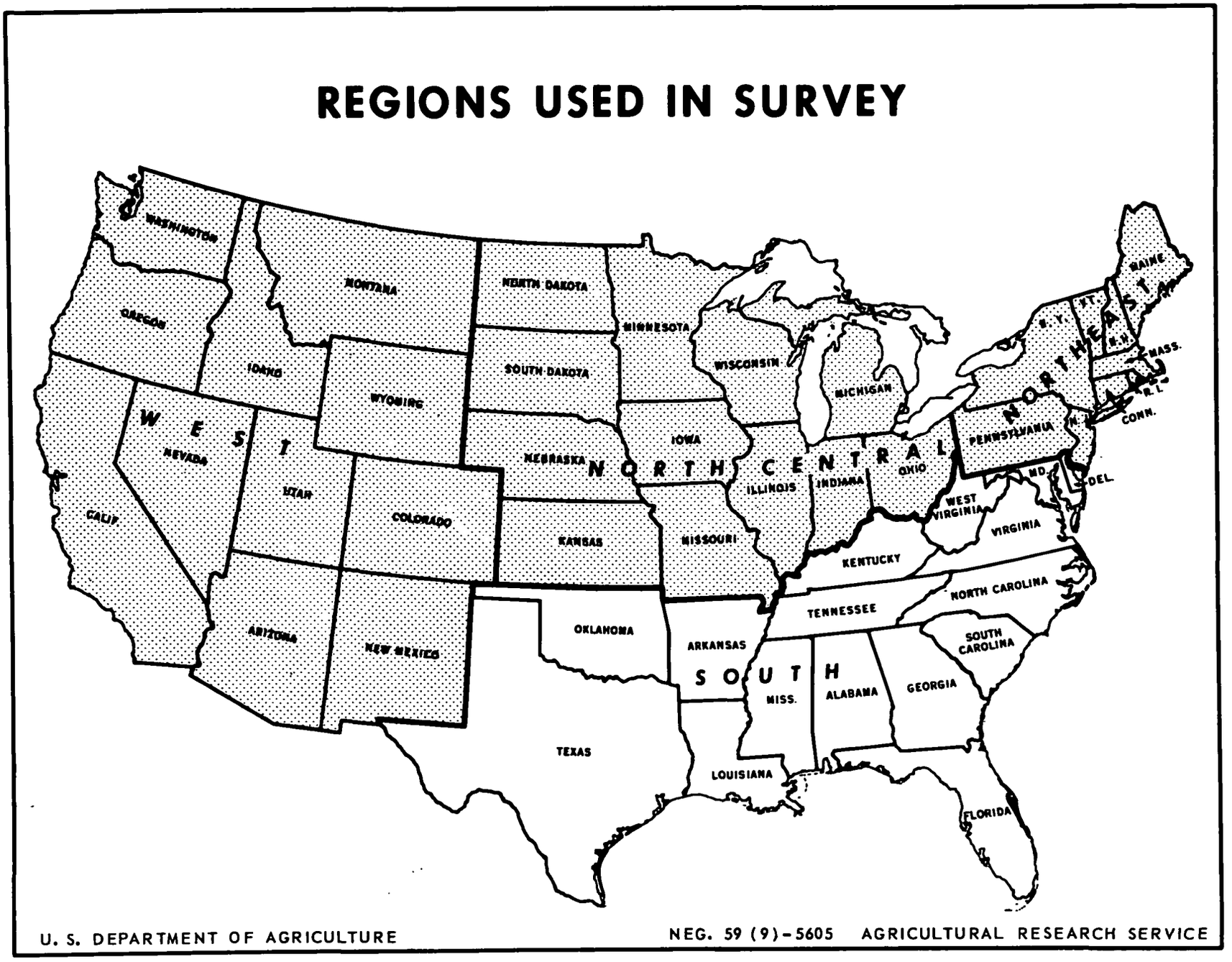
REGIONS USED IN SURVEY
WEST
WASHINGTON
OREGON
CALIF.
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
COLORADO
ARIZONA
NEW MEXICO
NORTH CENTRAL
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
MINNESOTA
IOWA
MISSOURI
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
NORTHEAST
N.Y.
VT.
N.H.
MAINE
MASS.
R.I.
CONN.
PENNSYLVANIA
N.J.
MD.
DEL.
WEST VIRGINIA
VIRGINIA
KENTUCKY
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
SOUTH
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Figure 1.

INTRODUCTION

This report summarizes the information on the nutritive content of household food supplies from the U. S. Department of Agriculture's nationwide Survey of Household Food Consumption made in the spring of 1955. Because of the widespread demand for current data on food consumption patterns and dietary levels, the statistical data were issued soon after tabulation, accompanied, in some of the reports, by highlights of findings (10-19).[1] This report contains more detailed analyses of the nutrition data than hitherto published, as well as results of many additional tabulations on interrelationships of nutrients and food patterns of households having diets with high and low levels of several key nutrients. Because changes in food habits and practices of population groups occur slowly over time, the relationships shown by the 1955 data are probably as applicable in the early 1960's as in the survey period.

Earlier nationwide surveys of food consumption of urban and rural households made by the Department of Agriculture provided data for 1936 and 1942 and for urban families in 1948 (2, 5, 6, 7). Changes in the dietary situation as indicated by these surveys are summarized in this report. Some problems encountered in making comparisons of data from these surveys are discussed in appendix B.

The 1955 survey is the most comprehensive household food consumption study yet undertaken.[2] The sample was large enough to permit grouping of households (1) by region--Northeast, North Central, and West (combined in some instances and referred to as North) and South (Census of population regions; see figure 1); (2) by urbanization--rural farm, rural nonfarm, and urban--within regions; and (3) for some data by factors that may influence food consumption, such as (a) family income class, (b) money value of food used, (c) size of household, (d) age of homemaker, (e) education of homemaker, and (f) employment status of homemaker. (See Glossary for definitions of terms.)

[1] Underlined numbers in parentheses refer to Literature Cited, p. 26.

[2] See Reports 1-10 (10-19) for description of the sample and details on methodology.

CHARACTERISTICS OF HOUSEHOLDS SURVEYED

The families interviewed in the spring of 1955 had an average income in 1954 of about $4,300 after paying Federal and State income taxes (table 1). The wife in the average household (or female head in other than husband-wife households) was 42-1/2 years old. As to formal education, about half of the wives had gone to high school for 1 or more years; 15 percent had gone on to college. One-fourth were employed outside of the home at the time of the interview.

The average size of the households surveyed, computed from the number of individual meals served out of household food supplies in the week (total meals served to family members, guests, and household help divided by 21), was 3.3 "meal-equivalent persons." The money value of the food used at home for the average household was $25.18 for the week, or $7.57 per person. A little over half of the households served meals to children under 16 years of age.

Groups of households within the country varied considerably from these averages. For example, city households were smaller than farm households. City wives were a little younger, had more schooling, and were more likely to be employed away from home than farm wives. Households in the North were smaller than those in the South. Dietary levels have been found to be related to some of these characteristics such as age and education of the homemaker. These relationships will be discussed in the section "Some factors affecting dietary levels."

TABLE 1.--CHARACTERISTICS OF HOUSEHOLDS: *Household size, family income, money value of food, and age, employment, and education of homemaker, by region and urbanization*

[Housekeeping households of 1 or more persons, April-June 1955]

Region and urbanization	Households[1]		Money income after income taxes (1954)[2]	Money value of food at home in week[3]		Household size (21 meals at home = 1 person)	Households with children under 16 years	Homemaker					No female homemaker
	Weighted, includes 1/4 farm	Unweighted, includes all farm		Per household	Per person[4]			Median age	Employed	Education			
										Elementary	High school	College	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Number	Number	Dollars	Dollars	Dollars	Persons	Percent	Years	Percent	Percent	Percent	Percent	Percent
UNITED STATES													
All urbanizations.....	4,556	6,060	4,324	25.18	7.57	3.33	52.1	42.5	26.7	36.3	49.1	14.6	3.8
Urban.....	2,832		4,882	25.40	8.12	3.13	50.1	42.5	30.8	32.0	51.0	17.1	3.6
Rural nonfarm.....	1,222		3,657	23.86	6.87	3.47	54.8	41.6	24.1	41.7	47.7	10.7	3.6
Rural farm.....	502	2,006	2,800	27.23	6.67	4.08	57.1	44.5	9.7	48.0	41.8	10.1	5.6
NORTHEAST													
All urbanizations.....	1,262	1,407	4,633	26.47	8.28	3.20	51.0	43.3	28.1	35.5	51.1	13.4	3.5
Urban.....	923		4,852	26.45	8.56	3.09	49.6	44.3	28.0	35.4	50.6	13.9	3.6
Rural nonfarm.....	291		4,154	25.46	7.46	3.41	54.3	40.2	31.4	33.9	53.5	12.5	2.7
Rural farm.....	48	193	3,464	32.90	8.22	4.00	57.5	44.8	9.1	46.9	46.3	6.9	6.7
NORTH CENTRAL													
All urbanizations.....	1,385	1,951	4,940	26.57	8.02	3.31	51.6	42.9	24.3	32.4	51.9	15.7	3.9
Urban.....	835		5,642	27.51	8.60	3.20	50.7	42.6	29.8	28.6	53.1	18.4	3.8
Rural nonfarm.....	362		4,049	23.42	7.20	3.25	51.4	43.4	20.5	37.5	50.9	11.6	3.3
Rural farm.....	188	754	3,492	28.46	7.25	3.93	56.1	43.2	6.9	39.2	49.1	11.7	5.4
WEST													
All urbanizations.....	527	639	5,124	26.62	8.45	3.15	49.8	42.4	26.8	21.1	53.6	25.3	5.1
Urban.....	379		5,610	25.96	8.53	3.04	49.1	42.3	29.6	19.1	54.1	26.8	4.2
Rural nonfarm.....	110		3,955	27.32	8.51	3.21	46.4	43.3	22.5	26.3	51.5	22.2	7.3
Rural farm.....	38	150	3,705	31.34	7.63	4.11	67.3	40.1	10.3	27.4	54.1	18.5	7.3
SOUTH													
All urbanizations.....	1,381	2,063	3,159	22.07	6.27	3.52	54.6	41.5	27.8	46.5	42.7	10.8	3.5
Urban.....	695		3,651	21.15	6.72	3.15	50.5	40.1	36.2	38.1	47.2	14.6	3.0
Rural nonfarm.....	459		2,974	22.35	5.97	3.75	59.9	40.6	22.6	53.2	40.6	6.2	3.5
Rural farm.....	227	909	1,969	24.31	5.76	4.22	56.1	46.0	12.1	58.9	32.9	8.2	5.2

[1] The sample contains 4 times as many rural farm schedules as are required to provide proportionate representation of all groups. "All urbanizations" is shown both with and without the extra schedules.

[2] Revised from figures shown in Household Food Consumption Survey Reports 1-5 (10-14), table 2). The revisions amount to less than 1 percent on the average. They arise from corrections in the average income figure in 1-member families shown in Reports 1-5 (10-14) which amount to about 10 percent on the average.

[3] Foods obtained without direct expense and eaten at home were valued at average prices reported by families in the same region and urbanization group purchasing a similar item. Includes alcoholic beverages.

[4] Household averages divided by average household size.

Source: 1955 Household Food Consumption Survey, Reports 1-5 (10-14) and unpublished data.

DIETARY LEVELS, UNITED STATES, 1955

FOOD AVAILABLE

The supply of foods available to the average household in this country is varied and plentiful. During a week in the spring of 1955 enough food was brought into the Nation's kitchens to provide over 2 cups of milk a day, a half pound of meat, poultry, or fish, and 1-1/3 pounds of fruit and vegetables for each man, woman, and child (table 2). These quantities represent food that was bought or brought into the kitchen from garden, freezer, or storage pantry and used up during the week, not the quantities actually eaten. (See Glossary, Food used at home.) It is known that a considerable amount of food material is discarded both in the kitchen before or during preparation and at the table as plate waste and leftovers.

TABLE 2.--FOOD USED AT HOME: *Quantity per person in a week and per day*

[Housekeeping households of 1 or more persons in the United States, April-June 1955]

Food group (1)	In a week (2)	Per day (3)
Milk, cream, ice cream, cheese, (milk equivalent)	4.45 qt.	2-1/2 cups.
Milk, fresh and processed (equivalent)	3.74 qt.	17 fl. oz.
Cream	.04 qt.	1 tsp.
Ice cream	.32 qt.	3 tbsp.
Cheese	.32 lb.	3/4 oz.
Meat, poultry, fish, eggs, dry legumes, nuts	5.23 lb.	12 oz.
Meat, poultry, fish	3.84 lb.	8-3/4 oz.
Bacon, salt pork	.31 lb.	1 slice.
Eggs	.61 doz.	1 egg.
Dry beans and other legumes (dry weight)	.15 lb.	1/3 oz.
Nuts (shelled weight), peanut butter	.09 lb.	1/4 oz.
Vegetables	5.86 lb.	13-1/2 oz.
Potatoes	1.81 lb.	4 oz.
Dark green and deep yellow (including sweetpotatoes)	.59 lb.	1-1/3 oz.
Tomatoes	.79 lb.	1-3/4 oz.
Other vegetables	2.67 lb.	6 oz.
Fruits	3.77 lb.	8-2/3 oz.
Citrus (juice equivalent)	1.24 lb.	2-2/3 fl. oz.
Other (fresh equivalent of dried; total of all other)	2.53 lb.	5-3/4 oz.
Grain products (flour equivalent)	2.81 lb.	6-1/3 oz.
Flour and prepared mixes	.98 lb.	1/2 cup.
Cereals, pastes	.78 lb.	1-3/4 oz.
Bread, rolls, biscuits	1.50 lb.	4-1/2 slices.
Other baked goods	.51 lb.	1-1/4 oz.
Fats and oils	.89 lb.	4-1/3 tbsp.
Butter and margarine	.40 lb.	2 tbsp.
Other fats and oils (including salad dressings)	.49 lb.	2-1/3 tbsp.
Sugars and sweets (sugar equivalent)	1.38 lb.	3-1/4 oz.
Mixtures and soups	.40 lb.	1 oz.

Source: Calculated from 1955 Household Food Consumption Survey, Report 1 (10, tables 6, 8, 9), and Report 6 (15, tables 13, 14, 15).

The nutritive value figures used in this report are for edible portions of foods as currently marketed and make allowance for inedible material such as bone, pits, and shells and also for a normal amount of wilt and spoilage. They also allow for some loss of vitamins that may have occurred in storage and cooking in the average home. However, they do not allow for losses of edible products due to unusual spoilage or to wasteful practices in the household. As calculated, the nutritive value of meat includes all the fat on the cut as purchased.

NUTRITIVE CONTENT OF FOOD USED

The food used by households in the United States in a week in spring 1955 provided the following amounts of nutrients per 21-meal-equivalent person per day:

		Average per person per day
Food energy	cal.	3,200
Protein	g.	103
Fat	g.	155
Calcium	g.	1.15
Iron	mg.	17.6
Vitamin A value	I.U.	8,540
Thiamine	mg.	1.56
Riboflavin	mg.	2.27
Niacin	mg.	18.7
Ascorbic acid	mg.	106

SOURCES OF NUTRIENTS

Food Energy

A fourth of the energy value of the food used came from grain products--flour, cereals, pastes, and baked goods; another fourth from meat, poultry, fish, and eggs. The milk group--milk, cream, ice cream, and cheese--and the fats and oils group each contributed a little over an eighth of the calories. A tenth was supplied by sugars and sweets and another tenth by fruits and vegetables. (See figure 2.) Similar data by region and urbanization can be found in "Dietary Levels of Households" (15, 16, 17, 18, 19, table 6).

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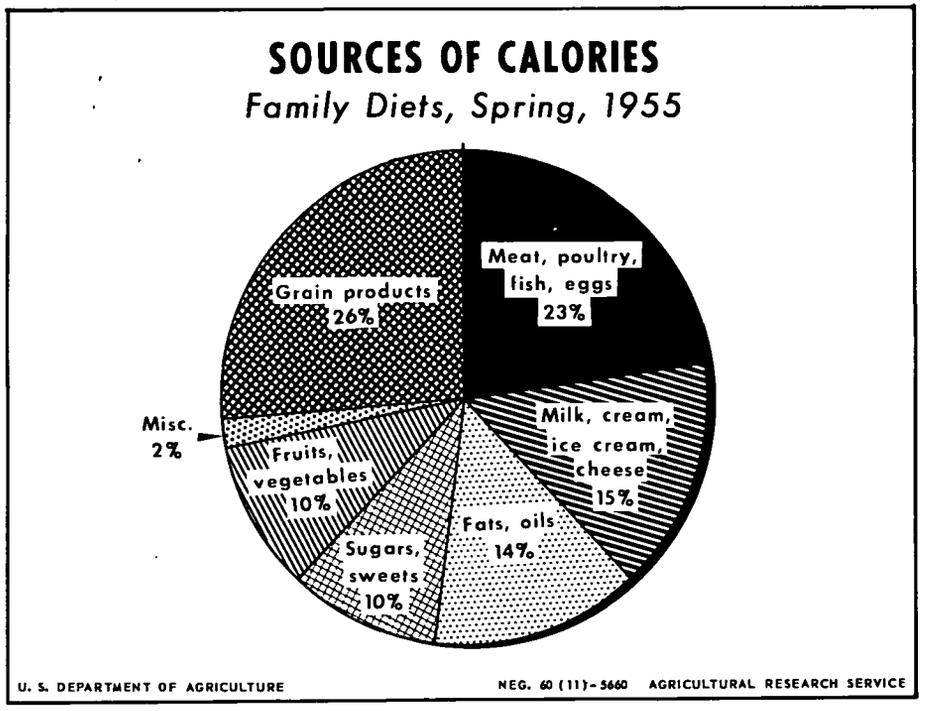

Figure 2.

Fat, Fatty Acids

Nearly half (44 percent) of the calories in the food used came from fat. This included all of the fat on meat cuts as purchased and also much that entered the kitchen in foods not usually thought of as sources of fat, such as milk and its products, baked goods, and mixtures (table 3).

Only 40 percent of the fat in the food used in a week came from foods classed as fats and oils. The remaining 60 percent came into the household as part of other foods--some of it separable fat on meats or visible fat as cream, but much of it neither separable nor visible, but a component of foods such as cheese, eggs, or nuts or incorporated into prepared foods such as baked goods or mixed dishes.

A wide variety of foods furnished oleic acid--the unsaturated fatty acid that was consumed in largest amounts. A little less than half was furnished by the separated fats and oils and by bacon and salt pork. One-fourth came from other meat, poultry, and fish, and the remaining fourth from milk and milk products (other than butter), eggs, baked goods, and nuts. Sources of oleic acid by food group are similar to the sources of total fat.

Plant products, the richest source of linoleic acid, furnished 59 percent of this polyunsaturated fatty acid, but only 29 percent of the total fat. (This assumes that 100 percent of the margarine and salad dressing and 80 percent of the household shortening were made from vegetable oil and that all the fat in purchased baked goods and mixtures

TABLE 3.--SOURCES OF FAT AND FATTY ACIDS: *Quantity per person per day from food used at home in a week*

[Housekeeping households of 1 or more persons in the United States, April-June 1955]

Food group (1)	Total fat (2)		Fatty acids		
			Saturated (3)	Oleic (4)	Linoleic (5)
	Percent	Grams	Grams	Grams	Grams
Beef, veal, lamb	14.2	22.1	11.0	8.8	0.4
Pork (excluding bacon, salt pork)	9.7	15.1	6.0	7.6	1.5
Poultry, fish	2.9	4.4	1.2	1.6	.8
All meat, poultry, fish	26.8	41.6	18.2	18.0	2.7
Bacon, salt pork	8.6	13.4	5.4	6.7	1.3
Lard	5.9	9.2	3.7	4.6	.9
Other shortening	5.8	9.0	2.2	5.8	.7
Oils, salad dressing	6.0	9.3	1.9	2.8	4.6
Margarine	6.7	10.4	2.6	6.4	.8
Butter	6.8	10.6	7.0	2.9	.4
All fats and oils	39.8	61.9	22.8	29.2	8.7
Milk, cream, ice cream, cheese	18.0	28.0	18.5	7.6	1.0
Eggs	3.6	5.6	2.0	2.5	.4
Other foods (mixtures, fruits and vegetables, nuts, baked goods, etc.)	11.8	18.0	3.6	9.0	3.6
All foods	100.0	155.1	65.1	66.3	16.4

Source: Food Consumption and Dietary Levels of Households in the United States--Some Highlights from Household Food Consumption Survey, Spring 1955 (23, tables 1 and 2).

was of vegetable origin.) Of the plant foods, cooking and salad oils and salad dressings furnished 28 percent of the total amount of linoleic acid, but only 6 percent of the total dietary fat.

Carbohydrate

Of the total calories in the diets 43 percent came from carbohydrate--22 percent from starch, 21 percent from sugar. The percentage of carbohydrate calories from each food group in the average household food supply was estimated to be as follows:

	Total	Starch	Sugar
	Percent	Percent	Percent
Milk, cream, ice cream, cheese	9	0	9
Meat, poultry, fish, eggs	*	*	0
Dry beans, nuts	2	2	*
Potatoes, sweetpotatoes	6	6	*
Other vegetables and fruits	13	2	11
Grain products	46	42	5
Fats and oils	*	0	*
Sugars and sweets	23	0	23
Miscellaneous (includes meat, legume, and vegetable mixtures and soups)	1	*	*
All foods	100	52	48

*Less than 0.5 percent.

It should be remembered that foods are reported in the form in which they were brought into the household. All the groups listed include some mixtures; for example, grain products include sugar in purchased baked goods; the milk group includes sugar in ice cream; the fruit group, sugar in canned fruit. Therefore, starch and sugar as shown here are estimated from such mixtures included within each group.

Protein, Minerals, Vitamins

The importance of each of the four groupings of foods first proposed in 1956 in "Essentials of an Adequate Diet" (24) and used as the basis of "Food for Fitness" (25) can be seen from the survey data (15, table 6). The meat group, which includes poultry, fish, eggs, dry beans and peas, and nuts as well as the "red" meats, provided about half of the protein, iron, and niacin and a fourth of the vitamin A value, thiamine, and riboflavin in family diets. The bread-cereal group provided over a third of the thiamine, over a fourth of the niacin and iron, and significant quantities of protein and calcium. Most of the contribution of thiamine, niacin, and iron was from enriched, restored, or whole-grain products. The milk group alone provided nearly two-thirds of the calcium, half of the riboflavin, and a fourth of the protein, as well as a fair amount of vitamin A. The vegetable-fruit group alone contributed nearly all of the ascorbic acid--a large portion of it came from citrus fruits. From the vegetable-fruit group also came half of the vitamin A value--mostly from dark-green and deep-yellow vegetables. These four broad groups together supplied three-fourths of the calories and over 90 percent of the protein, minerals, and vitamins in the diet.

RELATIVE ECONOMY OF GROUPS OF FOODS

Some groups of foods that are only fair sources of a nutrient may nevertheless be very good buys in terms of that nutrient because they are inexpensive, whereas other foods that may seem expensive on a unit cost basis may be cheap in terms of nutrient return because of high nutrient content. For example, potatoes would be considered as only a fair source of most nutrients in terms of content per pound. However, they are cheap enough to make them an inexpensive source of iron, B-vitamins (thiamine, riboflavin, niacin), and ascorbic acid per dollar spent (table 4). Nuts and peanut butter are relatively expensive per pound, but they are high enough in niacin to make them the best source per dollar.[3]

The best buys for food energy, on the basis of the selection of foods made by the survey families, were fats and oils, grain products, dry beans and peas, and sugars and sweets, in that order. A dollar's worth of white sugar alone contains more calories than a dollar's worth of butter, but the average combination of foods used in the sugars and sweets group (sirups, jellies, candies, soft drinks, beverage and dessert powders) was more expensive in terms of calories than the average combination in the fats group.

[3]Although the nutrient contributions of food groups per dollar are based on average price and consumption relationships for all households in the United States in 1955, the relative economy of broad groups of foods is probably about the same in the early 1960's. For various population groups within the nation it also varies little.

The most economical groups for protein were dry beans and peas, grain products, nuts and peanut butter, eggs, milk and cheese, and meats, in that order. The animal sources were all more expensive than vegetable sources if only total protein (nitrogen) is considered. However, if the proteins were evaluated as to content of essential amino acids, the animal products would rate somewhat higher.

The best buys for iron and thiamine, as for protein, were the dry beans and peas and grain-products groups. Within the grain group, the enriched, restored, and whole-grain products were by far more economical for iron and thiamine than other flours, cereals, pastes, and baked goods. For iron, eggs and vegetables were also good buys; potatoes and dark-green and deep-yellow vegetables were more economical sources than other vegetables. For thiamine, vegetables, mainly potatoes, and nuts were fairly good buys.

Nuts and peanut butter were by far the best buy for niacin, with potatoes, grains, dry beans and peas, and the meat, poultry, fish group following in that order.

Calcium and riboflavin were supplied more cheaply by the milk, ice cream, and cheese group than by any other foods. Dry beans and peas and grains were also fairly cheap sources of both these nutrients; eggs were fairly cheap for riboflavin but not for calcium.

Vitamins A and C were supplied by a more limited number of food groups than were other nutrients. Citrus fruits provided about two and a half times as much ascorbic acid (vitamin C) per dollar as the next most inexpensive source. Fairly good buys in ascorbic acid were the dark-green and deep-yellow vegetables, potatoes, tomatoes, and other vegetables and fruits. A dollar's worth of dark-green and deep-yellow vegetables provided over six times as much vitamin A value as a dollar's worth of any other group. Butter and margarine, tomatoes, and eggs were fairly economical sources.

It is, of course, not assumed that the relative economy of foods as sources of these nutrients is or should be the only basis for planning dietaries. There are other nutrients necessary to the diet for which neither quantitative distribution in foods nor dietary requirements have been determined. Moreover, a dietary developed wholly in terms of economy might well be unacceptable. The relationships shown in table 4 do, however, bring together two variables, cost and nutritive value, that are important in making food plans for different cost levels.

DIETARY ADEQUACY

Meaningful assessment of the adequacy of nutrients in the diets of households is complicated by differences in dietary needs that are related to the age, sex, and activity of the members. To equate the per capita nutritional needs of groups of households and to make comparison with a standard possible, each individual in the households was counted according to his estimated requirement for each nutrient, expressed as a fraction of the need of the young, active, adult male. The quantity of each nutrient needed by this reference person is termed a "nutrition unit." (See Glossary, Equivalent nutrition unit, for further definition.)

TABLE 4.--NUTRIENTS PER DOLLAR: *Average quantity and nutritive value per dollar of money value*[1] *of food used at home in a week, by food group*

[Housekeeping households of 1 or more persons in the United States, April-June 1955]

Food group (1)	Quantity of food (2)	Food energy (3)	Protein (4)	Calcium (5)	Iron (6)	Vitamin A value (7)	Thiamine (8)	Riboflavin (9)	Niacin (10)	Ascorbic acid (11)
		Calories	Grams	Grams	Milligrams	International Units	Milligrams	Milligrams	Milligrams	Milligrams
Milk, cream, ice cream, cheese	3.9 qt.	2,900	140	4.5	3	7,300	1.2	6.3	4	40
Milk, fresh and processed	4.8 qt.	3,200	160	5.6	3	7,300	1.6	8.1	5	60
Cream and ice cream	2.3 lb.	2,200	40	1.2	1	6,500	.4	1.8	1	10
Cheese	2.0 lb.	2,600	180	3.7	6	8,400	.1	3.1	1	*
Meat, poultry, fish, eggs, dry legumes, nuts (including mixtures and soups)	1.9 lb.	2,000	120	.2	19	5,300	1.1	1.5	23	*
Meat, poultry, fish	1.7 lb.	1,700	120	.1	16	4,900	1.0	1.3	25	*
Bacon, salt pork	1.9 lb.	5,600	70	.1	6	*	1.4	.9	15	0
Eggs	2.0 doz.	1,800	140	.6	30	12,700	.9	3.1	1	0
Dry beans and other legumes	4.6 lb.	6,800	440	2.7	142	*	6.3	4.3	44	40
Nuts, peanut butter	1.6 lb.	4,100	170	.6	16	*	1.4	.9	99	*
Vegetables (including mixtures and soups)	6.6 lb.	1,500	50	.7	22	28,700	1.7	1.4	19	340
Potatoes	11.8 lb.	4,200	90	.5	33	*	3.8	1.8	50	470
Dark green and deep yellow (including sweetpotatoes)	5.5 lb.	800	40	1.6	30	168,700	1.2	2.1	12	590
Other green	5.7 lb.	700	50	.8	23	10,300	1.5	1.5	11	300
Tomatoes	5.1 lb.	700	30	.3	13	27,600	1.3	1.0	20	390
Other vegetables	5.7 lb.	1,000	30	.6	15	3,300	.8	1.0	9	180
Fruits	6.3 lb.	1,500	20	.4	11	6,400	1.1	.7	8	610
Citrus	6.9 lb.	1,600	30	.7	11	4,300	2.2	.7	8	1,520
Dried	3.0 lb.	3,700	40	.9	48	16,600	1.2	1.8	15	40
Other	5.8 lb.	1,400	10	.3	10	6,800	.7	.7	7	230
Grain products (including mixtures and soups)	3.6 lb.	7,200	190	1.6	44	400	5.2	3.3	47	*
Enriched, restored, or whole grain	4.3 lb.	8,100	240	2.1	62	*	7.7	4.7	67	*
Not enriched, restored, or whole grain	2.7 lb.	6,400	130	.8	18	900	1.6	1.2	17	*
Fats and oils	2.7 lb.	9,200	10	.1	1	18,500	.1	*	*	0
Butter and margarine	2.1 lb.	6,900	10	.2	*	31,600	*	*	*	0
Other (including salad dressings)	3.5 lb.	12,400	10	.1	3	800	.1	.1	*	0
Sugars and sweets	3.7 lb.	6,200	10	.3	8	200	.1	.4	1	10

*Less than 50 International Units of vitamin A value, 5 milligrams of ascorbic acid, 0.5 milligrams of iron or niacin, 0.05 milligrams of thiamine or riboflavin.

[1] Based on food used and prices paid by households surveyed in 1955. Price changes since 1955 would affect the absolute quantities of foods and nutrients but would have little effect on the interrelationships between the broad groups of foods.

Source: 1955 Household Food Consumption Survey unpublished data.

An adaptation of dietary allowances recommended by the National Research Council in 1953 was used as a criterion in evaluating the diets. (See Glossary, Recommended dietary allowances.) Quantities of nutrients per nutrition unit per day provided by family food supplies were much greater than the NRC allowances for an adult male, as shown by the following figures:

		Average supplied by food used	Recommended allowance for ingestion
Food energy	cal.	4,390	3,000
Protein	g.	121	75
Calcium	g.	1.00	0.8
Iron[1]	mg.	19.3	12
Vitamin A value	I.U.	9,960	5,000
Thiamine	mg.	2.15	1.5
Riboflavin	mg.	2.65	1.9
Niacin	mg.	25.8	15
Ascorbic acid	mg.	117	75

[1]If the 1958 NRC allowances had been used, the average per nutrition unit would be 16.1 milligrams compared with an allowance of 10 milligrams.

Calorie averages, in particular, were high. Even if a generous deduction were made for waste in the kitchen and at the table, the food consumed probably still would provide more calories than actually needed. The prevalence of overweight in the population is an indication of overeating which also explains part of the difference in the two calorie figures.

The nutrient with the least margin over NRC allowances was calcium. The average calcium content of the diets per adult-male equivalent was 1.0 gram, which is 25 percent over the recommended allowance of 0.8 gram.

Averages, however, tell only part of the story. Many households have diets below and many above the averages. Another way of looking at the data is to examine the proportions of families having diets meeting a specified standard. In this study one of the measures used was to count household food supplies as adequate only if they reached the NRC recommended levels in all eight of the nutrients for which values were computed (protein, calcium, iron, vitamins A and C, thiamine, riboflavin, and niacin). Evaluated by this criterion, the diets of more than half (52 percent) of the households were adequate (table 5).

In diets that fell below these recommended quantities in any one nutrient, calcium or ascorbic acid was most likely to be in short supply. The diets of about 3 out of every 10 households failed to meet the recommendations for calcium and those of 1 in 4 provided less than the recommended amounts of ascorbic acid. For riboflavin, thiamine, and vitamin A about 1 household in 6 did not meet this standard. A tenth or less of the households failed in iron, protein, and niacin. Very few households, however, had diets that failed to provide at least two-thirds of the recommended allowance in any nutrient--only about 1 in 10 for calcium or ascorbic acid, 1 in 20 for vitamin A, and still fewer for the other nutrients.

TABLE 5.--DIETARY ADEQUACY: ***Percentage of households using food at home in a week that furnished NRC recommended amounts of 8 nutrients***

[Housekeeping households of 1 or more persons in the United States, April-June 1955]

Nutrient (1)	Households having-- Recommended allowance[1] (2)	Two-thirds recommended allowance (3)
	Percent	Percent
All of 8 nutrients	52	[2] 87
Protein	92	99
Calcium	71	92
Iron	90	98
Vitamin A value	84	94
Thiamine	83	97
Riboflavin	81	97
Niacin	93	99
Ascorbic acid	75	90

[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.

[2] Diets that would have been graded better than "poor" by standards used in 1936. Standards for evaluating were somewhat higher than two-thirds of current allowances for some nutrients and somewhat lower for others. See Glossary: "Poor" diets.

Source: Calculated from 1955 Household Food Consumption Survey, Report 6 (15) and unpublished data.

The fact that diets did not fully meet the National Research Council's allowances does not mean, however, that the people consuming them were hungry or malnourished. The allowances were designed to be used for planning diets that would maintain good nutrition in the majority of healthy persons in the United States. These allowances provide a margin above minimal requirements which varies widely among the nutrients. Therefore, diets that do not reach these rather high standards in individual nutrients may still be well above minimum needs. The standards do provide a needed basis for locating those groups in the population whose diets are most in need of improvement and for comparing the diets of population groups from one time period to another.

Interrelationships of Nutrients Below Recommended Allowances

Although very few households (8 percent) had diets that did not fully meet recommended allowances for protein, nearly all of those that were low in protein were low in at least three other nutrients (table 6). Adequate protein does not appear to be a problem for most households in this country, but those few for which it is a problem need dietary supplementation in more than protein alone. This is not surprising because the groups of foods that contribute most of the protein--meat, poultry, and fish, milk and cheese, and grain products--also supply significant quantities of the B-vitamins and minerals.

Shortages in calcium or ascorbic acid were less likely to be associated with shortages in other nutrients than were protein shortages. Of the households with diets not meeting allowance in either calcium or ascorbic acid, 3 out of 5 were below allowances in that nutrient alone or in combination with only one or two others. Only 2 out of 5 of those low in calcium or ascorbic acid were low also in 3 or more other nutrients. For calcium, a fifth of those low were short in that nutrient only; for ascorbic acid, a fourth. Both of these nutrients are supplied principally by one type of food--two-thirds of the calcium by milk, ice cream, and cheese and nearly all of the ascorbic acid by fruits and vegetables. Milk provides protein and B-vitamins as well as calcium. A family might get enough protein and B-vitamins from meat and grains, but the typical American diet is likely to fall short of calcium recommendations if it does not contain enough milk and milk products.

The fruits and vegetables that supply most of the ascorbic acid also supply a good share of vitamin A. However, a diet might be below allowances in ascorbic acid and still contain enough vitamin A from sources such as whole milk, butter or margarine, liver, or from vegetables such as carrots which are a good source of A but not of C. Therefore, the diet might be low in vitamin C (ascorbic acid) only.

Diets short in vitamin A or thiamine were more likely to be short in the one nutrient only than were those short in protein, and less likely to be short in the single nutrient than were those short in calcium or ascorbic acid. About 1 in 8 of the households with diets not meeting allowances in either vitamin A value or thiamine had recommended amounts of all other nutrients; a little over half failed in 3 or more other nutrients. There are a few very rich sources for each of these vitamins, but also some rather good sources in foods that are fairly plentiful in American diets.

TABLE 6.--SINGLE AND MULTIPLE SHORTAGES OF NUTRIENTS: *Percentage of households using food at home in a week that did not furnish recommended amounts*[1] *of a specified nutrient and of one or more others*

[Housekeeping households of 1 or more persons in the United States, April-June 1955]

Nutrient	Diets short in specified nutrient[2]	Diets short[3] in--			
		Specified nutrient only	Specified nutrient and in--		
			1 other	2 others	3 or more others
(1)	(2)	(3)	(4)	(5)	(6)
	Percent	Percent	Percent	Percent	Percent
Any of 8 nutrients	48	38	20	14	28
Protein	8	0	1	6	93
Calcium	29	21	20	17	42
Iron	10	4	7	10	79
Vitamin A value	16	13	17	17	53
Thiamine	17	12	13	15	60
Riboflavin	19	2	14	21	63
Niacin	7	3	4	8	85
Ascorbic acid	25	27	18	15	40

[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.
[2] Based on all households.
[3] Based on households with diets short in specified nutrient.

Source: 1955 Household Food Consumption Survey, Report 6 (15, table 12) and unpublished data.

For certain combinations of nutrients, shortages occurred more frequently than for others. Diets that did not meet recommended allowances in two nutrients were most likely to fail in the following combinations in descending order of frequency (appendix table 18):

Calcium and riboflavin	Calcium and thiamine
Vitamin A and ascorbic acid	Calcium and vitamin A
Calcium and ascorbic acid	Thiamine and ascorbic acid

The most frequent combinations of three nutrients not meeting allowances were as follows:

Calcium, riboflavin, ascorbic acid	Calcium, vitamin A, ascorbic acid
Calcium, riboflavin, thiamine	Calcium, thiamine, ascorbic acid
Calcium, riboflavin, vitamin A	Vitamin A, riboflavin, ascorbic acid

Some of the combinations were probably the result of underconsumption of one particular food group. For example, since nearly two-thirds of the calcium and one-half of the riboflavin in the diets came from the milk group, quantities of both of these nutrients would be affected by the amount of milk used. Similarly, since one-half of the vitamin A and nearly all of the ascorbic acid came from fruits and vegetables, quantities of these two vitamins would be closely related to the quantity of fruits and vegetables.

However, a combination such as calcium and ascorbic acid is more likely to have resulted from underconsumption of the principal source of each--too little milk to meet calcium allowances but enough for riboflavin, and too little of the fruits and vegetables that are the richest sources of ascorbic acid.

COMPARISON WITH EARLIER SURVEYS

CONSUMER PURCHASES STUDY, 1936

Diets in the United States have improved markedly over the last few decades. In the 1930's when a large-scale survey was made, a third of the diets were classed as "poor" (4). (See Glossary, Poor diets.) When we apply the same standards to diets of the households surveyed in 1955, only a little over a tenth (13 percent) are considered "poor." (See table 5.)

Economic conditions, developments in the production and marketing of foods, and nutrition education have probably all played a part in this improvement.

In 1936, during the depression, farm families with their supplies of home-produced food were less likely to have poor diets than nonfarm families. By 1955 both groups had improved their diets, but the nonfarm had improved considerably more than the farm. In 1936 about 40 percent of the nonfarm diets were graded "poor;" in 1955 only 12 percent were so graded. However, the percentage of "poor" farm family diets decreased far less--from about 25 to 15 percent--over the same period.

Diets in the South in 1955 were poorer than those in the North, but they had improved considerably since 1936. In the earlier year about 40 percent of the southern diets and about 25 percent of the northern were graded "poor." By 1955 these figures had dropped to 20 and 10 percent, respectively.

CITY FAMILY DIETS IN 1936, 1942, 1948

Between the depression period of the midthirties when many diets were poor and the early 1940's, city family food supplies were changing to provide increasing quantities of all nutrients (appendix table 19).[4] The average city diet contained between 10 and 20 percent more protein, iron, thiamine, and niacin in 1942 than in 1936, about 25 percent more calcium, riboflavin, and vitamin A value, and over 50 percent more ascorbic acid (appendix table 20). Energy value remained nearly the same. Thus, without changing the total quantity of foods as measured by energy value, families were making choices that gave them more protein, minerals, and vitamins. During this time period economic conditions improved markedly. The need for improved nutrition had been pointed out in publications such as "Are We Well Fed?" (4). The nationwide enrichment of grain products had been started and programs in nutrition education had been instituted.

Between 1942 and 1948 when nationwide urban dietary surveys were made, the greatest nutrient increases were in iron, thiamine, riboflavin, and niacin. These four nutrients are used in enriching white bread and white flour. In the spring of 1942 only part of the flour and bread sold to consumers was enriched, and the specifications for enrichment were lower than in 1948. By 1948, nearly all families reported that the white bread and flour they purchased were enriched, so that even though they were using no more grain products than in 1942 (appendix table 21) they were obtaining more nutrients from this group.

Even without enrichment of bread and flour, diets would have shown improvement in some nutrients during the 1940's. Families were using more milk and milk products, thereby increasing the calcium, riboflavin, and protein content of their diets.

Increased consumption of fruit offset the smaller consumption of potatoes, so that amounts of ascorbic acid remained the same.

Between 1948 and 1955 the increase in nutrient content of the average city diet was smaller than it had been in earlier years. The greatest increases were in protein, thiamine, niacin, and iron. These were related to increased consumption of meat. However, some of the increases in nutrients from the larger quantities of meat were offset in part by decreases that resulted from lower consumption of cereals and baked goods. Although the amounts of fruit used remained the same between 1948 and 1955, use of vegetables was reduced. In the later years, furthermore, housewives often selected kinds of fruits and vegetables that were less rich in ascorbic acid. As a result, ascorbic acid values of diets decreased by about a tenth.

Not all of the changes in the diets of city families in each time period affected all of the families to the same extent. The third of the families at the low end of the income scale benefited much more from the changes between 1936 and 1942 and between 1942 and 1948 than they did later (figures 3, 4, appendix table 20).

Between 1936 and 1948, although average quantities of nearly all dietary essentials were larger for the third of the families with the highest incomes, diets of the third with lowest incomes showed a greater rate of improvement. The differences in the rate of improvement between the two groups can be seen from the following percentage changes in averages for some key nutrients:

	1936 to 1942		1942 to 1948	
	Lowest income third	Highest income third	Lowest income third	Highest income third
	Percent	Percent	Percent	Percent
Calcium	34	6	19	14
Vitamin A	41	4	5	6
Thiamine	23	-5	30	17
Riboflavin	37	5	26	18
Ascorbic acid	78	30	13	-4

The poorer families used more grain products and thus benefited most from enrichment programs. They also made much greater gains in consumption of meat and of ascorbic acid-rich citrus fruits.

[4] This discussion is limited to city families, because only for them have surveys been made that enable us to compare diets in 1936, 1942, 1948, and 1955.

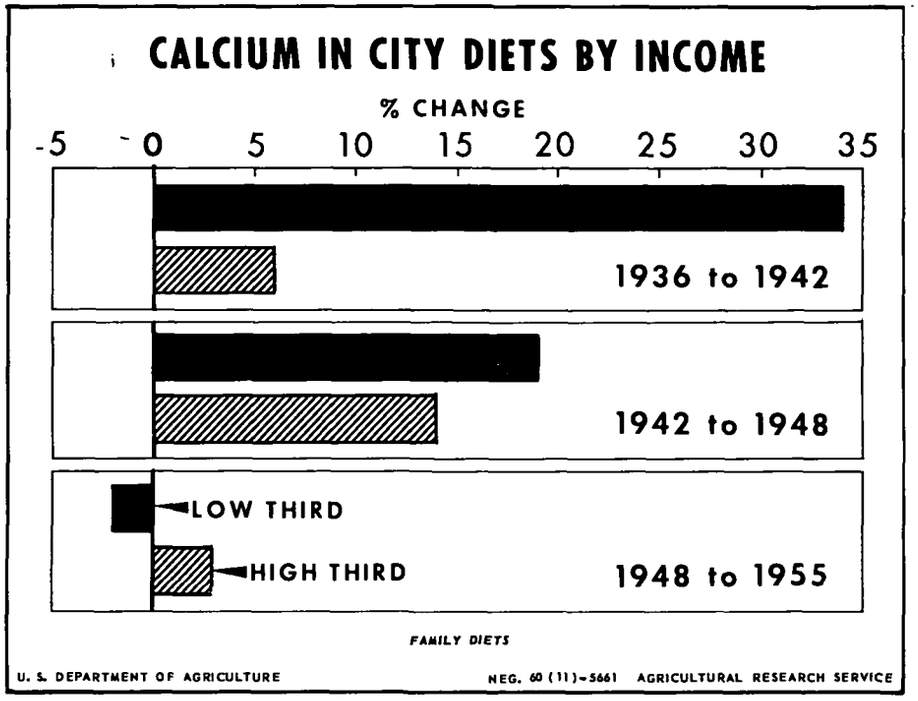

Figure 3.

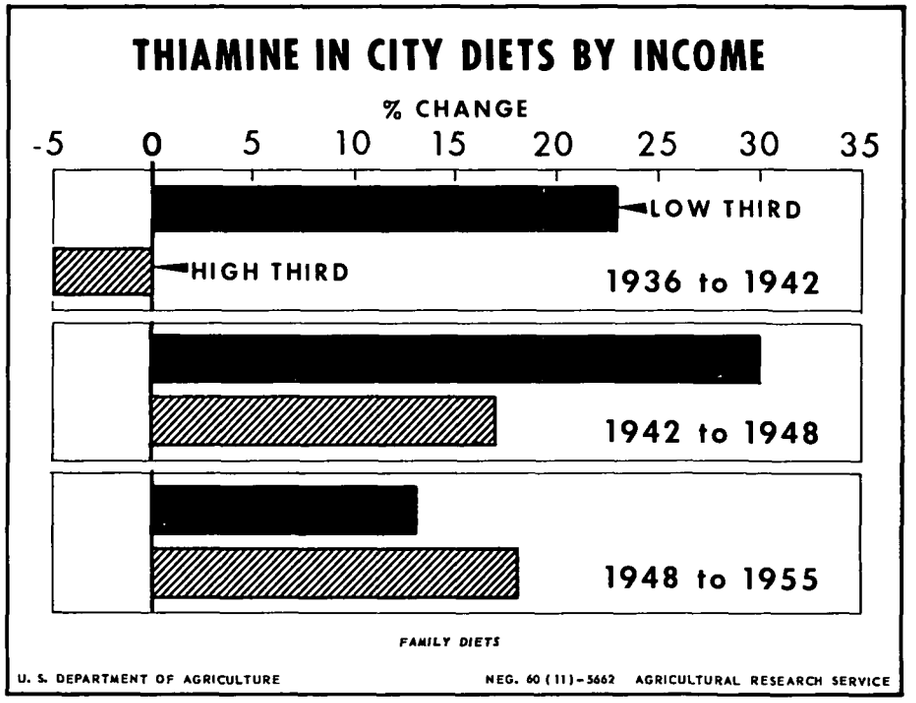

Figure 4.

Between 1948 and 1955 the trend that had been noticed earlier--for diets of low-income families to become more like those of the higher income groups--seems to have been arrested. During these more recent years all the income groups shared fairly equally in the changes. There were increases for some nutrients and decreases for others, with the decrease notably for ascorbic acid.

REGIONAL DIFFERENCES

Regional differences in the nutritive quality of diets may arise from many factors--differences in household size or income, in the education of the homemaker, in the proportion of rural families, in marketing facilities, or in basic food habits.

DIETARY ADEQUACY

In these days of rapid mass communication and rapid food transportation facilities we are seeing the gradual disappearance of many of the differences we used to associate with particular geographic areas. Food habits throughout the Nation, however, are by no means homogeneous. In 1955, family diets in each of the three geographic regions that make up the broad area referred to in this publication as the North were similar to each other in adequacy, but diets in the South were poorer than those in the North. These relationships are shown by the following percentages of diets in a week that met recommended allowances in all of eight nutrients:[5]

	Percent
All North	57
Northeast	55
North Central	59
West	56
South	43

[5] The fact that a diet did not meet the National Research Council's allowances in one or more nutrients does not mean that the people consuming it are necessarily malnourished--it just means that their diets might be improved. The measure is used here, as elsewhere in the report, as a convenient summary statistic for comparisons of groups.

In diets that provided less than the NRC allowance of one or more nutrients, the number of nutrients that fell below the recommended amounts was slightly larger in the South than in the North, as shown by the following data:

	Number of nutrients
All North	2.6
Northeast	2.7
North Central	2.6
West	2.5
South	3.0

In general, household diets in the three regions in the North were similar not only in overall quality but also in the proportions meeting allowances in each nutrient. The outstanding exception was thiamine in which diets of families in the Northeast were more likely to fall short of recommended levels than diets of families in any of the other regions (table 7). Families in the Northeast used smaller amounts of grain products and less pork--both good sources of thiamine if the grain products are whole grain or enriched (table 8).

Southern families used smaller amounts of milk, of meat, and of fruits and vegetables than those in the North, and hence their diets were poorer in all nutrients except iron and thiamine. Because they used more grain products, many of which were enriched, as many of their diets met allowances in iron and thiamine as did diets in the North.

The relatively poorer position of the South shows up most sharply for calcium and vitamins A and C. Low levels of milk consumption account for the South's poorer showing in calcium.[6] Smaller consumption of fruits and vegetables of all kinds and especially of citrus fruit and tomatoes resulted in considerably less ascorbic acid in southern diets. The percentage of southern diets containing less than two-thirds of the recommended amounts of vitamins A and C was about the same as the percentage of northern diets not meeting the full allowance in each of these vitamins.

[6] One explanation of this difference in milk consumption may be the price of milk. The average price that households in the South reported paying for a quart of whole fluid milk was 24 cents; households in the North, 21 cents.

TABLE 7.--DIETARY ADEQUACY, BY REGION: *Percentage of households using food at home in a week that furnished NRC recommended amounts*[1] *of 8 nutrients*

[Housekeeping households of 1 or more persons, April-June 1955]

Nutrient	North				South
	All	Northeast	North Central	West	
(1)	(2)	(3)	(4)	(5)	(6)
	Percent	Percent	Percent	Percent	Percent
All of 8 nutrients	57	55	59	56	43
Protein	94	93	95	95	88
Calcium	73	72	74	74	66
Iron	90	88	91	93	90
Vitamin A value	88	88	87	89	74
Thiamine	82	78	86	84	85
Riboflavin	83	82	84	85	75
Niacin	94	93	95	94	90
Ascorbic acid	81	83	81	77	63

[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.

Source: Calculated from 1955 Household Food Consumption Survey, Reports 7-10 (16-19) and unpublished data.

TABLE 8.--FOOD USED AT HOME, BY REGION: *Quantity per person in a week*

[Housekeeping households of 1 or more persons, April-June 1955]

Food group	North				South
	All	Northeast	North Central	West	
(1)	(2)	(3)	(4)	(5)	(6)
Milk, cream, ice cream, cheese (milk equivalent) ... quarts	4.68	4.52	4.76	4.85	3.98
Milk, fresh and processed (equivalent) ... do	3.90	3.74	3.99	4.02	3.42
Cream and ice cream ... pounds	.52	.44	.59	.51	.32
Cheese ... do	.37	.34	.38	.43	.21
Meat, poultry, fish, eggs, dry legumes, nuts ... do	5.56	5.47	5.56	5.78	4.98
Meat, poultry, fish ... do	4.12	4.17	4.11	4.07	3.24
Bacon, salt pork ... do	.23	.18	.26	.28	.46
Eggs ... dozen	.60	.56	.62	.66	.63
Dry beans and other legumes (dry weight) ... pounds	.10	.08	.10	.16	.26
Nuts (shelled weight), peanut butter ... do	.09	.09	.09	.10	.07
Mixtures and soups ... do	.16	.17	.13	.21	.10
Vegetables ... do	6.20	6.10	6.29	6.22	5.50
Potatoes ... do	1.98	1.92	2.14	1.67	1.46
Sweetpotatoes ... do	.05	.05	.05	.05	.11
Dark green and deep yellow ... do	.54	.61	.47	.56	.48
Other green ... do	1.39	1.32	1.40	1.52	1.51
Tomatoes ... do	.84	.83	.83	.87	.70
Other vegetables ... do	1.27	1.22	1.27	1.39	1.17
Mixtures and soups ... do	.14	.14	.12	.17	.07
Fruits (juice equivalent of citrus, fresh equivalent of dried, total of all other) ... do	4.18	4.06	4.24	4.29	2.93
Citrus (juice equivalent) ... do	1.42	1.43	1.45	1.33	.86
Dried ... do	.06	.05	.05	.07	.05
Other ... do	2.53	2.41	2.60	2.67	1.87
Grain products (flour equivalent) ... do	2.44	2.21	2.59	2.60	3.69
Enriched, restored, or whole grain (flour equivalent) ... do	1.91	1.72	2.05	2.01	2.50
Not enriched, restored, or whole grain (flour equivalent) ... do	.50	.46	.52	.56	1.16
Mixtures and soups ... do	.17	.19	.15	.19	.11
Fats and oils ... do	.84	.77	.88	.92	1.01
Butter and margarine ... do	.44	.43	.44	.43	.32
Other (including salad dressings) ... do	.40	.33	.44	.49	.68
Sugars and sweets (equivalent) ... do	1.29	1.13	1.43	1.32	1.57
Sugars, sirups, jellies, candy ... do	1.15	.99	1.28	1.20	1.45
Other (sugar equivalent) ... do	.14	.14	.15	.12	.12

Source: Calculated from 1955 Household Food Consumption Survey, Reports 7-10 (16-19) and unpublished data.

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DIET PATTERNS

Sources of nutrients in southern diets tended to follow a pattern different from that in the North (figs. 5, 6). As mentioned before, households in the South used more grain products and less meat, poultry, and fish than those in the North. Both of these food groups supply considerable amounts of energy value, protein, iron, and B-vitamins. In general, higher consumption of grain products in the South made up for lower consumption of foods in the meat group. In fact, the two groups together provided slightly more calories and more thiamine in southern than in northern diets and about the same amounts of iron and riboflavin in both regions. In protein and niacin, however, the households in the South did somewhat less well on their high-grain diets. Following are the average quantities per nutrition unit per day for each region:

	Meat, poultry, fish		Grain products		Both food groups	
	North	South	North	South	North	South
Energy value ..cal..	804	599	1,017	1,335	1,821	1,934
Protein.....g..	47	35	24	30	71	65
Iron.....mg..	6.3	4.5	5.0	6.7	11.3	11.2
Thiamine.....mg..	.48	.38	.73	1.01	1.21	1.39
Riboflavin.....mg..	.52	.39	.39	.54	.91	.93
Niacin.....mg..	12.0	9.0	6.6	8.8	18.6	17.8

The grain products group, which often included calcium salts added for leavening in self-rising flour, also provided over a fifth of the calcium in family diets in the South (18, table 6). However, use of milk was relatively low, and the amounts of calcium and riboflavin provided by the combined milk and grain groups were not quite so great in southern as in northern diets, as shown by the following average quantities per nutrition unit per day:

	Milk, ice cream, cheese		Grain products		Both food groups	
	North	South	North	South	North	South
Calcium.....mg..	672	563	134	217	806	780
Riboflavin....mg..	1.25	1.05	0.39	0.54	1.64	1.59

Even though grain products contributed considerable amounts of protein, calcium, riboflavin, and niacin to southern diets, the contribution was not large enough to bring diets in the South up to the levels of these nutrients that the northern households derived from their greater consumption of meat, poultry, and fish and from milk, ice cream, and cheese. Furthermore, there were not enough additional foods in the southern diets to counterbalance the lack of vitamins A and C resulting from too small quantities of fruits and vegetables.

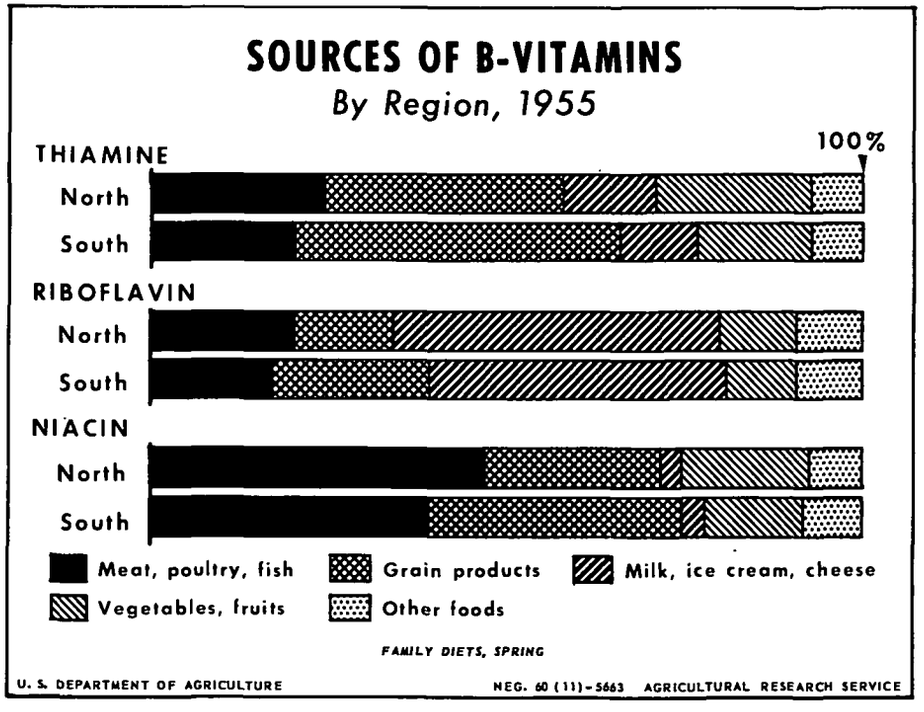

Figure 5.

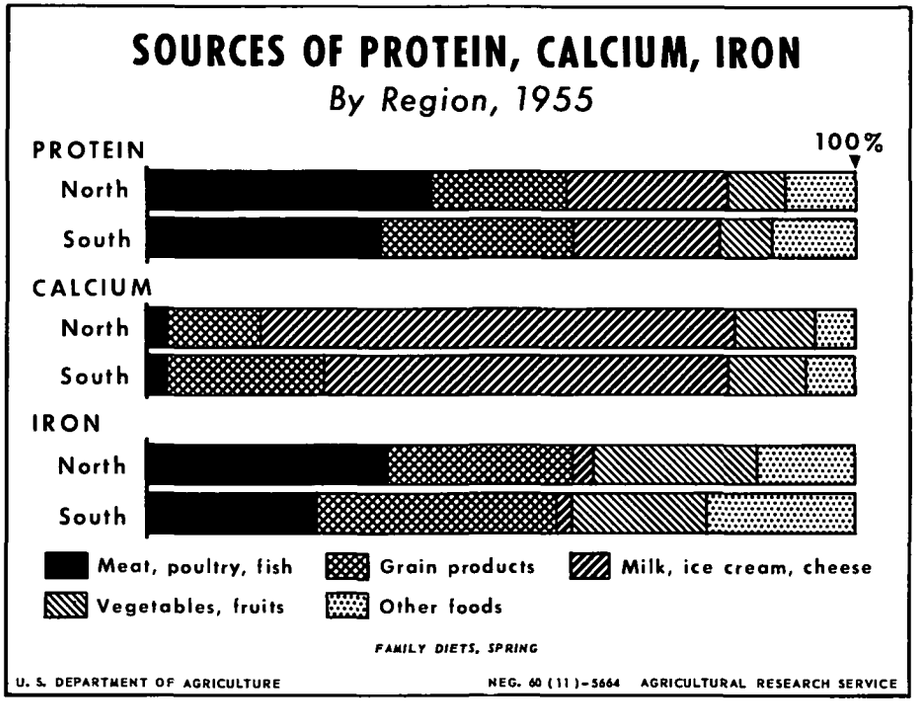

Figure 6.

CHANGES SINCE 1948

According to the 1955 Household Food Consumption Survey, city families in the South still have food habits different from those in the North--in fact, the differences were even greater in 1955 than in 1948. Comparable data for farm families are not available.

In 1948, on a per person basis, there was little difference between the North and the South as to the nutritive content of diets in cities. The average iron and thiamine content of diets was a little higher in southern than in northern households; the averages for protein, calcium, vitamin A value, and riboflavin were somewhat higher in the North; the niacin and ascorbic acid content were about the same for both regions (table 9). By 1955, diets in the North had caught up to those in the South in iron and thiamine and had pushed further ahead in most other nutrients.

Between 1948 and 1955, families in both regions had reduced their use of grain products by about 10 percent and had raised their consumption of meat by about 40 percent (table 10). Consumption of food grains was higher and of meat, poultry, and fish lower in the South than in the North for both time periods. Northern families used slightly more milk in 1955 than in 1948, but southerners were using a little less.

In 1955, diets in both regions had fallen behind those in 1948 in ascorbic acid, but the South had fallen much further behind. In 1948, diets in both regions averaged about 125 milligrams of ascorbic acid per person per day. By 1955 the content of this vitamin in northern diets had decreased by 8 percent, in southern diets by 23 percent. The total consumption of fruits and vegetables had dropped for both groups, but more in the South--particularly consumption of citrus fruits.

Apparently the southern homemaker, who is making less use of some foods such as grain products and dark-green and deep-yellow vegetables that have long been associated with southern menus, is not replacing them with foods equally high in nutritive quality.

TABLE 9.--NUTRITIVE VALUE OF CITY DIETS, 1948 AND 1955, BY REGION:
Average per person per day from food used at home in a week

[Housekeeping households of 2 or more persons, April-June]

Nutrient	1948		1955	
	North[1]	South	North[1]	South
(1)	(2)	(3)	(4)	(5)
Energy value.....cal..	2,990	3,040	3,030	3,090
Protein.....g..	92	86	105	96
Calcium.....g..	1.11	1.03	1.14	1.03
Iron.....mg...	15.7	16.5	17.0	16.9
Vitamin A value.....I.U..	9,140	8,120	9,340	8,200
Thiamine.....mg..	1.26	1.34	1.49	1.48
Riboflavin.....mg..	2.21	2.12	2.28	2.06
Niacin.....mg..	15.7	15.4	18.9	17.8
Ascorbic acid.....mg..	125	124	115	96

[1] Includes Northeast, North Central, West.

Source: 1955 Household Food Consumption Survey, Report 9 (18, table 3); calculated from 1955 Household Food Consumption Survey Reports 7, 8, 10 (16, 17, 19); unpublished data from the 1948 Survey of Food Consumption of Urban Families in the United States (See 2 for description of survey).

TABLE 10.--FOOD USED AT HOME BY CITY FAMILIES, 1948 and 1955, BY REGION:
Quantity per person in a week

[Housekeeping households of 2 or more persons, April-June]

Item	1948		1955	
	North[1]	South	North[1]	South
(1)	(2)	(3)	(4)	(5)
Household size (21 meals at home = 1 person).....persons..	3.38	3.53	3.32	3.39
Milk, cream, ice cream, cheese (milk equivalent).....quarts..	4.50	3.81	4.57	3.66
Meat, poultry, fish, eggs, dry legumes, nuts (including mixtures and soups).....pounds..	4.42	4.21	5.62	5.32
Meat, poultry, fish.....do....	3.05	2.54	4.24	3.70
Bacon, salt pork.....do....	.21	.42	.22	.42
Eggs.....dozen..	.57	.57	.57	.60
Vegetables (including mixtures and soups).....pounds..	6.88	5.75	6.14	5.41
Potatoes.....do....	2.22	1.42	1.76	1.29
Dark green and deep yellow (including sweetpotatoes).....do....	.78	.80	.67	.64
Tomatoes.....do....	.90	.69	.88	.75
Other vegetables.....do....	2.87	2.76	2.67	2.65
Fruits (juice equivalent of citrus, fresh equivalent of dried, total of all other).....do....	4.04	3.79	4.20	3.30
Citrus (juice equivalent).....do....	1.47	1.33	1.51	1.10
Grain products (flour equivalent)..do....	2.57	3.30	2.25	2.92
Fats and oils.....do....	.85	1.01	.79	.93
Butter and margarine.....do....	.43	.32	.42	.32
Other (including salad dressings).....do....	.42	.68	.37	.60
Sugars and sweets (sugar equivalent).....do....	1.40	1.50	1.16	1.42

[1] Includes Northeast, North Central, West.

Source: Calculated from 1955 Household Food Consumption Survey, Reports 7-10 (16-19); adapted from Food Consumption of Urban Families in the United States (2).

DIFFERENCES RELATED TO URBANIZATION

Interpretation of some of the differences in the nutritive quality of diets between farm and city families is complicated by differences relating to region and to other factors such as income. The preceding section on regional differences indicated some of the major differences found in food consumption patterns. Because the farm population includes considerably fewer northern households (55 percent) than does the urban (75 percent), farm and city patterns are compared in this section for each region separately.

DIETARY ADEQUACY

In the North the proportion of diets that met NRC allowances in all of the eight nutrients studied was larger for farm than for city families (61 as compared with 57 percent) (table 11). The difference was small but statistically significant. In the South an equal proportion (42 percent) of farm and city family diets met the allowances.

Furthermore, the northern city diets that failed to meet allowances in any of the nutrients failed in a larger number than did the farm diets (2.7 as compared with 2.1), whereas the reverse was true in the South (2.8 as compared with 3.1).

Although more farm than city diets in the North met allowances in all of eight nutrients, the same relationship did not exist for each of the nutrients. A slightly higher percentage of city than of farm diets met the recommendations for vitamins A and C (table 11). Both groups used about the same total quantity per person of fruits and vegetables, but the city households used more of the vitamin A-rich dark-green and deep-yellow vegetables and the ascorbic acid-rich citrus fruits (table 12). It may be that in the summer and early fall, when home-grown tomatoes

TABLE 11.--DIETARY ADEQUACY, BY URBANIZATION: *Percentage of households using food at home in a week that furnished NRC recommended amounts[1] of 8 nutrients*

[Housekeeping households of 1 or more persons, April-June 1955]

Nutrient	North[2]			South		
	Urban	Rural nonfarm	Rural farm	Urban	Rural nonfarm	Rural farm
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Percent	Percent	Percent	Percent	Percent	Percent
All of 8 nutrients	57	54	61	42	43	42
Protein	93	94	97	91	85	84
Calcium	73	73	79	61	70	73
Iron	89	91	96	90	90	92
Vitamin A value	89	84	87	81	68	65
Thiamine	80	85	93	82	88	88
Riboflavin	82	83	89	74	75	76
Niacin	94	94	97	92	87	87
Ascorbic acid	83	75	79	68	59	55

[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.
[2] Includes Northeast, North Central, West.

Source: Calculated from 1955 Household Food Consumption Survey, Reports 7-10 (16-19) and unpublished data.

TABLE 12.--FOOD USED AT HOME, BY URBANIZATION: *Quantity per person in a week*

[Housekeeping households of 1 or more persons, April-June 1955]

Food group	North[1]			South		
	Urban	Rural nonfarm	Rural farm	Urban	Rural nonfarm	Rural farm
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Milk, cream, ice cream, cheese (milk equivalent)....quarts..	4.56	4.69	5.43	3.65	3.90	4.85
Milk, fresh and processed (equivalent)....do....	3.80	3.87	4.60	3.01	3.39	4.36
Cream and ice cream....pounds..	.48	.51	.80	.41	.23	.29
Cheese....do....	.38	.38	.34	.24	.19	.17
Meat, poultry, fish, eggs, dry legumes, nuts....do....	5.62	5.29	5.78	5.36	4.69	4.61
Meat, poultry, fish....do....	4.24	3.84	4.09	3.73	2.89	2.76
Bacon, salt pork....do....	.22	.24	.28	.43	.47	.52
Eggs....dozen..	.58	.59	.79	.61	.65	.68
Dry beans and other legumes (dry weight)....pounds..	.09	.12	.13	.20	.32	.32
Nuts (shelled weight), peanut butter....do....	.09	.10	.09	.07	.08	.06
Mixtures and soups....do....	.18	.15	.07	.13	.08	.05
Vegetables....do....	6.16	6.13	6.60	5.49	5.51	5.44
Potatoes....do....	1.75	2.22	2.78	1.29	1.63	1.51
Sweetpotatoes....do....	.06	.04	.04	.12	.11	.09
Dark green and deep yellow....do....	.62	.41	.36	.54	.42	.45
Other green....do....	1.38	1.37	1.46	1.44	1.50	1.70
Tomatoes....do....	.88	.78	.71	.76	.69	.56
Other vegetables....do....	1.31	1.19	1.17	1.27	1.10	1.09
Mixtures and soups....do....	.15	.12	.07	.08	.07	.03
Fruits (juice equivalent of citrus, fresh equivalent of dried, total of all other)...do....	4.25	4.00	4.13	3.39	2.70	2.30
Citrus (juice equivalent)....do....	1.53	1.27	1.08	1.12	.74	.47
Dried....do....	.06	.05	.07	.06	.04	.04
Other....do....	2.49	2.52	2.82	2.04	1.78	1.64
Grain products (flour equivalent)....do....	2.26	2.65	3.08	2.94	4.06	4.74
Enriched, restored, or whole grain (flour equivalent)....do....	1.71	2.15	2.55	2.10	2.68	3.05
Not enriched, restored, or whole grain (flour equivalent)....do....	.51	.48	.51	.81	1.32	1.68
Mixtures and soups....do....	.20	.14	.07	.10	.15	.04
Fats and oils....do....	.79	.91	.97	.93	1.01	1.17
Butter and margarine....do....	.42	.46	.46	.33	.30	.34
Other (including salad dressings)....do....	.37	.45	.51	.60	.70	.83
Sugars and sweets (equivalent)...do....	1.15	1.39	1.89	1.42	1.59	1.88
Sugars, sirups, jellies, candy....do....	1.00	1.28	1.79	1.29	1.48	1.79
Other (sugar equivalent)....do....	.16	.12	.10	.13	.11	.09

[1] Includes Northeast, North Central, West.

Source: Calculated from 1955 Household Food Consumption Survey, Reports 7-10 (16-19, tables 13, 14, and 15).

and other vegetables are available, this difference in the vitamin A and C content of farm and city diets would be less. More farm than city household diets met allowances in iron and thiamine, probably because of greater use of enriched grains and potatoes on farms. Farm diets were also a little better than urban in protein, calcium, riboflavin, and niacin because they included more milk and grain products.

In the South, as in the North, more city than farm families had diets that provided recommended amounts of vitamins A and C, but the differences between city and farm in the percentage of diets meeting the allowances were much greater. Southern city families used more of all fruits and vegetables added together than did the farm families. The former used over twice as much citrus fruit per person as the latter. As in the North, more farm than city diets met allowances in iron and thiamine because of greater use of enriched grain products, and in calcium because of greater use of milk and milk products. On the other hand, fewer southern farm than city diets reached allowances in protein and niacin. Southern farm families used considerably less meat, poultry, and fish than did city families in this region.

In the North fewer rural nonfarm families' diets (54 percent) met allowances in all of eight nutrients than did diets in other urbanization groups (57 percent for city, 61 percent for farm). The lowest proportion meeting vitamin A and C allowances was found in the rural nonfarm group, which used the smallest quantities of fruits and vegetables. With respect to adequacy in most of the other nutrients, diets of rural nonfarm households lay between those of the urban and farm groups, but somewhat closer to the city than to the farm.

In the South there was no difference among the three urbanization groups in the percentage of families meeting allowances in all of the eight nutrients. For each nutrient separately, the rural nonfarm families occupied a position between the other two groups in most cases.

CONTRIBUTION OF HOME-PRODUCED FOOD TO FARM DIETS

Even though farm homemakers bought quite a bit of the food they served to their families, they also made good use of food raised at home. About 40 cents out of every food dollar was represented by home-produced food (15, table 6). About half of the meat used and two-thirds of the milk came from the families' own animals. One-third of the vegetables and fruits were grown on the farm or picked in woods and fields.

Home-grown foods made a big dietary contribution. Nearly half of the calcium and a third of the riboflavin in diets of farm families was supplied by milk from their own cows. Studies have shown that families who produce their own milk use much more than those who buy all of it.

Fruits and vegetables grown on the farm provided a fifth of the vitamin A and nearly a third of the ascorbic acid in a week. Farm-produced meat animals and poultry provided appreciable amounts of protein, iron, and B-vitamins. Despite more purchasing of food by farm families in 1955 than earlier, home production still plays an important part in the quality of farm diets.

There were few regional differences in the home-production picture. Both northern and southern farm families used home-produced food that represented about the same percentage of their food dollar. The southern group, however, obtained from their farms more of their vegetables (52 percent) than did the northern farm families (36 percent), and their home-produced foods supplied larger percentages of the vitamins A and C in their diets (54 compared with 40 percent for vitamin A and 46 compared with 37 percent for vitamin C).

As noted earlier, southern farm diets were poorer than northern in these two vitamins. It seems that both the total quantity and the varieties of vegetables that southern farm families were obtaining from the farm during a week in the spring, were not so good sources of these vitamins as those the northern farm families were buying.

More details on the amounts of foods produced on the farm for home use and their contribution to the nutritive content of diets may be found in the 1955 Household Food Consumption Survey, Reports 6-10 (15-19). For quantities, see tables 13-15; for the nutritive contribution, tables 3-6. Data on specific foods home-produced in the year 1954 and on home-preservation of these foods may be found in Report 12 (20).

DIETS OF ONE-PERSON FAMILIES

Nearly a tenth (8.1 percent) of the survey households were families of one person.[7] Even though these were not a sample of all single individuals in the country, they nevertheless yield some interesting data. The sample was designed to give a representative selection of all housekeeping households in the country. More single individuals than larger family groups therefore would have been omitted, since more of the former would have been living in rooming houses or institutions or would have been eating too many meals out to qualify for inclusion in this survey.

[7] An economic family of one person may have had guests or help eating meals in the household during the survey week. Therefore, the household size in meal-equivalent persons may have been larger than one. The average household size for all one-person families was 1.09 persons.

Four-fifths of those in the sample who were living alone were women--nearly half were women 60 or more years of age. Two out of five of these women were employed--a higher percentage than for women in family groups. A slightly higher percentage of the one-person than of the larger families lived in cities.

The single persons eligible for inclusion in the survey did not eat out any more often than the members of larger families. Both groups had about two meals per person away from home in a week. However, the single persons paid for fewer of their meals out. They purchased only half of the meals eaten away from home and received half as guests at other homes or without cost at places of employment. Larger families paid for two-thirds of their meals when eating out. Both groups did about

the same amount of entertaining--about four meals a week to nonfamily members, most of whom were guests. Hence, the proportion of guest meals to total meals in the week was much greater for single persons than for families.

One-person families had food at home with higher money value than did larger households--$9.10 per person in a week compared with $7.53 for households of two or more (15, table 16). On the average, they used about the same amounts or slightly more per person of most groups of foods, but much more of fruits and vegetables as shown by the following quantities used per person in a week:

		1-person families	Families of 2 or more
Milk, cream, ice cream, cheese	qt	4.2	4.5
Meat, poultry, fish	lb	4.7	4.1
Vegetables	lb	7.4	5.9
Fruits	lb	5.5	3.7
Grain products	lb	3.0	2.8
Fats and oils	lb	1.0	.9
Sugars and sweets	lb	1.5	1.4

The higher cost of food in one-person households was in part from use of greater quantities of some groups of foods and in part from more expensive choices within groups. For instance, the grain products that single individuals used were more expensive as a whole than those used by larger households because they included a larger proportion of baked goods. The money value per pound for fats and oils was greater for one-person than for larger families, owing to a higher proportion of butter and to higher prices paid per pound for each kind of fat used.

The average amounts of nutrients in foods used in a week were much higher for one-person than for larger families (15, table 4). Yet the proportion of single persons having good diets was no greater when judged by the percentage meeting recommendations in all nutrients--for both groups about half of the households. The percentage of diets not meeting allowances for each nutrient was also about the same for single persons as for larger households. However, the percentage having more than double the allowance of each nutrient was much greater in the single-person group. It would appear that some of the single persons were overreporting food used or were discarding a great deal and thus were partly responsible for the high averages for the total group of all single persons.

Some of the relationships between dietary adequacy and other factors that appeared among the average for all households were not so apparent for the single persons only. There were no consistent differences related to urbanization and only a slight tendency for northern diets to be better than southern and for diets at higher income levels to be better than those at low levels. However, differences related to age and education of the homemaker were similar to those found among larger families. (See p. 19, Age and education of the homemaker.) More single women with college education had diets meeting allowances than those with less formal schooling; more women under 60 years of age had good diets than those who were older, as shown by the following percentages of diets of one-person families meeting allowances in all of eight nutrients:

	Percent
Region:	
North	54
South	51
Urbanization:	
Urban	54
Rural nonfarm	49
Rural farm	53
Income:	
Under $2,000	50
$2,000-$3,999	57
$4,000 and over	54
Education: (Women only)	
Elementary	51
High school	54
College	78
Age: (Women only)	
Under 50 years	61
50-59 years	60
60 years and over	53

SOME FACTORS AFFECTING DIETARY LEVELS

FAMILY INCOME

Among city families dietary adequacy, as measured by the percentage of household diets meeting allowances in all of eight nutrients, was closely related to income (figure 7, appendix table 20).[8] At each successively higher income level a greater percentage of diets met allowances, a relationship that existed among both northern and southern families. There was a tendency for those at the higher income levels whose diets did not meet allowances in one or more nutrients to fail in a single nutrient only (appendix table 22). At the lower income levels a somewhat larger percentage of households failed in four or more nutrients.

Differences in dietary adequacy among income classes, however, should probably not be attributed entirely to income. Income differences are likely to reflect also variations among households in location of the home as to region and degree of urbanization, education, size of the family, and other characteristics.

Furthermore, the reported income (which was for the year 1954) probably represented the normal level for some families, but for others

[8] In earlier sections of this report adequacy in terms of all of eight nutrients and of each nutrient separately has been discussed (in relation to region and urbanization, and for one-person families). In this section only the one measure--adequacy in terms of all eight nutrients--is included, since the individual nutrients have been covered in relation to income in Reports 6-10 (15-19).

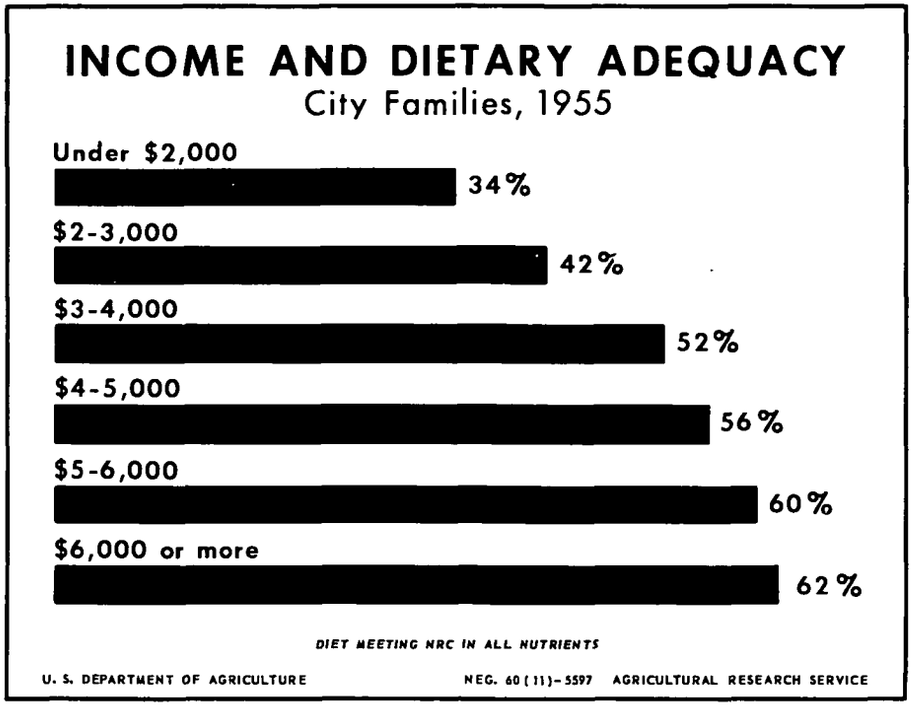

Figure 7.

it may have been unusually high or unusually low. Many families do not make adjustments in their spending until some time after their income changes. Illness or other unusual expense may cut into money ordinarily available for food in some families. In other families, such as those of retired persons, savings and other assets may be used to supplement a low income.

Among farm families who produced a considerable amount of the food they used, dietary adequacy was less closely related to income than it was among city families. For the farm group in the North, the percentage of diets meeting allowances in all nutrients was nearly the same at each income level. Southern farm families with higher income showed some, although not entirely consistent, tendency to have better diets than those with lower incomes, as shown by the following percentages of households at different income levels with diets meeting allowances in all eight nutrients (from appendix table 22):

Income:	North Percent	South Percent
Under $1,000	62	29
$1,000-$1,999	60	43
$2,000-$2,999	59	49
$3,000-$3,999	66	45
$4,000-$4,999	60	52
$5,000-$5,999	67	52
$6,000 and over	60	57

AGE OF THE HOMEMAKER

According to the data presented in Household Food Consumption Survey Report 14 (21), fewer households with homemakers over 60 years of age than of those in which the homemaker was under 60 had food supplies that met allowances in each of eight nutrients. The extent of the difference varied by region, however.

The summary measure of adequacy used here reaffirms the existence of poorer diets among households with homemakers over 60 for the United States as a whole. The proportion of households, grouped by age of homemaker, with diets meeting the recommended allowances in all eight nutrients was as follows:

Age of homemaker:	Percent
Under 30 years	55
30-49 years	52
50-59 years	56
60 years and over	47

There were regional and urbanization differences in the relationship between age and dietary adequacy. Homemakers over 60 years old in cities in the North tended to provide poorer diets for their families than did younger women, particularly when family income was low (table 13). Among rural farm and rural nonfarm families in the North and among all groups in the South there were no consistent relationships between the age of the homemaker and dietary adequacy.

EDUCATION OF THE HOMEMAKER

In general, homemakers with higher education provided better diets than those with fewer years of formal education (table 14). For all households, the percentages of diets in each education-of-homemaker category that met NRC recommended allowances in eight nutrients are as follows: Elementary school, 42 percent; high school, 55 percent; and college, 70 percent.

Since a greater proportion of households with college-trained homemakers were at the higher income levels and those with homemakers having only elementary school education were at the lower income levels, the above comparison shows the effect of income as well as education on the level of diet.

When comparisons are made with income held constant, it is still generally true that families with the more highly educated homemakers had better diets. There are exceptions, however, notably among city families in the $2,000-$4,000 income class. In this group only 41 percent of the college-educated wives provided diets meeting allowances in all nutrients, compared with 52 percent of high-school educated wives, and 44 percent of those with elementary education.

Among city families with incomes over $4,000 a year there was no significant difference in the proportion of homemakers with high school and with elementary school education who provided diets meeting allowances in all eight nutrients (53 percent for elementary and 57 percent for high school). Those who had gone to college, however, did better (72 percent).

On farms, diets of families with college-trained wives were better regardless of income. Better educated farm families may have been able to make better use of home production facilities.

TABLE 13.--DIETARY ADEQUACY, BY AGE OF HOMEMAKER: *Percentage of households using food at home in a week that furnished NRC recommended amounts[1] of 8 nutrients, by region, urbanization, income, and age of homemaker*

[Housekeeping households of 2 or more persons, April-June 1955]

Money income after income taxes (dollars) and age of homemaker	United States				North[2]				South			
	All urbanizations	Urban	Rural nonfarm	Rural farm	All urbanizations	Urban	Rural nonfarm	Rural farm	All urbanizations	Urban	Rural nonfarm	Rural farm
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Under 2,000:												
Under 30 years	31	30	16	49	46	45	20	59	23	23	15	38
30-49 years	34	28	35	39	50	41	41	64	28	23	32	28
50-59 years	42	46	32	48	59	67	36	67	33	29	30	39
60 years and over	37	35	33	49	39	38	35	54	35	31	31	46
2,000-3,999:												
Under 30 years	51	51	48	62	56	59	49	68	41	38	45	46
30-49 years	47	44	51	51	52	49	59	56	40	37	43	44
50-59 years	54	49	58	61	58	54	63	67	44	37	50	53
60 years and over	51	52	42	62	54	53	50	69	40	47	25	52
4,000-5,999:												
Under 30 years	63	61	67	68	66	65	68	68	53	48	63	71
30-49 years	56	56	55	56	57	58	54	59	51	47	57	48
50-59 years	60	58	65	64	61	59	65	74	52	50	67	30
60 years and over	54	54	50	68	54	52	60	59	62	100	0	100
6,000 and over:												
Under 30 years	69	69	64	80	71	70	70	83	62	67	50	67
30-49 years	61	62	62	55	61	62	61	57	62	62	68	48
50-59 years	62	61	67	64	65	64	68	64	32	22	50	67
60 years and over	63	67	33	62	62	66	33	60	71	71	100	67
All incomes[3]:												
Under 30 years	55	56	50	58	61	63	57	66	41	40	41	44
30-49 years	52	53	52	49	57	57	56	59	43	43	46	37
50-59 years	56	55	56	57	61	60	62	68	41	37	45	45
60 years and over	47	50	36	55	49	51	40	57	40	43	29	52

[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.
[2] Includes Northeast, North Central, West.
[3] Includes households not classified by income.

TABLE 14.--DIETARY ADEQUACY, BY EDUCATION OF HOMEMAKER: *Percentage of households using food at home in a week that furnished NRC recommended amounts[1] of 8 nutrients, by region, urbanization, income, and education of homemaker*

[Housekeeping households of 2 or more persons, April-June 1955]

Money income after income taxes (dollars) and education of homemaker	United States				North[2]				South			
	All urban-izations	Urban	Rural nonfarm	Rural farm	All urban-izations	Urban	Rural nonfarm	Rural farm	All urban-izations	Urban	Rural nonfarm	Rural farm
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Under 2,000:												
Elementary	30	31	25	36	38	43	25	54	25	22	24	29
High school	46	37	48	54	56	47	58	65	37	27	41	44
College	73	67	75	77	73	60	100	74	72	75	50	81
2,000-3,999:												
Elementary	43	44	40	47	48	48	46	53	36	37	34	40
High school	53	52	54	60	58	57	58	66	45	41	49	51
College	55	41	73	75	62	52	73	80	42	24	75	67
4,000-5,999:												
Elementary	54	55	49	57	55	55	57	58	47	57	35	54
High school	57	56	58	58	58	59	55	61	51	41	69	47
College	72	70	78	67	76	73	83	74	58	58	62	53
6,000 and over:												
Elementary	48	48	48	49	46	48	35	45	65	56	83	57
High school	60	60	60	58	62	62	61	59	53	51	58	50
College	73	73	74	79	73	73	75	89	71	72	67	50
All incomes[3]:												
Elementary	42	45	36	43	48	49	42	54	33	34	31	35
High school	55	54	56	58	58	58	57	63	46	42	54	48
College	70	69	72	74	72	72	73	77	60	57	68	68

[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.
[2] Includes Northeast, North Central, West.
[3] Includes households not classified by income.

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FACTORS ASSOCIATED WITH SPECIFIED LEVELS OF SELECTED NUTRIENTS

Calcium, ascorbic acid, and thiamine are nutrients that are likely to be in shorter supply than recommended in the diets of some groups in this country. Dietary fat is being scrutinized because the quantity and types of fats in diets have been associated by some with renal-cardiovascular diseases. These four nutrients, therefore, have been selected for special study. Households have been placed in three groups according to the content of each of these four nutrients in their diets. The foods used and characteristics of these groups of households have been analyzed. The following analysis, while based on detailed data for the Nation as a whole, is in general applicable to each of the regions and urbanizations.

CALCIUM, ASCORBIC ACID, THIAMINE

For these three nutrients the following levels (per adult-male equivalent) were selected for study:

Nutrient level:	Calcium	Ascorbic acid	Thiamine
	Grams	Milligrams	Milligrams
I	Under 0.80	Under 75	Under 1.50
II	0.80-1.19	75-124	1.50-1.99
III	1.20 or more	125 or more	2.00 or more

Level I consisted of households with diets in a week that did not meet the recommended allowance of the nutrient. Level III included households with diets considerably in excess of the allowance. For calcium, the excess was at least 50 percent over the allowance, for ascorbic acid 66-2/3 percent, and for thiamine 33-1/3 percent. Level II included the remainder--that is, those whose diets met the allowance but were not extremely far above it.

The numbers of households at each level are shown in appendix tables 23, 27, and 30.

Characteristics of Households

Households with diets at different calcium and ascorbic acid levels varied in a number of respects. Those at the lowest level generally had lower income, food with lower money value, more people to feed, and homemakers with less formal schooling than did those with successively higher nutrient level diets, and in the group lowest in ascorbic acid fewer households with facilities for freezing food. There was no consistent difference in the average age of the homemaker or in the percentage of homemakers employed away from home (appendix tables 23 and 27).

Differences in characteristics of households associated with the level of thiamine were much less marked. There were no consistent differences in income or household size among the three levels. However, as with the groups lowest in calcium and ascorbic acid, the lowest thiamine group had food with lower money value and had homemakers with somewhat less educational attainment. On the other hand, there was a slight tendency for households at the lowest thiamine level to have older homemakers and a somewhat higher percentage employed (appendix table 30).

Food Patterns

Households with diets at level I (not meeting the allowance) in any one of the three nutrients--calcium, ascorbic acid, thiamine--used less of each food group than those with level II or III diets (meeting the allowance) (appendix tables 25, 29, 32). Households using more of one type of food seem to use more of all types rather than more of some and less of others. However, the rise in nutrient level was related to differences in the percentage increases in quantities of specific food groups and to differences in the choices within groups that affected the quality of the group as a source of the nutrient being studied.

Calcium.--As might be expected, the most marked difference in food usage between households meeting and those not meeting calcium allowances was in the quantity per person of the milk group used (table 15). The level II calcium diets contained nearly twice as much milk and milk products as the level I; the level III, about three times as much. The proportionate increase in cream and ice cream and in cheese was not quite so great as that in fresh and processed milk. For all three levels, the milk group was the chief source of calcium (about half of the total for level I, about two-thirds for levels II and III) (appendix table 24).

TABLE 15.--RELATIVE QUANTITY OF FOOD USED, BY CALCIUM LEVEL OF DIET: *Average per person in a week at Level I and relative amounts at Levels II and III*

[Housekeeping households of 2 or more persons in the United States, April-June 1955]

Food group (1)	Level I (2)	Level II[1] (3)	Level III[1] (4)
	Pounds	Percent	Percent
Milk, cream, ice cream, cheese (milk equivalent)	5.02	182	308
Milk, fresh and processed (equivalent)	4.10	185	318
Cream, ice cream	.29	162	241
Cheese	.21	157	252
Meat, poultry, fish, eggs, dry legumes, nuts	4.66	121	150
Meat, poultry, fish (including bacon and salt pork)	3.66	120	147
Vegetables	4.75	131	167
Potatoes	1.51	123	142
Dark green and deep yellow	.39	136	197
Fruits	2.81	145	192
Grain products (flour equivalent)	2.36	111	147
Enriched, restored, or whole grain (flour equivalent)	1.72	116	146
Fats and oils	.76	117	149
Sugars and sweets	1.14	117	154

[1] Level I = 100.

Amounts of grain products used by households were greater in the higher calcium level groups than in the level I group (but not as much greater as the amounts of the milk group used). However, level I households also selected grains that were poorer sources of calcium than the level II or III groups, as shown by the following:

Calcium level:	Calcium per pound of grain products used
	Milligrams
I	437
II	481
III	494

Vegetables used in the level I diets also were poorer sources of calcium than those in the higher level diets. The diets of the former group contained less of each kind of vegetable but particularly less of the dark-green and deep-yellow varieties.

Ascorbic acid.--Households with diets at level I in ascorbic acid used smaller amounts of fruits and vegetables and chose kinds that were poorer sources of ascorbic acid than households with level II or III diets, as shown by the following:

Ascorbic acid level:	Ascorbic acid per pound of food	
	Fruits	Vegetables
	Milligrams	Milligrams
I	52	47
II	86	49
III	104	53

TABLE 16.--RELATIVE QUANTITY OF FOOD USED, BY ASCORBIC ACID LEVEL OF DIET: *Average per person in a week at Level I and relative amounts at Levels II and III*

[Housekeeping households of 2 or more persons in the United States, April-June 1955]

Food group (1)	Level I (2)	Level II[1] (3)	Level III[1] (4)
	Pounds	Percent	Percent
Milk, cream, ice cream, cheese (milk equivalent)	7.70	125	146
Meat, poultry, fish, eggs, dry legumes, nuts	4.38	126	155
Vegetables	4.00	146	202
Potatoes	1.46	125	142
Dark green and deep yellow (including sweetpotatoes)	.33	170	270
Tomatoes	.44	170	264
Other	1.77	153	223
Fruits	1.62	201	387
Citrus	.23	409	1,026
Other	1.39	166	281
Grain products (flour equivalent)	2.91	91	98
Fats and oils	.85	102	119
Sugars and sweets	1.26	104	124

[1] Level I = 100.

Households at the two lower ascorbic acid levels used less of fruits of all kinds than the higher level groups (table 16) and a much lower percentage of their fruit was citrus--14 percent for level I, 29 percent for level II, and 38 percent for level III. The lowest group also used smaller quantities of vegetables and chose an assortment with a lower proportion of tomatoes and of dark-green and deep-yellow vegetables--both good sources of the vitamin.

Thiamine.--The principal difference between the diets at various thiamine levels was in the thiamine per pound from the food group made up of meat, poultry, fish, eggs, legumes, and nuts. This difference was related mainly to the proportion of pork in the group--12 percent (by weight) for level I, 17 percent for level II, 24 percent for level III. The low-thiamine diets contained much less pork than the moderate- or high-thiamine diets (table 17)--a relationship particularly marked in the Northeast.

Households with low-thiamine diets also used grains that were poorer sources of the vitamin than did the other groups. Less of their grain products was whole-grain, enriched, or restored--66 percent for level I, 73 percent for level II, and 76 percent for level III.

Vegetables used by the low-thiamine group were also poorer as thiamine sources than those used by the higher thiamine groups--much poorer relatively in the South than in the North.

Some Unusual Patterns of Adequate Diets

Calcium adequacy was closely related to milk consumption. Over half of the households with diets at calcium level II used 4 or more

TABLE 17.--RELATIVE QUANTITY OF FOOD USED, BY THIAMINE LEVEL OF DIET: *Average per person in a week at Level I and relative amounts at Levels II and III*

[Housekeeping households of 2 or more persons in the United States, April-June 1955]

Food group (1)	Level I (2)	Level II[1] (3)	Level III[1] (4)
	Pounds	Percent	Percent
Milk, cream, ice cream, cheese (milk equivalent)	6.69	129	171
Meat, poultry, fish, eggs, dry legumes, nuts	4.21	116	159
Meat, poultry, fish[2]	3.29	115	158
Meat[2]	2.18	126	178
Beef	1.12	116	134
Pork[2]	.51	163	318
Vegetables	4.15	130	180
Fruits	2.55	139	191
Grain products (flour equivalent)	1.64	139	209
Enriched, restored, or whole grain (flour equivalent)	1.09	152	238
Fats and oils	.66	121	162
Sugars and sweets	.92	129	180

[1] Level I = 100.
[2] Includes bacon and salt pork.

quarts of milk equivalent per person in a week; over half of the level III households used more than 6 quarts (appendix table 26). However, there are other good sources of calcium--certain grain products and some vegetables. Most baked goods contain milk, and many are made with baking powder or mold inhibitors containing calcium. Self-rising flour, containing calcium salts, is popular for making hot breads in the South. But people in this country do not usually eat enough of such bread and baked goods to supply their calcium need. Of all the households studied, only three, an insignificant proportion of those studied, had calcium enough to meet NRC recommendations without directly using any milk products. These three families each used large amounts of self-rising flour--enough to provide 15 to 20 large biscuits a day for each person.

One of the three diets meeting calcium allowances but containing no milk is presented here as an example of how the same results can be achieved by different means. This diet pattern, however, would be attractive to few people. The family consisted of four adults with very limited income. The money value of their food for the week was $2.68 per person as compared with the average of $7.57 for all households. In addition to a large amount (25 pounds) of self-rising flour, they used over 6 pounds of cornmeal and grits. They had lard for making the biscuits, margarine for a spread, dry beans and peas, pork chops, and bologna for main dishes, salt pork for seasoning, potatoes and onions as vegetables. Their only possible extravagance was 2 pounds of canned meat stew. The diet met allowances in all nutrients except vitamins A and C. At a slight additional cost, dark leafy greens could have been included which would have augmented the supply of these two vitamins.

Ascorbic acid adequacy among families in this country is associated more closely with consumption of citrus fruit than with any other single group of foods. However, a number of fruits outside of the citrus group and certain vegetables provide considerable amounts of this vitamin. Among the good sources are strawberries, broccoli, and sweet peppers. Fair sources include melons, raw cabbage, dark leafy greens, tomatoes, and potatoes (25).

Some households used no fruit at all and still had diets that contained the recommended amounts of ascorbic acid. Twenty-seven were in this category--less than 1 percent of the households meeting ascorbic acid allowances. Of the 27, 16 were in the level II ascorbic acid group and 11 in the level III group. It is evident that these households depended on vegetables for ascorbic acid. They used more vegetables than the total group meeting allowances but less fruits and vegetables combined, as shown by the following figures for quantities used per person in a week:

	Level II		Level III	
	Households with no fruit	All households	Households with no fruit	All households
	Pounds	Pounds	Pounds	Pounds
All fruits and vegetables	7.3	9.1	12.4	14.3
Fruits	0	3.2	0	6.3
Vegetables	7.3	5.9	12.4	8.0
Potatoes	3.1	1.8	3.6	2.1
Dark-green and deep-yellow (including sweetpotatoes)	1.1	.6	1.7	.9
Tomatoes	.4	.8	.4	1.2
Other	2.7	2.6	6.7	3.8

The group with no fruit used much larger quantities of dark greens and more potatoes than those using fruit, but smaller quantities of tomatoes. Some also used quantities of milk large enough to supply an appreciable quantity of ascorbic acid. Most of the dark-green and deep-yellow vegetables were dark leafy greens, such as mustard, turnip, beet, dandelion, rape, or poke.

Most of the 27 diets at ascorbic acid levels II and III without fruit met allowances for all other nutrients as well as for ascorbic acid. One such diet was that of a southern farm family of husband, wife, and two school-age children. They spent $2.46 per person in a week and in addition used vegetables from their garden. Following is a summary of the food that they used per person in a week compared with the average for all southern farm families:

		All southern farm families	A selected southern farm family
Milk, cream, ice cream, cheese (milk equivalent)	qt	4.8	2.6
Meat, poultry, fish	lb	2.8	1.0
Bacon, salt pork	lb	.5	1.0
Eggs	no	8	5
Dry beans, peas, nuts	lb	.4	.8
Vegetables	lb	5.4	10.0
Potatoes	lb	1.5	2.0
Dark-green and deep-yellow	lb	.5	.8
Tomatoes	lb	.6	0
Other	lb	2.8	7.2
Fruits	lb	2.3	0
Grain products	lb	4.7	3.7
Fats and oils	lb	1.2	.7
Sugars and sweets	lb	1.9	1.6
Expenditures	dol	3.08	2.46
Money value (includes value of home-produced food)	dol	5.76	3.32

In spite of differences in quantities of food groups between the selected diet and all southern farm diets, the former was a varied diet and would probably be acceptable to quite a few families. It included less lean meat but more fat pork cuts and dry beans--no fruit but a much larger quantity of vegetables. The homemaker apparently chose to make use of home-grown vegetables rather than spend cash on fruit. The lower cost of the diet was related in part to the differences mentioned and in part to use of nonfat dry milk rather than fresh milk.

DIETARY FAT

For fat the following levels were selected for study:

	Fat per 100 calories	Calories from fat (approximate)
Level of fat:	Grams	Percent
I	Under 4.50	Under 40
II	4.50-5.49	40-49
III	5.50 or more	50 or more

For all families surveyed calories from dietary fat averaged 44 percent of the total calories. The boundaries of the middle level were therefore chosen as the range around the average.

It should be remembered that quantities of foods and nutrients in this report are those brought into the household. Because of discards in preparation and serving, the amounts of fat actually consumed and consequently the calories derived from fat may be considerably lower. Discarding portions of the fat reported would reduce total calories as well as fat and would therefore lower percentages relatively little. As a result, there would be few changes in the relative groupings and relationships discussed here.

Characteristics of Households

Households with diets having successively high percentages of calories from fat had higher incomes, food with greater money value per person, smaller numbers of persons, and homemakers with more formal schooling and more likely to be working away from home (appendix table 33). Levels of fat in the household diet were not at all associated with differences in the age of the homemaker.

It is possible that the apparent relationship of level of fat with various household characteristics may have been chiefly a relationship to income differences. Therefore these relationships were studied with income held constant. Data on level of fat consumption tabulated by money value of food, household size, or education, age, or employment of the homemaker indicate that for all factors except employment of homemaker the relationships noted were the same regardless of income class. On the other hand, data tabulated by family income and employment status of the homemaker show that within a given income group there was no difference in percentage of calories from fat between diets of households where the homemaker was employed and where she was not. Therefore, the apparent association of employment and higher fat level was possibly an association of the higher income of the employed group with higher fat.

Protein, Fat, and Carbohydrate

Diets with successively higher percentages of calories from fat contained lower percentages of carbohydrate but did not differ in protein, as shown by the following:

	Calories from--		
	Protein	Fat	Carbohydrate
Level of fat:	Percent	Percent	Percent
I	14	34	52
II	15	42	43
III	15	50	35

The fatty acid composition of the diets did not differ as the percentage of calories from fat increased, as indicated by the following data for percentages of fatty acids in the fat of diets at the three levels:

		Fatty acids		
	Total fat	Saturated	Oleic	Linoleic
Level of fat:	Percent	Percent	Percent	Percent
I	100	38	40	9
II	100	39	38	9
III	100	39	39	9

At each level selections within the food groups were such that the proportions of saturated to unsaturated fatty acids remained the same.[9]

Food Patterns

The principal difference in quantities of food used in diets at higher versus lower fat levels was in greater quantities from (1) the meat, poultry, and fish group, and (2) the fats and oils group (appendix table 35). Level III diets contained three-fourths more meat, poultry, and fish and one-third more fats and oils, on the average, than level I diets. Although larger quantities of all types of meat and of poultry and fish were used by the households at the two upper levels, the proportions of the total food group represented by each type varied. The proportion of beef in the group remained the same for all three levels, but the proportion of pork increased and the proportion of poultry and fish decreased at the higher fat levels. The following figures show the percentages of the different items in the meat, poultry, and fish group in diets at the various fat levels:

	Level I	Level II	Level III
	Percent	Percent	Percent
Beef	30	31	31
Pork	23	27	30
Other meat	16	15	15
Poultry	20	17	16
Fish	11	10	8
All meat, poultry, and fish	100	100	100

Within the fats and oils group there was a difference in the proportion of different kinds used as the percentage of calories from dietary fat varied. The higher fat diets contained relatively more table fats (butter and margarine) and salad and cooking oils and less solid shortening as shown by the following:

	Level I	Level II	Level III
	Percent	Percent	Percent
Butter and margarine	43	46	50
Lard and other shortening	36	29	25
Salad and cooking oils	5	7	9
Salad dressing	16	18	16
All fats and oils	100	100	100

[9] Calculations of the fatty acids were based on estimated composition of grouped food quantities. For the most part, the groups were such that reliable composition values could be assigned. However, no information was available on the identity of the salad and cooking oils used. Therefore, it had to be assumed that the type of oil was the same for each of the levels. If there really were differences in the type of oil used, there could have been differences in the proportion of linoleic acid that are not reflected in the calculations as made.

The higher fat diets contained more eggs--8 per person in a week for level II compared with $6\frac{1}{2}$ for level I. However, there was almost no difference in the quantity of milk or its equivalent in cheese and ice cream used by the three levels--about $4\frac{1}{2}$ quarts per person. Within the milk group though, the higher fat diets contained more cream, a little more ice cream and cheese, and less processed milk (which included nonfat dry milk).

All of the foods mentioned so far for which an increase in quantity used has been shown to be associated with higher fat content of diets are foods themselves high in fat. Two groups of foods low in fat content also were used in larger quantities at the higher fat levels--fresh vegetables and frozen fruits and vegetables. While these foods themselves did not contain much fat, they may have been cooked with or seasoned with fat or eaten with high-fat foods such as meats.

Foods that were used in smaller quantity at the higher fat levels were all relatively high-carbohydrate foods: Flour and other cereal products, commercial baked goods, sugars and sweets, and potatoes and sweetpotatoes.

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APPENDIX A. TABLES

TABLE 18.--NUMBER AND COMBINATIONS OF NUTRIENTS IN WHICH DIETS WERE SHORT: *Percentage of households using food at home in a week that did not furnish NRC recommended amounts*[1] *of a single nutrient and selected combinations of nutrients*[2]

[Housekeeping households of 1 or more persons, April-June 1955]

Nutrients	United States			North[3]			South		
	All urban-izations	Urban	Rural farm	All urban-izations	Urban	Rural farm	All urban-izations	Urban	Rural farm
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
One nutrient only	37.8	37.3	40.7	40.2	37.7	51.6	33.8	36.5	31.8
Ascorbic acid	13.9	11.0	20.5	13.3	10.0	23.6	14.9	13.2	17.9
Calcium	12.8	14.3	10.0	14.2	14.0	15.6	10.5	15.0	5.3
Thiamine	4.4	6.1	1.0	6.1	7.7	1.6	1.5	2.5	.6
Vitamin A	4.3	3.4	7.5	3.8	3.1	7.9	5.2	4.0	7.0
Riboflavin	1.0	1.1	.7	1.0	1.1	1.2	.9	1.3	.4
Iron	.9	1.1	.5	1.2	1.3	1.2	.4	.5	0
Niacin	.5	.4	.5	.5	.5	.5	.3	0	.6
Protein	0	0	0	0	0	0	0	0	0
Two nutrients	20.0	20.0	20.0	19.6	20.2	20.3	20.5	19:5	20.4
Calcium, riboflavin	5.1	5.9	3.9	5.2	5.8	5.8	5.0	6.2	2.3
Vitamin A, ascorbic acid	4.0	2.0	9.1	2.0	1.5	4.7	7.4	3.0	12.8
Calcium, ascorbic acid	3.6	3.8	3.0	3.4	3.0	4.0	3.9	5.8	2.3
Calcium, thiamine	2.0	2.6	.6	2.7	3.3	.9	.8	1.0	.4
Calcium, vitamin A	1.3	1.1	1.8	1.6	1.2	3.3	.7	.8	.6
Thiamine, ascorbic acid	1.2	1.4	.2	1.8	1.9	.5	.3	.5	0
Iron, thiamine	.7	.9	.1	1.0	1.2	.2	.1	.2	0
Thiamine, riboflavin	.4	.5	.1	.6	.7	0	*	0	.2
Other combinations	1.7	1.8	1.2	1.3	1.6	.9	2.3	2.0	1.8
Three nutrients	14.2	15.1	11.8	14.1	15.0	12.4	14.3	15.2	11.2
Calcium, riboflavin, ascorbic acid	2.5	2.8	2.1	2.4	2.4	3.0	2.7	3.8	1.3
Calcium, thiamine, riboflavin	2.1	2.7	1.2	2.7	3.3	2.3	1.0	1.3	.2
Calcium, vitamin A, riboflavin	2.0	1.9	1.3	2.0	1.6	1.6	1.9	2.5	1.0
Calcium, vitamin A, ascorbic acid	1.9	1.6	2.8	1.5	1.4	2.8	2.5	2.0	2.9
Calcium, thaimine, ascorbic acid	.6	.7	.2	.6	.5	.2	.7	1.0	.2
Vitamin A, riboflavin, ascorbic acid	.5	.2	1.4	0	0	0	1.4	.8	2.5
Iron, thiamine, ascorbic acid	.5	.5	.2	.7	.7	.5	.1	.3	0
Protein, calcium, riboflavin	.4	.6	.2	.3	.4	.2	.5	1.0	.2
Other combinations	3.7	4.1	2.4	3.9	4.7	1.8	3.5	2.5	2.9
Four or more nutrients	28.0	28.0	27.2	26.1	27.1	15.6	31.4	28.8	36.6

*Less than 0.05 percent.
[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.
[2] Based on households with diets short in 1 or more nutrients.
[3] Includes Northeast, North Central, West.

TABLE 19.--NUTRITIVE VALUE OF CITY DIETS, 1936, 1942, 1948, 1955: *Average per person per day from food used at home in a week in spring, by income thirds*

[Urban housekeeping households of 2 or more persons in the United States]

Nutrient	1936				1942				1948				1955			
	All households	Lowest income third	Middle income third	Highest income third	All households	Lowest income third	Middle income third	Highest income third	All households[1]	Lowest income third	Middle income third	Highest income third	All households[1]	Lowest income third	Middle income third	Highest income third
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Energy value.....calories..	2,790	2,580	2,790	3,130	2,840	2,670	2,870	2,920	3,010	2,930	3,040	3,040	3,040	2,910	3,040	3,170
Protein.....grams..	77	66	78	90	85	76	85	89	91	86	91	95	103	94	103	109
Calcium.....do....	.78	.64	.83	.95	.96	.86	.98	1.01	1.09	1.02	1.11	1.15	1.11	1.00	1.12	1.18
Iron.....milligrams..	11.8	10.2	11.8	14.0	13.6	12.8	13.5	13.8	15.9	15.6	15.8	16.2	17.0	16.4	17.0	17.6
Vitamin A value..International Units..	6,940	5,520	7,180	8,900	8,760	7,810	8,690	9,250	8,910	8,200	8,580	9,840	9,060	8,700	8,830	9,430
Thiamine[2].....milligrams..	.94	.79	.96	1.16	1.06	.97	1.06	1.10	1.28	1.26	1.29	1.29	1.48	1.42	1.51	1.52
Riboflavin[2].....do....	1.48	1.20	1.56	1.86	1.85	1.64	1.88	1.95	2.19	2.07	2.19	2.30	2.22	2.04	2.25	2.35
Niacin[2].....do....	11.1	9.4	11.2	14.0	13.2	11.5	13.4	14.5	15.6	14.8	15.5	16.3	18.6	17.4	18.7	19.5
Ascorbic acid[2].....do....	80	58	82	110	125	103	126	143	125	116	121	137	111	94	108	124

[1] Includes 147 households in 1948 and 274 in 1955 that were not classified by income.
[2] Cooking losses deducted.

Source: Adapted from Family Food Consumption and Dietary Levels (6); Family Food Consumption in the United States, Spring 1942 (7); Nutritive Value of Diets of Urban Families, United States 1948 and Comparison with Diets in 1942 (8); 1955 Household Food Consumption Survey, Report 6 (15).

TABLE 20.--CHANGES IN NUTRITIVE VALUE OF CITY DIETS, 1936 to 1955: *Percentage change in nutritive value per person per day from food used at home in a week in spring, by income thirds*

[Urban housekeeping households of 2 or more persons in the United States]

Nutrient	1936 to 1942				1942 to 1948				1948 to 1955			
	All households	Lowest income third	Middle income third	Highest income third	All households	Lowest income third	Middle income third	Highest income third	All households	Lowest income third	Middle income third	Highest income third
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Energy value	2	3	3	-7	6	10	6	4	1	-1	0	4
Protein	10	15	9	-1	7	13	7	7	13	9	13	15
Calcium	23	34	18	6	14	19	13	14	2	-2	1	3
Iron	15	25	14	-1	17	22	17	17	7	5	8	9
Vitamin A value	26	41	21	4	2	5	-1	6	2	6	3	-4
Thiamine	13	23	10	-5	21	30	22	17	16	13	17	18
Riboflavin	25	37	21	5	18	26	16	18	1	-1	3	2
Niacin	19	22	20	4	18	29	16	12	19	18	21	20
Ascorbic acid	56	78	54	30	0	13	-4	-4	-11	-19	-11	-9

Source: Adapted from Family Food Consumption and Dietary Levels (6); Family Food Consumption in the United States, Spring 1942 (7); Nutritive Value of Diets of Urban Families, United States 1948 and Comparison with Diets in 1942 (8); 1955 Household Food Consumption Survey, Report 6 (15).

TABLE 21.--FOOD USED AT HOME, 1942, 1948, 1955: *Average income, household size, and quantity of food per person in a week in spring, by income thirds*

[Urban housekeeping households of 2 or more persons in the United States]

Item	1942				1948				1955			
	All households	Lowest income third	Middle income third	Highest income third	All households[1]	Lowest income third	Middle income third	Highest income third	All households[1]	Lowest income third	Middle income third	Highest income third
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Income[2]....dollars..	2,758	1,074	2,214	4,985	3,606	1,772	3,125	5,921	5,163	2,507	4,473	8,526
Household size (21 meals at home = 1 person)....persons..	3.34	3.00	3.31	3.72	3.42	3.28	3.59	3.55	3.34	3.20	3.50	3.46
Milk, cream, ice cream, cheese (milk equivalent[3])....quarts..	3.68	3.31	3.82	3.88	4.33	3.95	4.44	4.64	4.34	3.77	4.50	4.71
Milk, fresh and processed (equivalent[3])....do....	3.14	2.89	3.29	3.20	3.66	3.39	3.77	3.88	3.62	3.14	3.79	3.88
Cream and ice cream....pounds..	.27	.12	.27	.39	.39	.26	.39	.50	.46	.37	.47	.54
Cheese....do....	.21	.17	.21	.25	.29	.24	.27	.34	.34	.27	.32	.40
Meat, poultry, fish, eggs, dry legumes, nuts....do....	3.90	3.33	3.98	4.31	4.38	4.05	4.30	4.69	5.54	5.15	5.39	5.93
Meat, poultry, fish....do....	2.70	2.06	2.75	3.21	2.95	2.61	2.90	3.25	4.10	3.71	4.01	4.42
Bacon, salt pork....do....	.24	.29	.23	.21	.26	.28	.24	.25	.27	.31	.25	.26
Eggs....dozen..	.42	.40	.45	.42	.57	.53	.56	.60	.58	.55	.57	.62
Dry beans and other legumes (dry weight)....pounds..	.20	.29	.19	.13	.17	.22	.17	.12	.12	.18	.10	.08
Nuts (shelled weight), peanut butter....do....	.07	.05	.06	.08	.09	.08	.09	.10	.09	.07	.09	.10
Mixtures and soups....do....	.05	.04	.07	.05	.06	.06	.07	.06	.16	.14	.16	.18
Vegetables[4]....do....	6.91	6.35	7.07	7.25	6.60	6.13	6.65	6.94	5.96	5.52	5.91	6.26
Potatoes....do....	2.50	2.41	2.62	2.47	2.03	1.98	2.21	1.94	1.64	1.60	1.71	1.63
Sweetpotatoes....do....	.15	.20	.11	.14	.09	.10	.08	.09	.07	.10	.06	.06
Dark green and deep yellow[5]....do....	.68	.63	.70	.70	.67	.66	.64	.71	.59	.57	.57	.61
Other green[6]....do....	1.62	1.45	1.65	1.75	1.56	1.42	1.50	1.74	1.38	1.27	1.32	1.50
Tomatoes....do....	.75	.62	.74	.88	.85	.72	.83	.95	.85	.70	.83	.93
Other vegetables....do....	1.17	1.00	1.20	1.28	1.30	1.16	1.29	1.40	1.29	1.16	1.26	1.39
Mixtures and soups....do....	.04	.04	.05	.04	.10	.09	.11	.10	.13	.12	.15	.14
Fruits [4 7]....do....	3.35	2.62	3.35	3.92	3.95	3.35	3.86	4.57	3.98	3.22	3.85	4.73
Citrus (juice equivalent)....do....	1.26	.83	1.26	1.59	1.43	1.25	1.34	1.65	1.41	1.05	1.36	1.75
Dried....do....	.10	.13	.10	.09	.07	.06	.07	.08	.05	.06	.05	.06
Other....do....	1.75	1.38	1.76	2.04	2.30	1.91	2.30	2.65	2.35	1.96	2.28	2.74
Grain products (flour equivalent[8])....do....	2.69	2.95	2.65	2.55	2.73	2.98	2.78	2.52	2.42	2.65	2.41	2.30
Fats and oils....do....	.87	.83	.88	.90	.88	.88	.89	.87	.83	.83	.81	.86
Butter and margarine....do....	.42	.37	.42	.47	.40	.36	.41	.44	.40	.36	.38	.44
Other (including salad dressings)....do....	.45	.47	.47	.43	.48	.52	.48	.44	.43	.47	.43	.41
Sugars and sweets[9]....do....	.98	.91	1.01	1.00	1.42	1.41	1.49	1.37	1.22	1.24	1.23	1.25
Sugars, sirups, jellies, candy....do....	.87	.84	.89	.86	1.25	1.26	1.31	1.19	1.07	1.12	1.07	1.07
Soft drinks, beverage and dessert powders[9]....do....	.11	.07	.12	.14	.17	.15	.18	.18	.15	.12	.15	.18

[1] Includes 147 households in 1948 and 274 in 1955 that were not classified by income.
[2] For 1942, first quarter 1942 income at annual rate, before tax. For 1948, and for 1955, income for the previous year after deduction of income taxes.
[3] Milk equivalent: Approximately the quantity of fresh fluid milk to which the dairy products (except butter) are equivalent in calcium.
[4] Includes fresh, frozen, canned, dried, juice.
[5] Includes spinach and other dark, leafy greens, broccoli, green peppers, carrots, pumpkin, winter squash, etc.
[6] Includes green lima and snap beans, green peas, asparagus, cabbage, lettuce, okra, etc.
[7] Includes single-strength juice equivalent of citrus fruit and citrus products, the fresh equivalent of dried fruit, and the total of all other fruit.
[8] Includes the dry weight of flour and cereal in prepared products and baked goods.
[9] Includes the sugar equivalent of soft drinks, beverage and dessert powders.

Source: Adapted from Family Food Consumption and Dietary Levels (6); Family Food Consumption in the United States, Spring 1942 (7); Food Consumption of Urban Families in the United States (2); 1955 Household Food Consumption Survey, Report 6 (15).

TABLE 22.--DIETARY ADEQUACY: *Percentage of households using food at home in a week that did not furnish NRC recommended amounts[1] of 1 or more of 8 nutrients, by region, urbanization, and income*

[Housekeeping households of 1 or more persons, April-June 1955]

Region, household size group, and money income after income taxes (dollars)	Diets short in 1 or more nutrients[2]	Diets short[3] in--				Diets short in 1 or more nutrients[2]	Diets short[3] in--			
		1 nutrient only	2 nutrients	3 nutrients	4 or more nutrients		1 nutrient only	2 nutrients	3 nutrients	4 or more nutrients
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
UNITED STATES										
			All urbanizations					Urban		
All households[4]	48	38	20	14	28	46	37	20	15	28
1-person households	47	34	17	17	32	46	34	16	19	30
Households of 2 or more persons	48	38	20	14	28	46	38	20	15	27
Under 2,000	64	26	22	15	38	66	22	22	18	39
Under 1,000	66	22	24	12	42	62	22	25	17	36
1,000-1,999	64	28	20	16	36	67	22	21	18	39
2,000-2,999	52	36	18	15	31	58	33	17	15	35
3,000-3,999	49	40	21	13	26	48	36	23	14	27
4,000-4,999	44	48	19	11	22	44	46	20	11	24
5,000-5,999	39	42	24	12	22	40	41	26	12	21
6,000 and over	38	45	19	16	20	38	45	17	17	22
			Rural nonfarm					Rural farm		
All households[4]	50	38	20	13	29	48	41	20	12	27
1-person households	51	31	20	12	37	47	52	19	11	19
Households of 2 or more persons	50	38	20	13	29	48	40	20	12	27
Under 2,000	70	23	22	14	42	56	36	21	12	31
Under 1,000	73	13	28	9	49	61	33	18	12	36
1,000-1,999	67	30	17	17	36	50	40	25	11	24
2,000-2,999	46	40	17	18	25	46	40	23	11	26
3,000-3,999	52	47	16	12	25	41	36	26	14	24
4,000-4,999	44	50	20	11	19	42	57	15	19	9
5,000-5,999	37	44	20	10	27	37	51	14	8	27
6,000 and over	39	45	27	15	13	41	55	23	6	15

See footnotes at end of table.

TABLE 22. --DIETARY ADEQUACY: *Percentage of households using food at home in a week that did not furnish NRC recommended amounts[1] of 1 or more of 8 nutrients, by region, urbanization, and income* --Continued

[Housekeeping households of 1 or more persons, April-June 1955]

Region, household size group, and money income after income taxes (dollars)	Diets short in 1 or more nutrients[2]	Diets short[3] in--				Diets short in 1 or more nutrients[2]	Diets short[3] in--			
		1 nutrient only	2 nutrients	3 nutrients	4 or more nutrients		1 nutrient only	2 nutrients	3 nutrients	4 or more nutrients
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
NORTH[5]										
		All urbanizations					Urban			
All households[4]	43	40	20	14	26	43	38	20	15	27
1-person households	46	37	18	16	30	44	36	16	18	30
Households of 2 or more persons	43	41	20	14	26	43	38	21	15	27
Under 2,000	55	27	20	18	34	57	16	23	25	36
Under 1,000	51	26	21	13	40	44	**	**	**	**
1,000-1,999	58	28	20	20	32	61	**	**	**	**
2,000-2,999	45	39	16	13	32	51	28	17	14	41
3,000-3,999	46	44	20	12	25	44	41	23	13	23
4,000-4,999	43	45	20	12	23	42	43	20	11	26
5,000-5,999	37	41	24	12	24	39	37	27	12	24
6,000 and over	38	44	17	17	22	37	44	15	16	25
		Rural nonfarm					Rural farm			
All households[4]	46	43	18	12	27	39	52	20	12	16
1-person households	53	36	21	12	30	44	57	21	14	7
Households of 2 or more persons	46	44	18	12	26	39	51	20	12	16
Under 2,000	66	27	17	14	42	39	53	22	12	12
Under 1,000	69	**	**	**	**	38	48	27	16	9
1,000-1,999	64	**	**	**	**	40	57	18	10	15
2,000-2,999	34	62	7	10	21	41	48	28	15	10
3,000-3,999	52	49	13	10	28	34	43	22	12	22
4,000-4,999	46	46	21	13	20	40	60	14	19	7
5,000-5,999	34	50	17	10	23	33	52	12	12	24
6,000 and over	39	40	27	18	16	40	63	18	8	10

See footnotes at end of table.

TABLE 22.--DIETARY ADEQUACY: *Percentage of households using food at home in a week that did not furnish NRC recommended amounts[1] of 1 or more of 8 nutrients, by region, urbanization, and income--Continued*

[Housekeeping households of 1 or more persons, April-June 1955]

Region, household size group, and money income after income taxes (dollars) (1)	Diets short in 1 or more nutrients[2] (2)	Diets short[3] in-- 1 nutrient only (3)	2 nutrients (4)	3 nutrients (5)	4 or more nutrients (6)	Diets short in 1 or more nutrients[2] (7)	Diets short[3] in-- 1 nutrient only (8)	2 nutrients (9)	3 nutrients (10)	4 or more nutrients (11)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
SOUTH			All urbanizations					Urban		
All households[4]	57	34	21	14	31	58	36	20	15	29
1-person households	49	28	17	19	36	50	31	17	22	31
Households of 2 or more persons	58	34	21	14	31	58	37	20	15	29
Under 2,000	71	25	22	13	40	74	26	21	13	40
Under 1,000	74	21	25	11	42	77	21	25	12	42
1,000-1,999	68	28	20	14	38	73	29	19	13	40
2,000-2,999	63	33	19	18	30	67	38	16	16	29
3,000-3,999	56	33	22	16	29	57	27	23	16	35
4,000-4,999	49	57	17	9	17	54	55	17	11	17
5,000-5,999	47	49	22	11	18	48	58	21	12	8
6,000 and over	39	47	29	9	16	40	46	24	19	11
			Rural nonfarm					Rural farm		
All households[4]	57	31	22	15	33	58	32	20	11	37
1-person households	47	19	19	12	50	52	46	15	8	31
Households of 2 or more persons	58	31	22	15	32	58	31	21	11	37
Under 2,000	72	20	25	14	42	65	30	21	12	38
Under 1,000	75	13	34	11	43	71	29	16	12	43
1,000-1,999	70	27	16	16	41	57	32	28	11	29
2,000-2,999	61	26	23	23	28	51	32	18	8	42
3,000-3,999	54	44	20	16	20	55	29	29	16	27
4,000-4,999	42	61	17	4	17	48	50	18	18	14
5,000-5,999	44	27	27	9	36	48	50	17	0	33
6,000 and over	36	70	30	0	0	43	31	38	0	31

**Data not available.
[1] Adapted from the National Research Council's 1953 Recommended Dietary Allowances. See Glossary: Recommended dietary allowances.
[2] Based on all households.
[3] Based on all households with diets short in 1 or more nutrients.
[4] Includes households not classified by income.
[5] Includes Northeast, North Central, West.

TABLE 23.--CHARACTERISTICS OF HOUSEHOLDS, BY CALCIUM LEVEL OF DIET: *Household size, family income, and age, employment, and education of homemaker, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, calcium level (amount per nutrition unit per day)	Households[1]		Median income after income taxes (1954)	Median money value of food at home per person	Household size (21 meals at home = 1 person)	Households with children under 16 years	Homemaker					No female homemaker
	Weighted, includes 1/4 farm	Unweighted, includes all farm					Median age	Employed	Education			
									Elementary	High school	College	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Number	Number	Dollars	Dollars	Persons	Percent	Years	Percent	Percent	Percent	Percent	Percent
UNITED STATES												
All urbanizations:												
Under 0.80 gram	1,209	1,564	3,873	5.66	3.95	62	42	26	42	49	9	3
0.80-1.19 grams	1,740	2,230	4,652	7.66	3.60	61	42	25	33	51	16	2
1.20 grams or more	1,237	1,854	4,416	9.84	2.99	46	43	26	33	49	18	3
Urban:												
Under 0.80 gram	774		4,220	5.98	3.68	59	42	30	37	53	11	3
0.80-1.19 grams	1,109		4,948	8.15	3.43	59	42	27	29	52	19	3
1.20 grams or more	690		4,993	10.64	2.81	44	43	33	28	50	22	3
Rural nonfarm:												
Under 0.80 gram	317		3,459	5.03	4.19	65	42	23	50	43	7	3
0.80-1.19 grams	468		4,265	6.97	3.76	64	41	27	38	51	11	1
1.20 grams or more	341		3,757	9.16	3.06	49	43	21	35	50	14	2
Rural farm:												
Under 0.80 gram	118	473	2,739	5.02	5.09	72	43	10	57	37	6	3
0.80-1.19 grams	163	653	3,291	6.52	4.32	64	44	8	45	46	10	3
1.20 grams or more	206	823	2,688	8.69	3.50	46	46	10	45	42	13	4
NORTH[2]												
All urbanizations:												
Under 0.80 gram	774	946	4,504	6.17	3.76	59	43	26	37	53	10	3
0.80-1.19 grams	1,289	1,596	4,936	7.98	3.55	61	42	24	29	53	17	3
1.20 grams or more	854	1,174	4,796	10.43	2.95	44	44	27	28	51	21	3
Urban:												
Under 0.80 gram	529		4,715	6.41	3.63	57	43	29	34	55	11	3
0.80-1.19 grams	875		5,244	8.41	3.44	60	42	24	27	54	19	3
1.20 grams or more	546		5,157	10.85	2.83	44	43	32	27	50	23	4
Rural nonfarm:												
Under 0.80 gram	188		3,936	5.72	3.80	60	42	23	42	49	8	2
0.80-1.19 grams	311		4,558	7.26	3.66	63	41	27	32	54	14	1
1.20 grams or more	202		4,250	9.74	2.99	43	44	22	26	55	19	2
Rural farm:												
Under 0.80 gram	57	229	4,181	5.68	4.77	72	42	7	48	46	6	3
0.80-1.19 grams	103	410	3,871	6.93	4.20	64	43	6	38	51	11	4
1.20 grams or more	106	426	3,527	9.06	3.47	48	45	9	34	50	16	4
SOUTH												
All urbanizations:												
Under 0.80 gram	435	618	2,742	4.65	4.28	67	40	27	52	41	8	3
0.80-1.19 grams	452	634	3,648	6.62	3.75	61	41	29	41	46	13	2
1.20 grams or more	382	680	3,430	8.69	3.10	48	43	24	45	44	12	2
Urban:												
Under 0.80 gram	245		3,010	5.14	3.76	63	39	33	43	47	10	2
0.80-1.19 grams	234		3,961	7.11	3.41	58	39	35	33	48	19	2
1.20 grams or more	144		4,478	9.40	2.73	42	41	36	34	50	17	2
Rural nonfarm:												
Under 0.80 gram	129		2,625	3.98	4.75	72	41	22	61	34	5	4
0.80-1.19 grams	157		3,457	6.38	3.96	65	41	25	48	47	5	1
1.20 grams or more	139		3,271	8.31	3.17	57	41	21	48	44	8	1
Rural farm:												
Under 0.80 gram	61	244	1,596	3.72	5.38	73	43	13	66	28	6	3
0.80-1.19 grams	61	243	2,167	5.59	4.50	65	45	11	56	37	7	2
1.20 grams or more	99	397	1,909	8.26	3.52	44	48	12	56	34	10	4

[1] The sample contains 4 times as many rural farm schedules as are required to provide proportionate representation of all groups. "All urbanizations" is shown both with and without extra schedules.

[2] Includes Northeast, North Central, West.

TABLE 24.--SOURCES OF CALCIUM, BY CALCIUM LEVEL OF DIET: *Percentage of calcium from food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, calcium level (amount per nutrition unit per day)	Average per nutrition unit per day	Source						
		All food	Milk, cream, ice cream, cheese	Vegetables	Fruits	Grain products	Sugar, sweets	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Grams	Percent	Percent	Percent	Percent	Percent	Percent	Percent
UNITED STATES								
All urbanizations:								
Under 0.80 gram	0.61	100	55	10	3	21	2	9
0.80-1.19 grams	.98	100	64	8	3	16	1	8
1.20 grams or more	1.61	100	69	7	3	14	1	6
Urban:								
Under 0.80 gram	.62	100	57	10	4	19	1	9
0.80-1.19 grams	.98	100	65	8	3	15	1	8
1.20 grams or more	1.54	100	69	8	3	13	1	6
Rural nonfarm:								
Under 0.80 gram	.59	100	52	9	3	23	2	11
0.80-1.19 grams	.98	100	63	8	3	18	1	7
1.20 grams or more	1.62	100	67	6	2	17	1	7
Rural farm:								
Under 0.80 gram	.59	100	49	10	3	26	3	9
0.80-1.19 grams	.99	100	62	7	3	17	2	9
1.20 grams or more	1.83	100	71	6	2	13	1	7
NORTH[1]								
All urbanizations:								
Under 0.80 gram	.62	100	60	9	4	17	1	9
0.80-1.19 grams	.98	100	67	8	3	14	1	7
1.20 grams or more	1.56	100	71	7	3	12	1	6
Urban:								
Under 0.80 gram	.63	100	60	9	4	17	1	9
0.80-1.19 grams	.98	100	66	8	3	14	1	8
1.20 grams or more	1.52	100	70	8	3	12	1	6
Rural nonfarm:								
Under 0.80 gram	.62	100	59	8	4	17	2	10
0.80-1.19 grams	.98	100	67	7	3	14	1	8
1.20 grams or more	1.57	100	71	6	3	12	1	7
Rural farm:								
Under 0.80 gram	.61	100	59	9	4	16	2	10
0.80-1.19 grams	.99	100	68	7	3	12	2	8
1.20 grams or more	1.69	100	75	6	3	9	1	6
SOUTH								
All urbanizations:								
Under 0.80 gram	.58	100	46	11	2	28	2	11
0.80-1.19 grams	.98	100	57	8	2	22	2	9
1.20 grams or more	1.74	100	65	7	2	19	1	6
Urban:								
Under 0.80 gram	.60	100	50	12	3	23	2	10
0.80-1.19 grams	.97	100	59	9	3	19	2	8
1.20 grams or more	1.62	100	65	8	2	16	1	8
Rural nonfarm:								
Under 0.80 gram	.55	100	43	11	2	30	2	12
0.80-1.19 grams	.98	100	55	8	2	25	1	9
1.20 grams or more	1.70	100	62	7	2	22	1	6
Rural farm:								
Under 0.80 gram	.56	100	40	10	1	34	3	12
0.80-1.19 grams	.99	100	54	8	1	26	2	9
1.20 grams or more	1.98	100	68	7	1	17	1	6

[1] Includes Northeast, North Central, West.

TABLE 25.--FOOD USED, BY CALCIUM LEVEL OF DIET: *Average quantity per person of food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, calcium level (amount per nutrition unit per day)	Milk, cream, ice cream, cheese[1]		Meat, poultry, fish, eggs, dry legumes, nuts			Vegetables			Fruits[5]	Grain products[6]		Fats and oils	Sugar, sweets[7]
	Total (milk equivalent)	Milk, fresh and processed	Total	Meat, poultry, fish[2]	Eggs	Total[3]	Potatoes	Dark green, and deep yellow[4]		Total (flour equivalent)	Enriched, restored, or whole grain		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Quarts	Quarts	Pounds	Pounds	Dozen	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
UNITED STATES													
All urbanizations:													
Under 0.80 gram	2.34	1.91	4.66	3.39	0.45	4.75	1.51	0.39	2.81	2.36	1.72	0.76	1.14
0.80-1.19 grams	4.25	3.53	5.64	4.11	.59	6.23	1.85	.53	4.07	2.62	1.99	.89	1.33
1.20 grams or more	7.20	6.06	7.01	4.99	.77	7.92	2.14	.77	5.39	3.46	2.51	1.13	1.75
Urban:													
Under 0.80 gram	2.40	1.95	4.87	3.65	.45	4.79	1.39	.46	3.00	2.08	1.53	.73	1.01
0.80-1.19 grams	4.27	3.53	5.79	4.32	.57	6.28	1.66	.61	4.33	2.32	1.76	.84	1.21
1.20 grams or more	6.88	5.69	7.30	5.38	.73	8.05	1.95	.88	5.74	2.91	2.14	1.03	1.52
Rural nonfarm:													
Under 0.80 gram	2.26	1.89	4.23	2.93	.45	4.62	1.67	.27	2.54	2.62	1.94	.80	1.23
0.80-1.19 grams	4.20	3.50	5.32	3.76	.58	6.18	2.13	.41	3.63	3.03	2.31	.96	1.45
1.20 grams or more	7.09	5.97	6.65	4.50	.80	7.68	2.33	.63	5.12	3.99	2.85	1.20	1.86
Rural farm:													
Under 0.80 gram	2.12	1.70	4.37	2.94	.54	4.86	1.88	.29	2.22	3.46	2.41	.92	1.68
0.80-1.19 grams	4.30	3.64	5.47	3.70	.70	6.07	2.32	.38	3.54	3.55	2.65	1.03	1.85
1.20 grams or more	8.46	7.46	6.67	4.46	.89	7.91	2.44	.61	4.68	4.45	3.20	1.34	2.34
NORTH[8]													
All urbanizations:													
Under 0.80 gram	2.55	2.08	4.81	3.64	.47	5.03	1.68	.40	3.21	1.99	1.56	.72	1.06
0.80-1.19 grams	4.43	3.66	5.72	4.29	.57	6.35	1.97	.55	4.30	2.31	1.81	.84	1.24
1.20 grams or more	7.13	5.92	7.14	5.25	.75	7.98	2.28	.79	5.87	2.93	2.24	1.04	1.59
Urban:													
Under 0.80 gram	2.55	2.08	4.90	3.77	.45	4.99	1.53	.47	3.24	1.84	1.40	.68	.92
0.80-1.19 grams	4.39	3.62	5.81	4.41	.56	6.34	1.73	.62	4.49	2.17	1.64	.79	1.15
1.20 grams or more	6.91	5.72	7.29	5.45	.72	8.07	2.04	.90	5.97	2.67	1.99	.99	1.41
Rural nonfarm:													
Under 0.80 gram	2.55	2.11	4.47	3.26	.47	4.88	1.81	.25	3.12	2.18	1.78	.81	1.24
0.80-1.19 grams	4.46	3.67	5.44	4.02	.57	6.33	2.34	.41	3.85	2.54	2.08	.92	1.34
1.20 grams or more	7.21	5.93	6.77	4.82	.75	7.73	2.55	.62	5.81	3.27	2.58	1.12	1.72
Rural farm:													
Under 0.80 gram	2.50	1.95	5.02	3.62	.64	5.80	2.60	.26	3.16	2.75	2.27	.83	1.73
0.80-1.19 grams	4.67	3.92	5.79	4.14	.71	6.49	2.80	.35	4.07	2.91	2.41	.95	1.80
1.20 grams or more	8.15	6.93	7.09	5.02	.91	7.97	2.96	.55	5.51	3.57	2.91	1.18	2.26
SOUTH													
All urbanizations:													
Under 0.80 gram	1.95	1.60	4.39	2.95	.43	4.26	1.21	.38	2.09	3.00	2.01	.84	1.27
0.80-1.19 grams	3.76	3.15	5.40	3.58	.61	5.91	1.52	.50	3.40	3.51	2.51	1.04	1.60
1.20 grams or more	7.34	6.38	6.73	4.40	.82	7.81	1.82	.72	4.32	4.66	3.12	1.32	2.10
Urban:													
Under 0.80 gram	2.06	1.65	4.81	3.38	.45	4.33	1.08	.43	2.48	2.58	1.80	.83	1.21
0.80-1.19 grams	3.83	3.14	5.72	3.96	.61	6.06	1.40	.59	3.72	2.89	2.20	1.01	1.45
1.20 grams or more	6.77	5.61	7.33	5.14	.75	7.98	1.62	.80	4.88	3.80	2.73	1.21	1.92
Rural nonfarm:													
Under 0.80 gram	1.83	1.58	3.88	2.44	.41	4.25	1.45	.31	1.71	3.27	2.16	.79	1.22
0.80-1.19 grams	3.67	3.15	5.09	3.24	.61	5.89	1.70	.40	3.22	4.00	2.75	1.04	1.67
1.20 grams or more	6.91	6.01	6.48	4.03	.87	7.61	2.00	.66	4.12	5.02	3.25	1.31	2.07
Rural farm:													
Under 0.80 gram	1.76	1.47	3.77	2.30	.45	3.99	1.20	.31	1.34	4.12	2.54	1.00	1.63
0.80-1.19 grams	3.69	3.17	4.93	2.97	.67	5.36	1.52	.43	2.65	4.64	3.04	1.17	1.94
1.20 grams or more	8.78	8.01	6.22	3.86	.86	7.85	1.88	.68	3.78	5.39	3.50	1.51	2.42

[1] Milk equivalent: Approximately the quantity of fresh fluid milk to which the various dairy products (except butter) are equivalent in calcium. [2] Excludes bacon and salt pork. [3] Includes fresh, frozen, canned, dried, juice. [4] Includes spinach and other dark leafy greens, broccoli, green peppers, carrots, pumpkin, winter squash, etc. [5] Includes fresh, frozen, canned, dried, juice. The single-strength juice equivalent of citrus and citrus products, the fresh equivalent of dried, and total of all other fruit. [6] Includes dry weight of flour and cereal in prepared products and baked goods. [7] Includes the sugar equivalent of soft drinks, beverage and dessert powders. [8] Includes Northeast, North Central, West.

TABLE 26.--MILK AND MILK PRODUCTS, BY CALCIUM LEVEL OF DIET: *Distribution of households using specified quantities of milk, cream, ice cream, and cheese per person in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, calcium level (amount per nutrition unit per day)	Households using specified quantities of milk, cream, ice cream, cheese, in quarts of milk equivalent[1]											
	All households	None	Under 0.5	0.5-0.9	1.0-1.9	2.0-2.9	3.0-3.9	4.0-4.9	5.0-5.9	6.0-6.9	7.0-7.9	8.0 or more
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
UNITED STATES												
All urbanizations:												
Under 0.80 gram	100	1	2	6	27	38	21	4	*	0	0	0
0.80-1.19 grams	100	*	*	*	2	12	26	35	18	6	1	*
1.20 grams or more	100	*	*	0	*	1	4	10	19	20	16	28
Urban:												
Under 0.80 gram	100	*	1	5	28	40	21	4	*	0	0	0
0.80-1.19 grams	100	*	0	*	1	11	27	36	19	5	1	0
1.20 grams or more	100	0	*	0	*	1	4	11	21	22	16	24
Rural nonfarm:												
Under 0.80 gram	100	3	4	7	23	37	22	3	1	0	0	0
0.80-1.19 grams	100	0	*	0	2	14	27	34	17	6	1	0
1.20 grams or more	100	0	0	0	1	2	4	11	22	17	14	29
Rural farm:												
Under 0.80 gram	100	2	5	10	31	27	19	6	0	0	0	0
0.80-1.19 grams	100	0	*	1	5	10	23	30	20	8	2	*
1.20 grams or more	100	*	*	0	*	1	4	8	11	15	17	43
NORTH[2]												
All urbanizations:												
Under 0.80 gram	100	*	1	4	23	39	26	6	1	0	0	0
0.80-1.19 grams	100	0	0	0	*	8	25	39	21	6	1	0
1.20 grams or more	100	0	*	0	*	1	2	10	20	23	17	27
Urban:												
Under 0.80 gram	100	*	1	4	23	40	25	6	*	0	0	0
0.80-1.19 grams	100	0	0	0	*	9	25	38	21	6	1	0
1.20 grams or more	100	0	*	0	0	1	3	10	21	25	16	23
Rural nonfarm:												
Under 0.80 gram	100	1	2	3	22	39	29	4	1	0	0	0
0.80-1.19 grams	100	0	0	0	*	7	24	41	19	7	1	0
1.20 grams or more	100	0	0	0	*	1	*	11	22	20	16	28
Rural farm:												
Under 0.80 gram	100	0	2	7	24	32	27	8	0	0	0	0
0.80-1.19 grams	100	0	0	0	*	4	23	34	25	10	2	0
1.20 grams or more	100	0	0	0	*	*	2	7	12	16	22	41
SOUTH												
All urbanizations:												
Under 0.80 gram	100	2	4	10	34	36	12	1	*	0	0	0
0.80-1.19 grams	100	*	*	1	5	22	31	24	12	3	1	*
1.20 grams or more	100	*	*	0	1	3	8	11	18	13	13	32
Urban:												
Under 0.80 gram	100	0	2	8	38	40	11	1	0	0	0	0
0.80-1.19 grams	100	*	0	1	3	20	32	27	12	3	1	0
1.20 grams or more	100	0	0	0	2	2	10	14	19	13	15	25
Rural nonfarm:												
Under 0.80 gram	100	6	8	12	26	35	12	1	1	0	0	0
0.80-1.19 grams	100	0	1	0	4	26	34	19	13	3	1	0
1.20 grams or more	100	0	0	0	1	4	9	10	22	12	12	31
Rural farm:												
Under 0.80 gram	100	4	7	14	37	23	11	4	0	0	0	0
0.80-1.19 grams	100	0	*	2	12	20	23	23	12	5	2	*
1.20 grams or more	100	*	*	0	*	2	5	10	11	14	13	45

*Less than 0.5 percent.
[1] Milk equivalent: Approximately the quantity of fresh fluid milk to which the various dairy products (except butter) are equivalent in calcium.
[2] Includes Northeast, North Central, West.

Note: Component items may not add to totals because of rounding.

TABLE 27.--CHARACTERISTICS OF HOUSEHOLDS, BY ASCORBIC ACID LEVEL OF DIET: *Household size, family income, and age, employment, and education of homemaker, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, ascorbic acid level (amount per nutrition unit per day)	Households[1]		Median income after income taxes (1954)	Median money value of food at home per person	Household size (21 meals at home = 1 person)	Households with freezer or locker	Households with children under 16 years	Homemaker					No female homemaker
	Weighted, includes 1/4 farm	Unweighted, includes all farm						Median age	Employed	Education: Elementary	Education: High school	Education: College	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Number	Number	Dollars	Dollars	Persons	Percent	Percent	Years	Percent	Percent	Percent	Percent	Percent
UNITED STATES													
All urbanizations:													
Under 75 milligrams	1,035	1,504	3,494	5.37	4.00	13	60	43	24	53	42	6	3
75-124 milligrams	1,420	1,880	4,306	7.23	3.64	18	60	42	25	34	53	13	3
125 milligrams or more	1,732	2,264	4,928	9.50	3.14	21	52	42	27	26	52	21	2
Urban:													
Under 75 milligrams	537		3,985	5.70	3.74	7	57	42	32	44	48	8	3
75-124 milligrams	892		4,607	7.42	3.45	11	58	42	26	31	54	14	3
125 milligrams or more	1,144		5,358	9.77	3.06	13	51	42	31	25	52	24	3
Rural nonfarm:													
Under 75 milligrams	342		3,143	5.05	4.03	14	61	43	19	61	36	3	3
75-124 milligrams	374		3,896	6.94	3.85	22	63	42	27	36	52	11	1
125 milligrams or more	410		4,443	8.97	3.20	27	55	41	25	27	56	17	1
Rural farm:													
Under 75 milligrams	156	625	2,019	4.84	4.82	30	65	44	8	63	33	4	4
75-124 milligrams	154	614	3,082	6.87	4.17	51	62	45	10	45	45	10	4
125 milligrams or more	178	710	3,473	8.94	3.56	57	50	45	11	37	47	16	3
NORTH[2]													
All urbanizations:													
Under 75 milligrams	558	725	4,315	5.97	3.76	14	55	44	25	45	48	6	3
75-124 milligrams	1,028	1,312	4,570	7.43	3.64	18	60	42	24	32	54	14	3
125 milligrams or more	1,330	1,679	5,250	9.68	3.14	21	52	43	26	24	53	23	3
Urban:													
Under 75 milligrams	332		4,667	6.15	3.76	9	55	44	31	42	51	7	3
75-124 milligrams	683		4,803	7.64	3.48	11	58	42	24	30	56	14	3
125 milligrams or more	935		5,539	9.96	3.05	13	52	43	29	23	52	25	3
Rural nonfarm:													
Under 75 milligrams	171		3,743	5.83	3.54	15	54	44	22	49	46	5	2
75-124 milligrams	251		4,108	7.12	3.84	24	63	42	27	34	53	13	2
125 milligrams or more	279		4,931	8.99	3.18	28	51	41	24	23	57	20	1
Rural farm:													
Under 75 milligrams	56	222	3,500	5.62	4.38	47	62	44	4	49	44	8	5
75-124 milligrams	94	378	3,815	6.87	4.24	56	64	43	7	41	49	10	4
125 milligrams or more	116	465	3,960	8.77	3.69	63	55	44	9	32	53	15	3
SOUTH													
All urbanizations:													
Under 75 milligrams	477	779	2,492	4.59	4.29	11	65	42	23	62	34	5	3
75-124 milligrams	391	568	3,421	6.86	3.63	17	59	41	28	39	50	12	2
125 milligrams or more	401	585	3,930	8.94	3.17	20	53	41	31	34	49	17	2
Urban:													
Under 75 milligrams	205		2,988	4.97	3.72	4	62	40	34	48	43	9	2
75-124 milligrams	209		3,697	6.69	3.37	9	58	39	32	34	51	15	2
125 milligrams or more	209		4,625	8.85	3.09	11	49	40	38	31	50	20	1
Rural nonfarm:													
Under 75 milligrams	171		2,383	4.31	4.52	12	67	42	17	73	26	1	3
75-124 milligrams	123		3,460	6.59	3.89	18	61	41	27	42	52	7	1
125 milligrams or more	131		3,500	8.91	3.24	24	64	41	27	34	54	12	2
Rural farm:													
Under 75 milligrams	101	403	1,465	4.16	5.07	20	67	44	10	70	28	2	4
75-124 milligrams	59	236	1,984	6.86	4.05	43	58	46	14	51	40	9	4
125 milligrams or more	61	245	2,577	9.29	3.30	46	41	46	13	47	36	17	2

[1] The sample contains 4 times as many rural farm schedules as are required to provide proportionate representation of all groups. "All urbanizations" is shown both with and without extra schedules.

[2] Includes Northeast, North Central, West.

TABLE 28.--SOURCES OF ASCORBIC ACID, BY ASCORBIC ACID LEVEL OF DIET: *Percentage of ascorbic acid from food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, ascorbic acid level (amount per nutrition unit per day)	Average per nutrition unit per day	Source			
		All food	Vegetables	Fruits	Other
(1)	(2)	(3)	(4)	(5)	(6)
	Milligrams	Percent	Percent	Percent	Percent
UNITED STATES					
All urbanizations:					
Under 75 milligrams	50	100	59	27	14
75-124 milligrams	99	100	46	44	10
125 milligrams or more	188	100	37	56	7
Urban:					
Under 75 milligrams	52	100	56	31	13
75-124 milligrams	99	100	45	46	9
125 milligrams or more	189	100	37	56	7
Rural nonfarm:					
Under 75 milligrams	49	100	61	24	15
75-124 milligrams	98	100	46	45	9
125 milligrams or more	187	100	36	58	6
Rural farm:					
Under 75 milligrams	49	100	64	20	16
75-124 milligrams	99	100	50	38	12
125 milligrams or more	190	100	40	53	7
NORTH[1]					
All urbanizations:					
Under 75 milligrams	55	100	54	31	15
75-124 milligrams	99	100	43	47	10
125 milligrams or more	188	100	35	58	7
Urban:					
Under 75 milligrams	55	100	53	33	14
75-124 milligrams	100	100	44	47	9
125 milligrams or more	188	100	37	57	6
Rural nonfarm:					
Under 75 milligrams	54	100	56	29	15
75-124 milligrams	99	100	42	48	10
125 milligrams or more	187	100	32	62	6
Rural farm:					
Under 75 milligrams	56	100	56	27	17
75-124 milligrams	99	100	44	44	12
125 milligrams or more	191	100	34	58	8
SOUTH					
All urbanizations:					
Under 75 milligrams	45	100	64	21	15
75-124 milligrams	98	100	52	38	10
125 milligrams or more	189	100	43	50	7
Urban:					
Under 75 milligrams	47	100	60	26	14
75-124 milligrams	98	100	49	42	9
125 milligrams or more	192	100	40	55	5
Rural nonfarm:					
Under 75 milligrams	43	100	66	19	15
75-124 milligrams	97	100	53	38	9
125 milligrams or more	186	100	45	49	6
Rural farm:					
Under 75 milligrams	45	100	68	15	17
75-124 milligrams	97	100	60	26	14
125 milligrams or more	187	100	51	40	9

[1] Includes Northeast, North Central, West.

TABLE 29.--FOOD USED, BY ASCORBIC ACID LEVEL OF DIET: *Average quantity per person of food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, ascorbic acid level (amount per nutrition unit per day)	Milk, cream, ice cream, cheese (milk equivalent)[1]	Meat, poultry, fish, eggs, dry legumes, nuts	Vegetables					Fruits		
			Total[2]	Potatoes	Dark green and deep yellow[3]	Tomatoes	Other	Total[4]	Citrus (juice equivalent)	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Quarts	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
UNITED STATES										
All urbanizations:										
Under 75 milligrams	3.58	4.38	4.00	1.46	0.33	0.44	1.77	1.62	0.23	1.39
75-124 milligrams	4.48	5.52	5.85	1.83	.56	.75	2.71	3.25	.94	2.31
125 milligrams or more	5.23	6.78	8.06	2.07	.89	1.16	3.94	6.27	2.36	3.91
Urban:										
Under 75 milligrams	3.36	4.65	3.95	1.27	.39	.48	1.81	1.75	.29	1.46
75-124 milligrams	4.23	5.53	5.64	1.62	.62	.75	2.65	3.31	1.01	2.30
125 milligrams or more	5.04	6.82	7.93	1.87	.94	1.21	3.91	6.28	2.49	3.79
Rural nonfarm:										
Under 75 milligrams	3.73	4.03	4.10	1.71	.26	.40	1.73	1.54	.17	1.37
75-124 milligrams	4.57	5.43	6.07	2.07	.45	.79	2.76	3.10	.86	2.24
125 milligrams or more	5.16	6.57	8.06	2.33	.76	1.08	3.89	6.26	2.24	4.02
Rural farm:										
Under 75 milligrams	4.04	4.23	3.93	1.52	.29	.37	1.75	1.31	.15	1.16
75-124 milligrams	5.73	5.71	6.55	2.47	.47	.69	2.92	3.25	.70	2.55
125 milligrams or more	6.66	7.00	8.86	2.75	.77	1.01	4.33	6.19	1.77	4.42
NORTH[5]										
All urbanizations:										
Under 75 milligrams	3.78	4.68	4.40	1.71	.33	.50	1.86	1.96	.30	1.66
75-124 milligrams	4.59	5.51	5.81	1.93	.53	.75	2.60	3.36	1.02	2.34
125 milligrams or more	5.22	6.70	7.86	2.13	.84	1.13	3.76	6.38	2.42	3.96
Urban:										
Under 75 milligrams	3.55	4.71	4.23	1.44	.38	.54	1.87	1.98	.34	1.64
75-124 milligrams	4.40	5.51	5.63	1.71	.60	.75	2.57	3.37	1.07	2.30
125 milligrams or more	5.11	6.77	7.85	1.92	.93	1.19	3.81	6.36	2.50	3.86
Rural nonfarm:										
Under 75 milligrams	3.98	4.46	4.59	2.03	.26	.45	1.85	1.90	.23	1.67
75-124 milligrams	4.84	5.40	6.06	2.20	.42	.78	2.66	3.23	.94	2.29
125 milligrams or more	5.13	6.39	7.68	2.45	.63	1.02	3.58	6.53	2.35	4.18
Rural farm:										
Under 75 milligrams	4.53	5.10	4.82	2.33	.24	.44	1.81	2.02	.22	1.80
75-124 milligrams	5.29	5.85	6.44	2.80	.38	.66	2.60	3.69	.84	2.85
125 milligrams or more	6.34	6.88	8.35	3.08	.61	.95	3.71	6.23	1.93	4.30
SOUTH										
All urbanizations:										
Under 75 milligrams	3.34	4.04	3.53	1.16	.33	.36	1.68	1.21	.16	1.05
75-124 milligrams	4.20	5.55	5.95	1.56	.61	.76	3.02	2.94	.73	2.21
125 milligrams or more	5.27	7.04	8.71	1.85	1.03	1.26	4.57	5.90	2.17	3.73
Urban:										
Under 75 milligrams	3.03	4.55	3.51	1.01	.41	.38	1.71	1.37	.21	1.16
75-124 milligrams	3.68	5.61	5.65	1.32	.68	.74	2.91	3.12	.83	2.29
125 milligrams or more	4.72	7.03	8.27	1.64	1.02	1.33	4.28	5.97	2.48	3.49
Rural nonfarm:										
Under 75 milligrams	3.47	3.59	3.61	1.40	.24	.34	1.63	1.19	.11	1.08
75-124 milligrams	4.02	5.47	6.08	1.81	.51	.80	2.96	2.84	.70	2.14
125 milligrams or more	5.24	6.96	8.88	2.06	1.04	1.20	4.58	5.69	2.01	3.68
Rural farm:										
Under 75 milligrams	3.77	3.76	3.44	1.07	.30	.33	1.74	.92	.12	.80
75-124 milligrams	6.42	5.50	6.74	1.94	.61	.74	3.45	2.54	.47	2.07
125 milligrams or more	7.26	7.23	9.84	2.13	1.08	1.12	5.51	6.12	1.46	4.66

[1] Milk equivalent: Approximately the quantity of fresh fluid milk to which the various dairy products (except butter) are equivalent in calcium.
[2] Includes fresh, frozen, canned, dried, juice.
[3] Includes spinach and other dark leafy greens, broccoli, green peppers, carrots, pumpkin, winter squash, etc. Also includes sweetpotatoes.
[4] Includes fresh, frozen, canned, dried, juice. The single-strength juice equivalent of citrus fruit and citrus products, the fresh equivalent of dried, and the total of all other fruit.
[5] Includes Northeast, North Central, West.

TABLE 30.--CHARACTERISTICS OF HOUSEHOLDS, BY THIAMINE LEVEL OF DIET: *Household size, family income, and age, employment, and education of homemaker, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, thiamine level (amount per nutrition unit per day)	Households[1]		Median income after income taxes (1954)	Median money value of food at home per person	Household size (21 meals at home = 1 person)	Households with children under 16 years	Homemaker					No female homemaker
	Weighted, includes 1/4 farm	Unweighted, includes all farm					Median age	Employed	Education: Elementary	Education: High school	Education: College	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Number	Number	Dollars	Dollars	Persons	Percent	Years	Percent	Percent	Percent	Percent	Percent
UNITED STATES												
All urbanizations:												
Under 1.50 milligrams	699	833	4,471	5.60	3.58	51	44	30	40	49	11	4
1.50-1.99 milligrams	1,216	1,535	4,472	5.81	3.69	61	42	27	35	50	16	3
2.00 milligrams or more	2,271	3,280	4,309	8.80	3.41	56	42	24	35	50	15	2
Urban:												
Under 1.50 milligrams	500		4,750	5.92	3.44	51	44	32	37	51	13	3
1.50-1.99 milligrams	799		4,699	7.35	3.48	59	42	28	31	51	18	3
2.00 milligrams or more	1,274		4,808	9.44	3.21	54	41	29	29	53	19	2
Rural nonfarm:												
Under 1.50 milligrams	154		3,958	4.81	3.69	47	46	29	44	49	8	5
1.50-1.99 milligrams	311		4,139	6.01	3.88	63	40	28	40	49	12	1
2.00 milligrams or more	661		3,723	8.05	3.57	61	42	21	40	49	11	1
Rural farm:												
Under 1.50 milligrams	45	179	2,620	4.11	4.87	68	44	10	56	40	4	6
1.50-1.99 milligrams	106	425	3,245	5.60	4.69	71	43	9	46	44	10	4
2.00 milligrams or more	336	1,345	2,844	7.79	3.89	54	45	10	47	42	11	3
NORTH[2]												
All urbanizations:												
Under 1.50 milligrams	506	562	4,953	6.08	3.38	48	45	30	35	52	12	4
1.50-1.99 milligrams	879	1,078	4,768	7.37	3.53	60	42	25	30	52	17	3
2.00 milligrams or more	1,532	2,076	4,746	9.36	3.39	55	42	24	30	53	17	2
Urban:												
Under 1.50 milligrams	385		5,167	6.28	3.36	50	44	31	35	51	14	4
1.50-1.99 milligrams	610		4,933	7.85	3.40	58	43	26	29	53	18	3
2.00 milligrams or more	955		5,839	9.90	3.25	54	42	28	27	54	20	3
Rural nonfarm:												
Under 1.50 milligrams	103		4,548	5.63	3.26	41	46	32	35	56	9	4
1.50-1.99 milligrams	203		4,430	6.55	3.67	64	40	28	33	52	15	1
2.00 milligrams or more	395		4,193	8.48	3.49	57	42	21	33	53	14	1
Rural farm:												
Under 1.50 milligrams	18	74	3,833	3.96	4.48	64	44	9	41	55	4	7
1.50-1.99 milligrams	66	265	4,078	6.18	4.24	69	43	6	38	49	13	4
2.00 milligrams or more	182	726	3,704	8.19	3.91	56	44	8	39	49	12	3
Northeast												
Urban:												
Under 1.50 milligrams	205		5,152	6.35	3.37	53	44	26	41	47	12	4
1.50-1.99 milligrams	275		4,869	8.21	3.43	57	43	26	32	51	17	3
2.00 milligrams or more	363		4,840	10.09	3.13	53	44	27	33	54	13	2
North Central and West												
Urban:												
Under 1.50 milligrams	180		5,182	6.21	3.35	46	44	36	29	56	15	3
1.50-1.99 milligrams	335		4,993	7.58	3.38	58	43	26	26	55	20	4
2.00 milligrams or more	592		5,279	9.77	3.33	55	41	28	23	54	24	3
SOUTH												
All urbanizations:												
Under 1.50 milligrams	192	271	2,940	4.21	4.12	58	42	30	51	42	8	4
1.50-1.99 milligrams	337	457	3,449	5.43	4.12	64	41	32	45	43	11	2
2.00 milligrams or more	740	1,204	3,246	7.65	3.46	57	41	24	45	44	11	2
Urban:												
Under 1.50 milligrams	115		3,340	4.76	3.69	55	41	37	42	48	10	3
1.50-1.99 milligrams	189		3,679	5.87	3.74	64	40	37	39	45	16	2
2.00 milligrams or more	319		3,851	7.99	3.08	52	40	32	35	50	16	2
Rural nonfarm:												
Under 1.50 milligrams	51		2,083	3.39	4.57	59	44	23	62	34	4	8
1.50-1.99 milligrams	108		3,375	5.05	4.29	62	41	28	52	43	5	2
2.00 milligrams or more	266		3,148	7.32	3.68	66	41	21	50	43	7	1
Rural farm:												
Under 1.50 milligrams	27	105	1,806	3.26	5.14	71	43	11	67	29	4	5
1.50-1.99 milligrams	40	160	1,879	4.22	5.44	74	44	16	59	35	6	3
2.00 milligrams or more	155	619	1,889	7.16	3.87	51	46	11	57	33	9	3

[1] The sample contains 4 times as many rural farm schedules as are required to provide proportionate representation of all groups. "All urbanizations" is shown both with and without extra schedules.
[2] Includes Northeast, North Central, West.

TABLE 31.--SOURCES OF THIAMINE, BY THIAMINE LEVEL OF DIET: *Percentage of thiamine from food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, thiamine level (amount per nutrition unit per day)	Average per nutrition unit per day	Source					
		All food	Milk, cream, ice cream, cheese	Meat, poultry, fish, eggs, dry legumes, nuts	Vegetables and fruits	Grain products	Other
	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UNITED STATES	Milligrams	Percent	Percent	Percent	Percent	Percent	Percent
All urbanizations:							
Under 1.50 milligrams	1.22	100	14	27	22	36	1
1.50-1.99 milligrams	1.75	100	13	26	21	38	2
2.00 milligrams or more	2.73	100	12	29	20	39	*
Urban:							
Under 1.50 milligrams	1.23	100	16	28	23	33	*
1.50-1.99 milligrams	1.75	100	14	28	22	35	1
2.00 milligrams or more	2.66	100	12	31	22	35	*
Rural nonfarm:							
Under 1.50 milligrams	1.21	100	12	26	20	40	2
1.50-1.99 milligrams	1.75	100	12	25	20	42	1
2.00 milligrams or more	2.75	100	11	28	18	42	1
Rural farm:							
Under 1.50 milligrams	1.23	100	12	22	16	49	1
1.50-1.99 milligrams	1.77	100	14	21	17	47	1
2.00 milligrams or more	2.93	100	13	25	16	44	2
NORTH[1]							
All urbanizations:							
Under 1.50 milligrams	1.22	100	16	26	24	32	2
1.50-1.99 milligrams	1.76	100	15	27	23	35	*
2.00 milligrams or more	2.68	100	12	30	21	35	2
Urban:							
Under 1.50 milligrams	1.21	100	17	27	25	31	*
1.50-1.99 milligrams	1.76	100	15	28	23	33	1
2.00 milligrams or more	2.65	100	12	31	23	33	1
Rural nonfarm:							
Under 1.50 milligrams	1.25	100	15	26	23	35	1
1.50-1.99 milligrams	1.75	100	14	25	22	38	1
2.00 milligrams or more	2.68	100	12	29	20	38	1
Rural farm:							
Under 1.50 milligrams	1.28	100	14	24	22	39	1
1.50-1.99 milligrams	1.77	100	16	24	21	38	1
2.00 milligrams or more	2.88	100	14	27	19	39	1
Northeast							
Urban:							
Under 1.50 milligrams	1.20	100	17	27	25	30	1
1.50-1.99 milligrams	1.76	100	15	28	24	33	*
2.00 milligrams or more	2.58	100	12	32	22	32	2
North Central and West							
Urban:							
Under 1.50 milligrams	1.24	100	17	26	24	32	1
1.50-1.99 milligrams	1.75	100	15	28	23	33	1
2.00 milligrams or more	2.68	100	12	31	23	33	1
SOUTH							
All urbanizations:							
Under 1.50 milligrams	1.21	100	11	28	16	45	*
1.50-1.99 milligrams	1.75	100	11	26	16	47	*
2.00 milligrams or more	2.81	100	11	26	16	46	1
Urban:							
Under 1.50 milligrams	1.26	100	12	31	17	40	*
1.50-1.99 milligrams	1.75	100	11	28	18	42	1
2.00 milligrams or more	2.69	100	10	30	19	40	1
Rural nonfarm:							
Under 1.50 milligrams	1.11	100	9	27	15	49	*
1.50-1.99 milligrams	1.76	100	10	25	16	48	1
2.00 milligrams or more	2.86	100	10	25	15	49	1
Rural farm:							
Under 1.50 milligrams	1.19	100	11	21	12	55	1
1.50-1.99 milligrams	1.77	100	11	18	11	59	1
2.00 milligrams or more	2.99	100	13	22	14	51	*

*Less than 0.5 percent.
[1] Includes Northeast, North Central, West.

TABLE 32.--FOOD USED, BY THIAMINE LEVEL OF DIET: *Average quantity per person of food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, thiamine level (amount per nutrition unit per day)	Milk, cream, ice cream, cheese (milk equivalent)[1]	Meat, poultry, fish, eggs, dry legumes, nuts						Vegetables and fruits[2]	Grain products							Fats and oils	Sugar, sweets[4]
		Total	Meat, poultry, fish						Flour equivalent[3]			Flour and other cereal products	Bakery products (commercial)				
			Total	Meat		Pork											
				Total	Beef	Total	Bacon, salt pork		Total	Enriched, restored, or whole grain	Not enriched, restored, or whole grain		Total	Bread	Other		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Quarts	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
UNITED STATES																	
All urbanizations:																	
Under 1.50 milligrams	3.11	4.21	3.29	2.18	1.12	0.51	0.20	6.70	1.64	1.09	0.53	0.87	1.47	1.03	0.44	0.66	0.92
1.50-1.99 milligrams	4.02	4.89	3.78	2.75	1.30	.83	.27	8.94	2.28	1.66	.59	1.25	1.94	1.35	.59	.80	1.19
2.00 milligrams or more	5.31	6.70	5.21	3.87	1.50	1.62	.38	12.32	3.43	2.59	.80	2.18	2.37	1.65	.72	1.07	1.66
Urban:																	
Under 1.50 milligrams	3.25	4.44	3.51	2.29	1.19	.51	.19	7.02	1.49	1.03	.43	.68	1.53	1.04	.49	.62	.84
1.50-1.99 milligrams	4.07	5.14	4.02	2.91	1.39	.84	.25	9.34	2.10	1.54	.53	1.04	2.04	1.38	.66	.76	1.08
2.00 milligrams or more	5.07	6.99	5.55	4.12	1.61	1.66	.34	12.82	2.95	2.25	.66	1.61	2.57	1.75	.83	1.01	1.49
Rural nonfarm:																	
Under 1.50 milligrams	2.81	3.70	2.80	1.97	1.01	.50	.20	6.09	1.87	1.19	.66	1.13	1.40	1.06	.34	.73	1.05
1.50-1.99 milligrams	3.83	4.43	3.35	2.48	1.11	.85	.28	8.33	2.48	1.82	.64	1.49	1.86	1.35	.51	.87	1.32
2.00 milligrams or more	5.26	6.28	4.75	3.55	1.34	1.54	.42	11.66	3.86	2.90	.91	2.61	2.30	1.64	.66	1.10	1.71
Rural farm:																	
Under 1.50 milligrams	2.60	3.42	2.48	1.65	.76	.61	.34	5.34	2.59	1.38	1.20	1.99	1.09	.80	.29	.78	1.38
1.50-1.99 milligrams	4.21	4.36	3.23	2.33	1.21	.75	.32	7.69	2.96	2.05	.89	2.19	1.40	1.05	.36	.89	1.61
2.00 milligrams or more	6.33	6.44	4.81	3.56	1.42	1.61	.46	11.72	4.38	3.26	1.10	3.45	1.73	1.27	.46	1.25	2.23
NORTH[5]																	
All urbanizations:																	
Under 1.50 milligrams	3.37	4.42	3.50	2.33	1.29	.44	.15	7.35	1.40	1.02	.35	.58	1.57	1.09	.48	.61	.84
1.50-1.99 milligrams	4.27	5.05	3.95	2.90	1.44	.78	.21	9.60	2.05	1.55	.47	.97	2.07	1.44	.63	.77	1.12
2.00 milligrams or more	5.43	6.86	5.41	4.13	1.71	1.57	.30	12.90	2.95	2.34	.58	1.61	2.57	1.81	.76	1.01	1.55
Urban:																	
Under 1.50 milligrams	3.42	4.53	3.63	2.36	1.30	.42	.15	7.44	1.35	.96	.36	.53	1.57	1.05	.52	.58	.75
1.50-1.99 milligrams	4.28	5.22	4.09	2.98	1.45	.78	.20	9.85	1.97	1.46	.47	.88	2.12	1.43	.69	.73	1.02
2.00 milligrams or more	5.28	7.04	5.63	4.23	1.69	1.60	.29	13.21	2.73	2.10	.59	1.36	2.68	1.82	.86	.66	1.41
Rural nonfarm:																	
Under 1.50 milligrams	3.26	4.07	3.14	2.27	1.27	.58	.16	7.05	1.51	1.20	.29	.70	1.56	1.20	.36	.71	1.05
1.50-1.99 milligrams	4.13	4.62	3.60	2.73	1.38	.79	.21	9.03	2.18	1.73	.43	1.08	2.05	1.54	.51	.86	1.25
2.00 milligrams or more	5.45	6.44	4.98	3.91	1.71	1.47	.31	12.26	3.20	2.60	.57	1.83	2.54	1.89	.66	1.05	1.61
Rural farm:																	
Under 1.50 milligrams	2.96	4.05	2.94	2.05	1.13	.50	.21	7.10	1.84	1.32	.50	.95	1.59	1.21	.38	.66	1.39
1.50-1.99 milligrams	4.63	4.81	3.66	2.71	1.57	.71	.23	9.06	2.40	1.81	.57	1.49	1.67	1.28	.40	.84	1.61
2.00 milligrams or more	6.21	6.85	5.24	4.13	1.83	1.67	.35	12.67	3.54	2.99	.54	2.43	2.06	1.57	.49	1.11	2.16
Northeast																	
Urban:																	
Under 1.50 milligrams	3.39	4.66	3.78	2.34	1.26	.36	.12	7.47	1.25	.88	.34	.46	1.49	.98	.52	.51	.64
1.50-1.99 milligrams	4.38	5.37	4.26	2.89	1.33	.71	.16	9.96	1.95	1.46	.45	.80	2.22	1.46	.76	.68	.97
2.00 milligrams or more	5.19	7.23	5.87	4.13	1.53	1.53	.22	13.06	2.62	2.04	.53	1.19	2.74	1.84	.91	.89	1.25
North Central and West																	
Urban:																	
Under 1.50 milligrams	3.46	4.39	3.45	2.39	1.34	.50	.18	7.42	1.47	1.05	.39	.62	1.65	1.14	.51	.65	.88
1.50-1.99 milligrams	4.20	5.11	3.96	3.05	1.55	.83	.24	9.75	1.98	1.46	.48	.94	2.04	1.40	.63	.76	1.06
2.00 milligrams or more	5.33	6.93	5.48	4.28	1.80	1.64	.33	13.31	2.80	2.14	.63	1.46	2.63	1.80	.83	1.02	1.51
SOUTH																	
All urbanizations:																	
Under 1.50 milligrams	2.46	3.66	2.73	1.78	.69	.72	.34	5.01	2.27	1.25	1.00	1.61	1.22	.86	.35	.78	1.13
1.50-1.99 milligrams	3.37	4.48	3.35	2.36	.92	.98	.42	7.21	2.87	1.95	.90	2.00	1.59	1.09	.50	.88	1.37
2.00 milligrams or more	5.07	6.36	4.79	3.32	1.06	1.71	.55	11.09	4.42	3.11	1.26	3.35	1.96	1.31	.64	1.21	1.89
Urban:																	
Under 1.50 milligrams	2.71	4.13	3.13	2.06	.81	.81	.35	5.61	1.94	1.25	.66	1.18	1.38	.98	.40	.77	1.12
1.50-1.99 milligrams	3.39	4.88	3.79	2.70	1.18	1.03	.42	7.72	2.55	1.81	.72	1.57	1.79	1.23	.56	.86	1.28
2.00 milligrams or more	4.47	6.83	5.33	3.79	1.35	1.84	.51	11.62	3.60	2.70	.88	2.38	2.27	1.54	.73	1.13	1.70
Rural nonfarm:																	
Under 1.50 milligrams	1.96	2.96	2.11	1.35	.49	.54	.28	4.16	2.60	1.16	1.42	2.00	1.08	.78	.31	.76	1.04
1.50-1.99 milligrams	3.27	4.09	2.89	2.00	.60	.97	.40	7.00	3.04	2.00	1.03	2.25	1.49	1.00	.49	.88	1.46
2.00 milligrams or more	4.96	6.04	4.42	3.01	.79	1.66	.58	10.75	4.84	3.34	1.43	3.76	1.93	1.27	.66	1.18	1.87
Rural farm:																	
Under 1.50 milligrams	2.35	2.98	2.15	1.37	.50	.69	.43	4.07	3.13	1.42	1.69	2.72	.74	.52	.23	.87	1.38
1.50-1.99 milligrams	3.52	3.63	2.52	1.71	.61	.81	.48	5.42	3.89	2.44	1.42	3.35	.95	.67	.28	.98	1.60
2.00 milligrams or more	6.47	5.96	4.32	2.89	.94	1.54	.59	10.61	5.37	3.57	1.76	4.65	1.35	.93	.42	1.42	2.31

[1] Milk equivalent: Approximately the quantity of fresh fluid milk to which the various dairy products (except butter) are equivalent in calcium.
[2] Includes fresh, frozen, canned, dried, juice. The single-strength juice equivalent of citrus fruit and citrus products, the fresh equivalent of dried, and total of all other fruit.
[3] Includes dry weight of flour and cereal in prepared products and baked goods. Total also includes mixtures and soups, chiefly grain.
[4] Includes the sugar equivalent of soft drinks, beverage and dessert powders.
[5] Includes Northeast, North Central, West.

TABLE 33.--CHARACTERISTICS OF HOUSEHOLDS, BY LEVEL OF FAT IN DIET: *Household size, family income, and age, employment, and education of homemaker, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, level of fat (grams per hundred calories)	Households[1]		Median income after income taxes (1954)	Median money value of food at home per person	Household size (21 meals at home = 1 person)	Households with children under 16 years	Homemaker					No female homemaker
	Weighted, includes 1/4 farm	Unweighted, includes all farm					Median age	Employed	Education			
									Elementary	High school	College	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Number	Number	Dollars	Dollars	Persons	Percent	Years	Percent	Percent	Percent	Percent	Percent
UNITED STATES												
All urbanizations:												
Under 4.50 grams	1,090	1,655	3,649	6.53	3.88	61	43	22	46	44	10	3
4.50-5.49 grams	2,266	2,993	4,546	7.85	3.55	59	42	26	32	53	16	2
5.50 grams or more	830	1,000	4,851	8.55	2.98	44	43	30	32	49	19	3
Urban:												
Under 4.50 grams	542		4,339	7.16	3.54	58	42	28	38	50	12	3
4.50-5.49 grams	1,447		4,792	8.07	3.45	59	41	29	29	53	18	2
5.50 grams or more	584		5,203	8.91	2.88	43	43	33	30	50	20	3
Rural nonfarm:												
Under 4.50 grams	360		3,177	5.88	4.04	64	42	20	53	40	7	2
4.50-5.49 grams	577		4,254	7.56	3.60	60	41	26	33	55	12	1
5.50 grams or more	189		4,167	7.35	3.19	48	43	26	39	48	14	2
Rural farm:												
Under 4.50 grams	188	753	2,307	6.00	4.55	63	45	8	56	36	8	4
4.50-5.49 grams	242	969	3,237	7.19	4.03	59	44	10	44	46	10	3
5.50 grams or more	57	227	3,696	8.52	3.41	41	44	13	34	45	21	5
NORTH[2]												
All urbanizations:												
Under 4.50 grams	649	909	4,310	7.19	3.66	57	43	22	36	52	12	3
4.50-5.49 grams	1,649	2,082	4,841	8.19	3.53	60	42	25	29	54	17	2
5.50 grams or more	619	725	5,230	9.12	2.93	42	44	29	30	50	19	4
Urban:												
Under 4.50 grams	388		4,670	7.75	3.51	56	43	26	34	54	12	3
4.50-5.49 grams	1,120		5,013	8.45	3.43	59	42	27	27	54	19	3
5.50 grams or more	442		5,617	9.50	2.88	41	44	31	29	50	21	4
Rural nonfarm:												
Under 4.50 grams	174		3,718	6.47	3.68	59	42	20	37	51	11	2
4.50-5.49 grams	385		4,540	7.76	3.59	60	42	26	31	54	14	2
5.50 grams or more	142		4,467	7.64	3.06	44	43	28	35	51	14	1
Rural farm:												
Under 4.50 grams	87	347	3,373	6.69	4.26	59	45	7	45	45	10	4
4.50-5.49 grams	144	577	4,040	7.39	4.12	64	42	8	36	53	10	3
5.50 grams or more	35	141	4,233	8.91	3.12	40	44	10	32	45	23	5
SOUTH												
All urbanizations:												
Under 4.50 grams	441	746	2,666	5.46	4.20	67	42	21	61	33	7	3
4.50-5.49 grams	617	911	3,530	6.92	3.61	58	41	28	38	50	12	2
5.50 grams or more	211	275	3,742	7.03	3.13	49	41	34	38	46	16	2
Urban:												
Under 4.50 grams	154		3,333	5.93	3.61	63	40	31	50	38	12	3
4.50-5.49 grams	327		3,721	6.85	3.52	58	39	34	34	52	15	2
5.50 grams or more	142		4,120	7.33	2.86	46	40	40	33	49	18	1
Rural nonfarm:												
Under 4.50 grams	186		2,588	5.18	4.37	70	42	20	67	30	3	3
4.50-5.49 grams	192		3,657	7.08	3.62	60	40	26	37	55	8	1
5.50 grams or more	47		3,056	6.41	3.59	60	43	22	52	37	11	4
Rural farm:												
Under 4.50 grams	102	406	1,582	5.04	4.80	66	45	10	66	29	6	4
4.50-5.49 grams	98	392	2,103	6.85	3.89	52	47	13	56	35	9	3
5.50 grams or more	22	86	2,000	7.50	3.88	43	43	17	38	45	17	5

[1] The sample contains 4 times as many rural farm schedules as are required to provide proportionate representation of all groups. "All urbanizations" is shown both with and without extra schedules.

[2] Includes Northeast, North Central, West.

TABLE 34.--SOURCES OF FAT, BY LEVEL OF FAT IN DIET: *Percentage of fat from food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, level of fat (grams per hundred calories)	Average per person per day	Source						
		All food[1]	Milk, cream, ice cream, cheese	Meat, poultry, fish, eggs, dry legumes, nuts	Fruits and vegetables	Grain products	Fats and oils	Sugars and sweets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Grams	Percent	Percent	Percent	Percent	Percent	Percent	Percent
UNITED STATES								
All urbanizations:								
Under 4.50 grams	128	100	19	36	2	8	34	1
4.50-5.49 grams	160	100	18	42	2	6	30	1
5.50 grams or more	185	100	16	46	2	4	30	1
Urban:								
Under 4.50 grams	124	100	20	38	2	9	29	1
4.50-5.49 grams	152	100	18	42	2	7	29	1
5.50 grams or more	180	100	16	48	2	4	29	1
Rural nonfarm:								
Under 4.50 grams	126	100	18	35	2	8	36	1
4.50-5.49 grams	165	100	17	41	2	6	32	1
5.50 grams or more	187	100	16	45	1	4	31	1
Rural farm:								
Under 4.50 grams	139	100	19	34	1	7	38	1
4.50-5.49 grams	185	100	20	39	1	5	34	1
5.50 grams or more	225	100	18	43	1	3	32	*
NORTH[2]								
All urbanizations:								
Under 4.50 grams	128	100	22	36	3	9	29	1
4.50-5.49 grams	156	100	20	41	2	7	28	1
5.50 grams or more	184	100	17	46	2	4	29	1
Urban:								
Under 4.50 grams	125	100	22	37	3	10	27	1
4.50-5.49 grams	151	100	20	42	2	7	27	1
5.50 grams or more	181	100	17	47	2	4	28	1
Rural nonfarm:								
Under 4.50 grams	126	100	21	35	2	9	32	1
4.50-5.49 grams	161	100	19	41	2	6	30	1
5.50 grams or more	183	100	17	45	2	5	31	1
Rural farm:								
Under 4.50 grams	145	100	23	36	2	7	32	1
4.50-5.49 grams	179	100	22	40	2	5	31	1
5.50 grams or more	228	100	22	44	1	3	29	1
SOUTH								
All urbanizations:								
Under 4.50 grams	127	100	15	36	1	8	39	1
4.50-5.49 grams	168	100	15	42	1	6	35	1
5.50 grams or more	186	100	13	47	1	4	34	1
Urban:								
Under 4.50 grams	123	100	16	38	2	8	34	1
4.50-49 grams	157	100	15	43	1	6	34	1
5.50 grams or more	177	100	13	49	1	4	33	1
Rural nonfarm:								
Under 4.50 grams	126	100	15	36	1	8	39	1
4.50-5.49 grams	172	100	14	42	1	6	37	1
5.50 grams or more	188	100	14	47	1	4	34	*
Rural farm:								
Under 4.50 grams	134	100	15	33	1	7	44	*
4.50-5.49 grams	195	100	16	38	1	5	39	*
5.50 grams or more	221	100	13	41	1	3	41	*

*Less than 0.5 percent.
[1] Includes miscellaneous foods, not shown separately.
[2] Includes Northeast, North Central, West.

TABLE 35.--FOOD USED, BY LEVEL OF FAT IN DIET: *Average quantity per person of food used at home in a week, by region and urbanization*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, level of fat (grams per hundred calories)	Milk, cream, ice cream, cheese					Fats and oils					Flour and other cereal products	Bakery products (commercial)	Sugar, sweets
	Total (milk equivalent)[1]	Fresh fluid milk	Processed milk[2]	Cream	Ice cream and cheese	Total	Butter and margarine	Lard and other shortening	Salad and cooking oils	Salad dressings			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Quarts	Quarts	Pounds	Quarts	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
UNITED STATES													
All urbanizations:													
Under 4.50 grams	4.32	3.18	1.10	0.02	0.62	0.80	0.34	0.28	0.04	0.13	2.54	2.18	1.65
4.50-5.49 grams	4.71	3.53	.85	.05	.78	.92	.43	.27	.06	.17	1.53	2.16	1.22
5.50 grams or more	4.50	3.35	.66	.07	.80	1.08	.53	.27	.10	.17	1.00	1.79	.85
Urban:													
Under 4.50 grams	4.17	3.07	.95	.02	.71	.69	.34	.18	.05	.13	1.69	2.56	1.47
4.50-5.49 grams	4.52	3.39	.75	.04	.78	.85	.42	.20	.06	.16	1.25	2.24	1.06
5.50 grams or more	4.36	3.20	.64	.06	.82	1.03	.52	.23	.11	.17	.87	1.79	.76
Rural nonfarm:													
Under 4.50 grams	4.16	2.87	1.49	.01	.55	.86	.34	.34	.04	.15	3.08	1.97	1.64
4.50-5.49 grams	4.72	3.38	1.23	.03	.77	1.01	.44	.33	.06	.18	1.78	2.18	1.38
5.50 grams or more	4.58	3.43	.75	.04	.77	1.13	.57	.32	.08	.17	1.19	1.81	.95
Rural farm:													
Under 4.50 grams	5.04	4.08	.80	.05	.54	.99	.37	.48	.02	.12	3.98	1.48	2.18
4.50-5.49 grams	5.86	4.79	.56	.11	.80	1.18	.49	.51	.04	.15	2.63	1.68	1.80
5.50 grams or more	5.75	4.57	.49	.24	.84	1.41	.58	.59	.06	.17	1.71	1.67	1.44
NORTH[4]													
All urbanizations:													
Under 4.50 grams	4.58	3.47	.87	.03	.74	.72	.37	.18	.05	.12	1.76	2.52	1.57
4.50-5.49 grams	4.82	3.69	.65	.06	.83	.85	.45	.19	.06	.16	1.20	2.28	1.12
5.50 grams or more	4.62	3.48	.52	.08	.87	1.05	.57	.20	.10	.16	.80	1.87	.79
Urban:													
Under 4.50 grams	4.42	3.36	.81	.03	.74	.65	.36	.12	.05	.12	1.38	2.72	1.39
4.50-5.49 grams	4.69	3.61	.60	.05	.80	.80	.43	.15	.06	.15	1.06	2.30	.98
5.50 grams or more	4.53	3.39	.49	.07	.88	1.00	.55	.16	.12	.16	.71	1.85	.69
Rural nonfarm:													
Under 4.50 grams	4.57	3.29	1.16	.02	.76	.81	.41	.23	.04	.14	2.15	2.33	1.61
4.50-5.49 grams	4.87	3.57	.91	.04	.90	.93	.49	.23	.05	.17	1.32	2.33	1.29
5.50 grams or more	4.59	3.47	.65	.05	.84	1.12	.62	.26	.08	.17	.93	1.97	.95
Rural farm:													
Under 4.50 grams	5.30	4.28	.57	.09	.75	.86	.41	.32	.02	.11	2.70	2.00	2.27
4.50-5.49 grams	5.71	4.60	.42	.14	.96	1.05	.52	.36	.03	.15	1.91	1.92	1.74
5.50 grams or more	5.81	4.60	.28	.35	.97	1.23	.66	.40	.04	.13	1.35	1.81	1.33
SOUTH													
All urbanizations:													
Under 4.50 grams	3.93	2.75	1.45	.01	.45	.91	.29	.45	.03	.14	3.69	1.68	1.76
4.50-5.49 grams	4.43	3.13	1.37	.02	.62	1.11	.38	.48	.06	.19	2.43	1.87	1.49
5.50 grams or more	4.17	2.97	1.07	.02	.60	1.20	.42	.50	.08	.20	1.58	1.54	1.03
Urban:													
Under 4.50 grams	3.55	2.33	1.33	.01	.64	.79	.28	.33	.02	.15	2.47	2.16	1.65
4.50-5.49 grams	3.93	2.63	1.26	.02	.70	1.01	.37	.38	.06	.20	1.90	2.01	1.32
5.50 grams or more	3.82	2.61	1.11	.02	.61	1.15	.43	.44	.08	.21	1.34	1.63	.97
Rural nonfarm:													
Under 4.50 grams	3.77	2.47	1.79	*	.34	.91	.28	.45	.04	.15	3.96	1.64	1.67
4.50-5.49 grams	4.42	2.98	1.87	.01	.51	1.16	.37	.52	.08	.19	2.69	1.89	1.55
5.50 grams or more	4.56	3.32	1.06	.03	.57	1.15	.41	.50	.09	.16	1.99	1.32	.95
Rural farm:													
Under 4.50 grams	4.81	3.91	1.00	.02	.36	1.09	.33	.62	.02	.12	5.07	1.03	2.10
4.50-5.49 grams	6.09	5.07	.76	.05	.56	1.37	.44	.72	.05	.16	3.69	1.32	1.90
5.50 grams or more	5.65	4.51	.84	.06	.61	1.69	.45	.92	.09	.23	2.29	1.45	1.62

See footnotes at end of table.

TABLE 35.--FOOD USED, BY LEVEL OF FAT IN DIET: *Average quantity per person of food used at home in a week, by region and urbanization--Continued*

[Housekeeping households of 2 or more persons, April-June 1955]

Region, urbanization, level of fat (grams per hundred calories)	Meat, poultry, fish						Potatoes, sweet-potatoes	Fresh vegetables	Fresh fruits	Commercially frozen fruits and vegetables	Commercially canned fruits and vegetables	Fruit and vegetable juices[3]	Dried fruits and vegetables	Eggs
	Total	Beef	Pork	Other meat	Poultry	Fish								
(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Dozen
UNITED STATES														
All urbanizations:														
Under 4.50 grams	3.27	1.01	0.75	0.51	0.65	0.35	2.06	2.64	3.11	0.14	1.24	1.10	0.26	0.55
4.50-5.49 grams	4.58	1.42	1.22	.70	.79	.44	1.91	2.93	3.15	.21	1.38	1.22	.16	.61
5.50 grams or more	5.78	1.74	1.76	.85	.94	.49	1.65	3.12	2.90	.25	1.15	1.04	.12	.67
Urban:														
Under 4.50 grams	3.58	1.14	.72	.59	.74	.38	1.90	2.72	3.16	.20	1.46	1.46	.20	.53
4.50-5.49 grams	4.59	1.44	1.13	.75	.84	.43	1.75	2.91	3.13	.25	1.49	1.39	.14	.55
5.50 grams or more	5.92	1.79	1.72	.91	.97	.53	1.49	3.27	3.07	.30	1.14	1.13	.11	.67
Rural nonfarm:														
Under 4.50 grams	2.88	.83	.74	.44	.54	.33	2.17	2.36	3.05	.12	1.13	.84	.31	.53
4.50-5.49 grams	4.49	1.36	1.32	.66	.65	.48	2.12	2.85	3.16	.18	1.27	1.00	.19	.66
5.50 grams or more	5.23	1.58	1.77	.72	.79	.37	2.01	2.61	2.35	.14	1.24	.88	.12	.61
Rural farm:														
Under 4.50 grams	3.11	.96	.86	.39	.60	.30	2.33	2.97	3.10	.04	.80	.57	.30	.66
4.50-5.49 grams	4.70	1.47	1.51	.51	.77	.43	2.36	3.21	3.28	.06	.96	.80	.24	.77
5.50 grams or more	6.14	1.83	2.17	.54	1.16	.45	2.16	3.27	3.02	.12	.97	.70	.17	.84
NORTH[4]														
All urbanizations:														
Under 4.50 grams	3.47	1.21	.69	.59	.66	.32	2.25	2.57	3.44	.18	1.43	1.38	.17	.57
4.50-5.49 grams	4.62	1.56	1.11	.76	.77	.42	2.03	2.78	3.38	.23	1.44	1.38	.13	.58
5.50 grams or more	5.93	1.92	1.66	.92	.92	.50	1.77	3.06	3.08	.28	1.18	1.15	.10	.67
Urban:														
Under 4.50 grams	3.61	1.19	.69	.65	.72	.35	2.02	2.72	3.23	.21	1.58	1.59	.17	.55
4.50-5.49 grams	4.62	1.52	1.04	.80	.84	.41	1.83	2.86	3.31	.26	1.53	1.51	.11	.54
5.50 grams or more	6.10	1.90	1.65	1.01	.98	.57	1.58	3.27	3.24	.33	1.16	1.26	.09	.67
Rural nonfarm:														
Under 4.50 grams	3.09	1.15	.64	.48	.55	.28	2.35	2.24	3.62	.17	1.31	1.16	.17	.54
4.50-5.49 grams	4.51	1.59	1.18	.72	.58	.44	2.30	2.56	3.46	.19	1.32	1.16	.15	.61
5.50 grams or more	5.26	1.92	1.80	.48	.72	.34	2.20	2.43	2.48	.15	1.27	.89	.10	.61
Rural farm:														
Under 4.50 grams	3.63	1.41	.84	.52	.60	.26	3.05	2.60	4.06	.05	.99	.86	.21	.73
4.50-5.49 grams	4.90	1.79	1.45	.59	.70	.36	2.82	2.81	3.77	.07	1.02	.96	.17	.77
5.50 grams or more	6.42	2.18	2.19	.60	1.07	.39	2.49	2.94	3.59	.14	1.07	.79	.13	.89
SOUTH														
All urbanizations:														
Under 4.50 grams	2.97	.71	.83	.39	.64	.39	1.79	2.75	2.63	.09	.96	.70	.37	.52
4.50-5.49 grams	4.47	1.06	1.52	.53	.83	.51	1.60	3.31	2.53	.17	1.21	.82	.27	.67
5.50 grams or more	5.35	1.22	2.05	.63	1.00	.45	1.30	3.29	2.37	.15	1.08	.71	.19	.65
Urban:														
Under 4.50 grams	3.51	1.02	.80	.43	.80	.45	1.60	2.73	2.99	.16	1.17	1.14	.28	.47
4.50-5.49 grams	4.51	1.18	1.45	.56	.84	.47	1.48	3.08	2.51	.21	1.33	.98	.25	.59
5.50 grams or more	5.37	1.44	1.95	.59	.95	.43	1.22	3.25	2.55	.18	1.10	.70	.18	.66
Rural nonfarm:														
Under 4.50 grams	2.69	.54	.84	.40	.54	.38	2.00	2.47	2.52	.07	.97	.55	.45	.51
4.50-5.49 grams	4.44	.90	1.62	.52	.79	.56	1.76	3.45	2.55	.15	1.19	.68	.26	.77
5.50 grams or more	5.16	.55	2.31	.82	1.01	.47	1.42	3.16	1.95	.09	1.15	.83	.17	.60
Rural farm:														
Under 4.50 grams	2.67	.57	.87	.29	.60	.34	1.71	3.29	2.28	.03	.64	.32	.37	.60
4.50-5.49 grams	4.40	1.00	1.58	.42	.87	.54	1.69	3.80	2.56	.05	.87	.55	.33	.78
5.50 grams or more	5.69	1.25	2.15	.43	1.30	.56	1.61	3.81	2.08	.07	.80	.57	.22	.75

*Less than 0.005.

[1] Milk equivalent: Approximately the quantity of fresh fluid milk to which the various dairy products (except butter) are equivalent in calcium.

[2] Milk equivalent: Approximately the number of pounds of fresh fluid milk to which processed milk, i.e., evaporated, condensed, dry is equivalent in calcium.

[3] Includes fresh, frozen, canned, powdered--single strength equivalent.

[4] Includes Northeast, North Central, West.

APPENDIX B. SOME PROBLEMS IN COMPARING DATA FROM DIFFERENT SURVEYS

Nationwide surveys of household food consumption provide the basis for making time-to-time comparisons of diets of groups within the country that are not possible from national estimates based on food supply data. Before such comparisons can be made it is necessary to examine any differences in survey methods that might affect the comparability of the data.

Some problems relating to differences in objectives, schedule form, sample design and eligibility, period of collection, and characteristics of households are discussed in "Food Consumption of Urban Families in the United States" (2, p. 43). Some further problems of comparability are explained in "Use of 1955 Food Survey Data for Research in Agricultural Economics"(1).

Still further problems relating to groupings of food items and conversion to equivalent quantities and to the calculation of nutritive values were encountered in making the comparisons with earlier surveys discussed in this publication.

Such problems must be considered before comparisons are made between data from any two surveys, whether from different time periods or different places.

The grouping of food items used in 1955 was somewhat different from that used in earlier surveys. Most of these changes are obvious from the names of the groups. A few changes are apparent only from footnotes to the tables in each published report.

Before any quantity comparisons were made, foods from the 1942 and 1948 surveys were regrouped and equivalents recalculated from detailed data according to methods used in the 1955 study.

In the 1955 survey, milk equivalents were calculated on the basis of the calcium content of the items. In earlier surveys protein and mineral content were both used as the basis for deriving the table of equivalents used in the computations.

In 1955, citrus fruits were totaled on a juice equivalent basis to permit relating quantities to ascorbic acid content, despite different proportions of fresh and processed fruit. In earlier surveys fresh and processed fruits were totaled without the use of equivalents.

Product weight of citrus fruit used declined greatly between 1948 and 1955 because of a shift to processed fruit (mostly frozen concentrated juice). The juice equivalent weight was the same for the two studies (table 21).

Differences among the studies in the calculation of nutritive values presented another problem. As more information was amassed on analyses of foods, the composition values used in the calculations were revised. The composition values used in the earlier studies were different for many items from those used more recently, even though these foods are essentially the same products. In addition to revisions in composition values, for the 1955 survey adjustments were made to these values for estimated average cooking losses of four vitamins. The ideal procedure is to go back to the detailed lists of food items used in earlier studies and to recalculate them by use of the latest composition values. Such a recalculation was carried out on the 1942 data for comparison with the 1948 (8).

Recalculations, however, are costly and time consuming and often impossible to perform unless the original data are available in suitable form. For comparisons presented in this publication, data from the earlier surveys were adjusted by use of estimates of percentage change in composition values for each nutrient. These estimates were derived from calculations that had been made from time to time. For example, a comparison of original and recalculated 1942 data was used for estimating changes between 1936 (for which composition values were the same as in 1942) and 1948. The effect of deducting cooking losses and of other changes between 1948 and 1955 was estimated separately. The resulting comparisons of per person nutritive values are shown in tables 9 and 19.

When averages per nutrition unit are being compared, changed recommendations over a period of time in the nutrient allowances for each age and sex group must be considered. Such a problem arose in connection with a comparison of the proportion of city family diets meeting calcium allowances in 1948 and in 1955 (23, chart 14). The calculations of averages per nutrition unit for the 1948 data had been based on the 1948 NRC allowance for adults, which was 1.0 gram per day. For the 1955 survey data the 1953 NRC allowances had been used, with a calcium allowance of 0.8 gram. Change in allowances for some of the age-sex groups changes the relationships among the groups.

In order to estimate the effect of the change in the calcium allowance on the 1948 data, the set of relatives used for the 1955 survey (3, table 6) was applied to the population distribution from the 1948 survey (unpublished but similar to 15, table 2). Use of this weighted relative as a divisor for the average amount of calcium per person in the food used (8, table 1), yields an average of 0.97 gram per nutrition unit for an adult male with an allowance of 0.8 gram. The published average is 1.07 grams for the 1.0 gram allowance (8, table 1).

To estimate how the change in allowances affected the percentage of households with diets not meeting the recommendation, one may chart the accumulated percentages of households with diets at various adjusted levels of nutrient content (8, table 15). That is, under the assumption that in each household the adjustment in the average consumption per nutrition unit is in the same proportion (or that the adjustments tend to balance out), it is possible to adjust each of the interval limits by multiplying the upper interval limit by the new over the old average--for this calcium change 91 percent ($0.97 \div 1.07$). Thus, 0.50 gram, the first limit, becomes 0.46; the second limit, 0.70 gram becomes 0.64, and so on. Reading the curve of these charted percentages at 0.8 gram yields an estimate of 29 percent of the households not meeting the 1953 calcium allowance.

Adjustments similar to these were made to the 1936 standards. (See Glossary: "Poor" diets.) For these data, changes in both composition values of the foods and allowances were involved.

GLOSSARY

AGE OF HOMEMAKER (WIFE OR FEMALE HEAD)

Age at last birthday.

COOKING LOSSES

See "Nutritive value of diets."

DIETARY ADEQUACY

Refers to nutritive value of foods used at home per equivalent nutrition unit in relation to recommended dietary allowances. (See "Nutritive value of diets" and "Recommended dietary allowances.")

EDUCATION OF HOMEMAKER (WIFE OR FEMALE HEAD)

The highest grade or years of school completed. In the three classifications used in this report, elementary school included homemakers whose highest grade was 8 or less; high school included those completing from 9 to 12 years of schooling; and college 13 years or more. Nonacademic training above high school, such as courses in business college, was counted as college (2 years as 1 year college).

EMPLOYED HOMEMAKER (WIFE OR FEMALE HEAD)

Employed away from home at time of interview, whether full or part time. Employment for 30 hours or more per week was considered full time; for less than 30 hours, part time. (This definition of "employed homemaker" differs from the Bureau of the Census definition of "women in the labor force," which specifies "those who did any work for pay or profit, or worked without pay for 15 hours or more on a family farm or business during the survey week" and "those who did not work and are looking for work or had a job in business from which they were temporarily absent because of vacation, industrial dispute, or bad weather, or because they were taking time off for various reasons.")

EQUIVALENT NUTRITION UNIT

The equivalent of an adult male in terms of allowances for a specified nutrient. Computed in this study for each of 9 nutrients for evaluating dietary levels of households of different size and composition. (Numerically, several nutrients had similar values; hence, only four sets of equivalent nutrition units were used in the calculations. See 1955 Household Food Consumption Survey Report 6 (15, table 1.)) The number of nutrition units in a household for a given nutrient tells how many times the amount recommended for an adult male 25 years of age is needed by that household to meet recommended allowances for the nutrient. (See "Recommended dietary allowances.")

The procedure used for computing nutrition units (or adult-male equivalents) was as follows: First, the NRC allowances for a particular nutrient for persons in each sex and age group shown in 1955 Household Food Consumption Survey Report 6 (15, table 2) were expressed as relatives, using the allowance for the young adult male as 1.0. For each household these relatives were then multiplied by the number of persons (21-meal-at-home equivalents) in the appropriate sex-age group. The sum of these products is the number of nutrition units or adult-male equivalents represented by the household in requirements for the given nutrient.

EQUIVALENT PERSON

See "Household size in week."

FAMILY, ECONOMIC

Defined for purposes of this study as a person living alone or a group of persons who lived together and drew from a common fund for their major items of expense. All unmarried sons and daughters who lived at home were considered part of the economic family. Other persons, related or unrelated, who lived with the family were considered members of the economic family if they drew from the common family fund for food, housing, and automobile expenses and, in addition, for at least one other category of major expense such as clothing or medical care, or if they pooled their savings with those of the family. Family members temporarily away from home--at school, at work, or on vacation--were considered members of the economic family, although not residing in the dwelling unit at the time of the interview.

FAMILY, ECONOMIC, PRIMARY

There may have been more than one economic family in a household unit. If so, the one that was more closely connected with maintaining the dwelling unit was the "primary" one.

FAMILY, ECONOMIC, SECONDARY

If two or more economic families were present in a household, members of the one not considered primary (see above) were considered in the same way as boarders and hired help, i.e., they were counted in terms of 21-meal equivalents in computing household size, but information on their expenses for food away from home and their income was not requested.

FAMILY INCOME

See "Money income, after income taxes."

FARM

Defined as in the United States Census of Agriculture, 1950: Places of 3 or more acres were counted as farms if the value of agricultural

products raised on them in 1954, exclusive of home gardens, amounted to $150 or more. The agricultural products could have been either for home use or for sale. Places of less than 3 acres were counted as farms only if the value of sales of agricultural products in 1954 amounted to $150 or more.

FARM HOUSEHOLD

A household that included a farm operator. (See "Farm" and "Farm operator.") Those few farm households that lived in urban places were tabulated as urban.

FARM OPERATOR

As defined in the United States Census of Agriculture, 1950, i.e., a person who was responsible for the operation of farmland. He may have performed the labor himself or directly supervised it; he may have been either an individual operator or one of a group of individuals acting as partners. Control may have been through ownership or through lease, rental, or cropping arrangement. An operator was distinguished by the decision-making function. A hired manager was considered an operator, inasmuch as he was hired to make decisions and normally to do farmwork. A farm laborer who worked for wages and did not make decisions was not considered a farm operator. A person who rented land to others, receiving a share of the product or cash for use of the land, was considered a landlord and not a farm operator.

FATTY ACIDS

Organic compounds of carbon, hydrogen, and oxygen, which combine with glycerol to form a fat.

An unsaturated fatty acid has a double bond between two carbon atoms at one or more places in the carbon chain. Hydrogen can be added at the site of the double bond, thus increasing the saturation of the fatty acid. Mono-unsaturated fatty acids such as oleic have one double bond; polyunsaturated fatty acids such as linoleic have two or more double bonds. A saturated fatty acid has no double bonds. There is evidence that some foods containing polyunsaturated fatty acids should be included in the diet every day.

Calculations of fatty acids in this report were based on estimated composition of many foods. For the most part identification of foods was such that fairly reliable composition values could be assigned. However, no information was available on the identity of the salad and cooking oils used, therefore, values for these foods were roughly estimated.

FLOUR EQUIVALENT OF GRAIN PRODUCTS

The weight of flour, meal, cereals, and pastes added to the dry grain equivalent of prepared flour mixes and commercial and gift baked goods (about 50-60 percent of product weight). Total for group also included the dry equivalent of commercially prepared and partially prepared dishes and soups made chiefly of grain products.

FOOD AWAY FROM HOME

Food and beverages (meals, snacks, and drinks) purchased and consumed by family members away from home during the week. Cost included sales tax and tips. No value was placed on meals furnished family members as gift or pay.

FOOD FROM ALL SOURCES

Food purchased, home-produced, and received as gift or pay.

FOOD HOME-PRODUCED

Included foods raised for home use and those obtained by hunting, fishing, and collecting wild fruit and nuts. Excluded home-canned, home-frozen, and home-baked foods that were prepared from purchased ingredients.

FOOD USED AT HOME

Food "used" means food used in an economic sense, rather than ingested, and includes food eaten, thrown away as waste, or fed to pets, but excludes food given away. (Special pet foods, not commonly eaten by people, are not included, but edible food bought for animals is included.) Food carried from home in packed meals as well as food served at home is included.

If food was prepared but not used during the survey week (7 days preceding the interview), it was not recorded. If, however, a portion of a home-prepared dish, such as a cake, was used during the period, an estimate of the amount used of each of its ingredients was reported. In the same way, food prepared before the survey week that was used during the week was included. Foods that were canned or frozen during the survey week were not included, except for that quantity eaten during the week.

Foods were generally tabulated according to the form in which they were brought into the kitchen. Thus, homemade cake and bread were recorded as flour and other ingredients, but purchased cake and bread were entered as cake or bread. In this way, some eggs, fat, sugar, milk, and other foods consumed by households are reported under baked goods, ice cream, canned fruits, soft drinks, and the like, because that is the way they entered the kitchen. Home-canned and home-frozen fruits and vegetables that were consumed during the week were tabulated as fresh products, with sugar disregarded. Tabulations of canned and frozen fruits and vegetables in this report include only commercial products, but homemade jams, jellies, and preserves, and home-canned or frozen soups, juices, pickles, and relishes are included with commercially packed items because of the lack of standardized recipes for breaking these homemade items into ingredients. These homemade mixtures were considered to be home-produced if household members had produced the chief ingredients, i.e., the fruit used for jellies, the cucumbers used in pickles.

FREEZING FACILITIES

Facilities for freezing food and for storing frozen food (other than a freezing or ice-cube compartment in a mechanical refrigerator).

Families having freezing facilities at any time during the year include those having a freezer in the home, those renting space in a freezer locker plant, and those with neither freezer nor locker but permitted regular access to a freezer owned by another.

HOMEMAKER

Wife of the head of the family or herself the head.

HOUSEHOLD

Group of persons who shared a common food supply during the week of the survey. Includes family members, housekeeping groups of unrelated persons, and guests, boarders (if fewer than five), and hired help.

HOUSEHOLD ELIGIBLE FOR SURVEY

One in which at least 1 person had 10 or more meals from household food supplies during the preceding 7 days.

HOUSEHOLD SIZE IN WEEK

The total number of meals served to all persons in the household was divided by 21 to obtain the household size in equivalent persons. The count of equivalent persons was not reduced in those households where persons omitted meals nor was it increased for between-meal snacks or additional meals, such as those served to invalids or young children.

Lunches carried from home and supplemented by purchased food were considered one-half meals; those supplemented by beverages only were counted as full meals. Refreshments served to members of the household were not counted as meals unless they served as substitutes for regular meals. Refreshments served to guests were counted according to the number of meals which they approximated.

HOUSEKEEPING HOUSEHOLD

One in which at least 1 person had 10 or more meals from household food supplies during the preceding 7 days.

MILK TOTAL--CALCIUM EQUIVALENT

Approximately the quantity of fluid milk to which various dairy products (except butter) are equivalent in calcium. The chief source of data on the calcium content of the various dairy products was "Composition of Foods--Raw, Processed, Prepared," U. S. Department of Agriculture, Agriculture Handbook No. 8, June 1950.

MONEY INCOME, AFTER INCOME TAXES

Money income, after deduction of Federal and State income tax payments, of all persons who were members of the family during all or any part of 1954. Income included wages and salaries, net income from self-employment, including farming, from real estate, and from boarders; interest, dividends, and mineral rights; pensions, annuities, allotments, contributions, relief payments, social security; unemployment insurance payments; and gross receipts from roomers. Excluded were lump-sum payments of inheritances and insurance policies. Farm income was the total of all farm receipts during the year (after payment of share rent to others) minus farm operating expenses. Farm operating expenses did not include purchases of land, depreciation or purchase of machinery, or building improvements. Net change in inventories of livestock or crops was not counted as income. Income taxes paid in 1954 were deducted from net receipts during the year.

Some households were not classified by income, either because the family was unable or unwilling to give the information regarding income or because the 1954 income was not pooled and shared by the housekeeping group.

MONEY VALUE OF FOOD USED AT HOME IN A WEEK

Includes cost of purchased food and alcoholic beverages (at price paid for the item at time of purchase as reported by the respondent), and money value of food produced at home or received as gift or as pay (valued at prices reported by families in the same region and urbanization group purchasing a similar item).

NOT CLASSIFIED BY INCOME

Housekeeping households in which the income was not pooled and shared, and those that were unable or unwilling to give information about income.

NRC RECOMMENDED ALLOWANCES

See "Recommended dietary allowances."

NUTRITION UNIT

See "Equivalent nutrition unit."

NUTRITIVE VALUE OF DIETS

Nutrients in the food reported used were calculated chiefly from table 2 of Agriculture Handbook No. 8, "Composition of Foods--Raw, Processed, Prepared." This table shows quantities of nutrients obtained in the edible portions of foods purchased in generally good condition and makes allowance for inedible portions, such as bone, pits, shells. For a large number of items the values in this table were revised in accordance with newer data on yields from Agriculture Handbook No. 102, "Food Yields--Summarized by Different Stages of Preparation." For retail food supplies in the forms currently marketed, with a normal amount of wilt, spoilage, and other types of loss, these newer data were considered more suitable than the yield figures based on the earlier publication. Values for foods not included in Handbook 8 were unpublished data from the files of the Department's Food Composition Unit, Household Economics Research Division.

For this survey, estimated average losses in cooking for thiamine, riboflavin, niacin, and ascorbic acid were deducted from the composition values before these were applied to the food quantities. Loss factors used were developed for groups of foods and were based on experimental data with consideration given to usual cooking practices in the United States.

How much food was discarded either as plate waste or during or after preparation was not reported. Hence, amounts of nutrients in the food actually eaten may be smaller than the amounts shown in the tables of this publication.

The nutritive content was calculated only for foods. No estimate was made of the minerals in the local water or in baking powder, for calories in alcoholic beverages, or for any vitamin or mineral supplements.

"POOR" DIETS

Diets that failed to meet the following standards in one or more nutrients (as used in analysis of 1936 data (5)):

	Quantity per nutrition unit per day
Protein	50 grams
Calcium	0.45 gram
Iron	10 milligrams
Vitamin A value	3,000 International Units
Thiamine	1.0 milligram
Riboflavin	0.9 milligram
Ascorbic acid	30 milligrams

Before the 1955 and 1936 data could be compared adjustments had to be made to these figures to allow for changes in composition values and nutrition units over time. (See appendix B.)

RECOMMENDED DIETARY ALLOWANCES

Levels of nutrient intake that the Food and Nutrition Board of the National Research Council recommends as normally desirable goals or objectives towards which to aim in planning practical dietaries, sometimes referred to in this report as NRC allowances or NRC levels (Recommended Dietary Allowances. Food and Nutrition Board. Natl. Res. Council Pub. 302, Rev. 1953). For this report the 1953 allowances were used as modified for application to dietary surveys by C. LeBovit and H. K. Stiebeling (3).

REGIONS

The classification of States used by the 1950 Census of Population was followed. See map, figure 1.

RURAL FARM

See "Urbanization."

RURAL NONFARM

See "Urbanization."

SUGAR EQUIVALENT

Approximately 10 percent of the weight of liquid soft drinks, 60 percent of the weight of dry pudding mixes, and 20 percent of the weight of ready-prepared puddings.

URBAN

See "Urbanization."

URBANIZATION

Census of Agriculture definitions of urban, rural nonfarm, and rural farm were used. Urban households lived in communities of 2,500 or more persons or in the fringe areas around cities of 50,000 or more. Farm households were those that included a farm operator, a person responsible for the operation of a farm, either performing the labor himself or directly supervising it. (See "Farm" and "Farm operator.") Those few farm households that lived in urban places were tabulated as urban. Rural households, those living outside urban places, were classified as rural nonfarm or rural farm, depending on whether a farm operator lived in the household.

All urbanizations includes urban, rural nonfarm, and rural farm households. Because the sample contains four times as many rural farm schedules as were required to provide proportionate representation of all groupings, the total all urbanizations is a weighted total. The appropriate weights are 1, 1, and 1/4 for urban, rural nonfarm, and rural farm households, respectively. The number of households in each urbanization and region is given in table 1. When combining rural farm data with urban or rural nonfarm data, it is necessary to divide by 4 the number of rural farm households shown in table 1.

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