

TABLES OF FOOD COMPOSITION IN TERMS OF 11 NUTRIENTS

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These tables contain average values for food energy, protein, fat, carbohydrate, three minerals, and the better known vitamins for a selected list of foods. To meet the needs of teachers, dietitians, nutritionists, and others engaged in planning diets or in calculating the nutritive value of food supplies, an attempt has been made to include the foods most commonly used in the United States and as many of the less common foods as there were data to warrant including. Many of the components of the United States Army rations were included also because these products are similar to those now available to civilians or likely to be in the near future.

Foods are grouped into 10 rather broad classifications on the basis of similarity of character or use. In the small groups, items have been listed alphabetically but in the larger groups, e. g., the grain products, subdivisions have been made to bring together items that may be considered in one category from the standpoint of use.

In all cases, nutritive values are given for foods as brought into the house for consumption. No account has been taken of losses in food value that may occur in preparation of meals.

Sources of Data

The values in these tables were derived in part from data reported in the literature and in part from unpublished data made available through many sources. Particular mention should be made of the important contributions from the research of the State agricultural experiment stations and from Federal, commercial, and other laboratories that have carried out analyses through special arrangements with the National Research Council. These collaborative studies have not only supplied data on Army ration components but have helped to fill in some of the gaps in current knowledge particularly with respect to vitamin values of certain foods.

Protein, fat, carbohydrate.—Most of the values for these nutrients and for calories were taken from a circular which represents a thorough review of available data up to its publication in 1940.¹ Because relatively few new data have come into the literature during the last 5 years, it was decided not to undertake another review at this time. The reader is referred to the circular for a discussion of the sources and derivation of data from that publication.

¹ CHATFIELD, C., and ADAMS, G. PROXIMATE COMPOSITION OF AMERICAN FOOD MATERIALS. U. S. Dept. Agr. Cir. 549, 91 pp. 1940.

Refuse figures in table 2 likewise were taken from Circular 549 with few exceptions. These data were used in converting from an "edible portion" to an "as purchased" basis.

Minerals.—Mineral values were drawn from several sources. Among them was the unpublished table prepared in 1941 by the Bureau of Human Nutrition and Home Economics.² These values represented a careful study and evaluation of original data, published and unpublished. The published investigations of H. C. Sherman³ also supplied many of the figures. Exceptions have been made in certain cases where there was reason to believe that the published figures were out of line with present knowledge. Mineral values for components of the Army ration were obtained in most cases from special analyses.

For foods not included in the above sources, mineral values were obtained by averaging available data in the literature or were imputed from a similar food (as tangerines from oranges), or from another form of the same food (as canned from fresh).

The calcium content of foods containing a fairly high concentration of oxalic acid is given in footnotes because in these foods it may not be nutritionally available. The concentration of oxalic acid reported for any one food, although variable, may be high enough to combine with all the calcium present to form insoluble calcium oxalate. Many foods have been found to contain at least small amounts of oxalic acid, but in these tables the calcium unless otherwise indicated has been considered completely available.

Likewise the iron values given here represent total iron although experimental evidence suggests that the iron in some foods may be only partially available.

Vitamins.—Vitamin values have been obtained from a thorough review of available published and unpublished data. Although they are believed to be the most representative values obtainable at this time, many will need revision as methods are further refined and additional data are reported.

Vitamin A averages present a particular problem because substances with vitamin A activity in the body may exist in foods either as preformed vitamin A or as so-called precursors (carotene in its active forms and cryptoxanthin). The problem is further complicated by difficulties in the separation of vitamin A-active and nonactive carotenoid pigments in some of the current methods of assay. Some investigators report separate figures for the different kinds of carotenoids present, others report total carotene, and still others express results in terms of International Units of vitamin A, having made the conversion themselves.

In these tables the vitamin A values are expressed in terms of International Units. When the carotene content of foods was reported, the values were converted into International Units on the basis that one I. U. of vitamin A is equivalent to 0.6 micrograms of beta carotene or 1.2 micrograms of other vitamin A-active carotenoids. Further research in this field may call for some revision in vitamin A values derived from physical and chemical determinations, particularly with

² BUREAU OF HUMAN NUTRITION AND HOME ECONOMICS. MINERALS IN FOODS: CALCIUM, PHOSPHORUS, AND IRON IN 64 FOOD ITEMS. (Unpublished.)

³ SHERMAN, H. C. CHEMISTRY OF FOOD AND NUTRITION. Ed. 6, 611 pp., illus. 1941.

reference to the yellow and red pigmented plant foods. Hence, many of the values in these tables should be considered tentative.

Most of the ascorbic acid present in fresh foods occurs in the reduced form, and it is this form that is represented by most of the values in the literature. To the extent that some foods, particularly after storage or processing, may contain also small amounts of ascorbic acid in the oxidized form (dehydroascorbic acid), values for the reduced form may underestimate the total vitamin C content. Where authors reported both the reduced and the total ascorbic acid, values for the total were used. On the whole, however, averages in these tables are based on values for the reduced form.

Problems in Derivation of Averages

The objective in developing these tables was to derive values representative of foods as they are used throughout the year, in the country as a whole. However, it is not possible with present knowledge to give averages that are equally satisfactory for all foods or for all nutrients in a given food. For one reason, it is a rare case when the same sample of food is analyzed for all nutrients listed in these tables. One investigation may be concerned with protein, fat, and carbohydrate, another with minerals, and still another with one or more vitamins. There seems to be much more interest in studying the content of a food with respect to one vitamin than another, hence the great inequality in the volume of data available for various nutrients. In the case of tomatoes, for example, averages in these tables were based on 956 analyses for ascorbic acid, 73 for thiamine, and 46 for vitamin A.

Problems involved in the compilation and summarization of food composition data are numerous and difficult. One must reckon not only with natural variability of foods as affected by variety, cultural factors, and maturity, but in the case of vitamins, with the effects of handling foods after harvesting. As a result, considerable judgment must be exercised in the selection of data to be averaged and in deciding whether simple averages or weighted averages are most suitable for obtaining representative values.

Sometimes it may seem best to exclude experimental strains of fruits or vegetables not in common production, especially if their inclusion might greatly alter the average. Again it might be argued that ascorbic acid determinations made within 2 or 3 hours after harvesting a fruit or vegetable should be excluded on the grounds that store-bought products are never as fresh as this. However, in these days of victory gardens it seemed logical to include such data provided they did not unduly weight the averages. Many times these problems are complicated by insufficient information about the foods which were analyzed so that there is little basis for making a decision.

In some cases production figures were studied as a basis for weighting values for different varieties or types of foods. For instance, ascorbic acid values for early market varieties of cabbage differ from those for the late "storage type," therefore an attempt was made to learn the relative quantities of each that are ordinarily grown in the United States, in order that a representative average might be obtained.

An understanding of analytical methods is essential in the appraisal of results. In many instances, two laboratory methods give different results in the hands of a single responsible investigator. Such discrepancies may be unexplainable at the time the investigation is reported. Nevertheless, a decision is required as to the use to be made of these data. Although many new and improved techniques for vitamin determinations have been developed during the past few years, it is not a safe assumption that the newest is the best method, at least until it has stood the test of time. Yet many of the values coming into the literature may have been obtained in the process of perfecting these techniques.

Among the problems frequently met is that of a paucity of data for a given nutrient in a food. An attempt was made to draw only upon actual analyses for the values in this table, but had this policy been strictly adhered to many important items in the diet could not have been included. It is not uncommon to find as few as two or three values reported for some of the vitamins in some foods. If these values are not too different, they might be averaged; however, if one is two or three times another, as happens occasionally, an average means little. Sometimes a way out may be found by imputing a value from another form of the same food for which data are more adequate—as dry milk from fluid milk, canned peas from fresh, and so on. Sometimes it seems preferable to impute a value from a similar food, as pumpkin from winter squash.

The foregoing points have been discussed briefly in order to give the reader some idea of the difficulties encountered and the problems involved in preparing a table of food composition. Although it might seem desirable it is not yet possible to reduce the averaging of available data to a completely objective basis.

Notes on Special Foods or Groups

“Restored” cereals are not included in this table because at the present time no official standards of restoration have been promulgated and a product may be “restored” in several nutrients or in only one or two. The situation is further confused because different organizations have proposed various levels for restoration. The Food and Nutrition Board of the National Research Council has proposed the following levels:

Amounts of certain nutrients suggested for cereals restored in thiamine, niacin, and iron

	Thiamine (Mg. per pound)	Niacin (Mg. per pound)	Iron (Mg. per pound)
Wheat.....	2.0 - 3.0	18 - 36	16 - 24
Oats.....	3.0 - 4.0	4 - 8	14 - 24
Rice.....	1.5 - 2.5	20 - 30	10 - 20
Corn.....	1.7 - 2.6	8 - 12	6 - 15

These limits were selected to comply with what might be considered acceptable whole-grain levels. In deriving them a few exceptionally high values and the inferior grades of the grain were excluded.

Data on **meat** include composition of the main grades of carcasses for each kind of meat, the main wholesale cuts, and where possible, in-

formation applicable to retail cuts. Information is given for beef carcass of commercial grade on the wholesale basis and also as trimmed for retail. Data are included also for a boned carcass of commercial grade as cut and trimmed for Army specifications into three categories—roasting or broiling meat, boiling or stewing meat, and chopped meat. Although these values are primarily for Army purposes they may be useful at times in making calculations of civilian diets when specific data on the cut and grade actually used by families are lacking. These figures probably would be better estimates of what families in general used than the figures given for any particular kind of boned roast or stew meat.

The few data available on the retail cuts of meat indicate such wide variation as to make it impractical to estimate the composition of many different cuts. Wholesale cuts of any one grade are more uniform and were selected for presentation here where it was feasible to substitute them for the retail. When wholesale cuts are trimmed, some bone, very little if any lean, but considerable fat may be removed, causing the retail portion to have a lower percentage of fat and a higher percentage of protein than the original. The substitution of the composition of wholesale for retail cuts, therefore, causes an overestimation of the caloric value of the retail portion and some underestimation of the protein, mineral, and vitamin content. The values for fresh meat suggested for use on a retail basis in these tables are only from those wholesale cuts that are considered to apply well to the retail cuts of the same grade.

In the section on pork the item, "miscellaneous lean cuts," applies to those so-called lean cuts of a medium fat pork carcass used as meat and therefore excludes lard, bacon, salt side, and fat back. Data on the remaining cuts were averaged according to the estimated proportions available to civilians. As military and Government procurement is in terms of certain cuts of pork rather than of carcasses, the proportion of the different lean cuts making up the civilian supply varies somewhat from time to time. As the values for this item stand, they apply to the combination of wholesale cuts of medium fat pork available to civilians in 1944. However, they may be used in general to apply to the sum total of the cuts sold in retail channels, excluding the fat cuts mentioned above.

The mineral content for most of the items of meat and fish was calculated by applying to the protein content the factors suggested by Sherman⁴ as follows:

	Milligrams per 100 grams of protein in—	
	Meat	Fish
Calcium.....	58	109
Phosphorus.....	1,078	1,148
Iron.....	15	5.5

The vitamin values were also obtained by applying a factor to the protein content. All available literature giving vitamin data that could be related to the protein content was reviewed and for each kind of meat the average thiamine, riboflavin, and niacin value per gram of protein was calculated. For the present the use of one set of vitamin factors for each kind of meat—beef, lamb, pork, and veal—seemed best

⁴ Data adapted from Sherman, pp. 563, 564. See footnote 3, p. 2.

although there is some evidence that the concentration of these vitamins may vary in the different parts of the animal.

Frozen foods are not included in this table because at the present time data in the literature do not warrant the making of such a compilation. However, it is recognized that the use of frozen foods may be greatly increased and it may be necessary to estimate nutritive values of these foods. Until more complete data are available, the values listed for the fresh food in table 1 could be used though they might cause some overestimation, particularly of the vitamins. On the other hand, losses due to freezing of freshly harvested products may be no greater than those sustained in the ordinary marketing of fresh foods.

Explanation of Tables and Terms

Table 1 was prepared first, since most original data are reported on a 100-gram basis. For the sake of uniformity the mineral values and the values for all the vitamins except vitamin A are expressed in terms of milligrams. The word "trace" is used to represent small values that would have rounded to zero. It is recognized that in calculations these traces will be treated as zero, yet it seemed a little more realistic to recognize the presence of small amounts of substances where they exist.

Parentheses are used to denote values imputed usually from some other form of the same food or from similar foods. Parentheses also indicate values of nutrients covered by specifications for enrichment, such as vitamin A in margarine, and iron, thiamine, riboflavin, and niacin in enriched flour and bread. In each case the figure given is the minimum level specified in standards of identity promulgated under the Food, Drug and Cosmetic Act.

Dashes have been used in the few cases where no reliable data were available but where there was reason to suppose a measurable amount of a nutrient to be present. This seemed preferable to an imputed zero.

Army ration components are identified by an asterisk. Many of these foods were prepared or packed to meet Army specifications, and the nutritive values are for the most part averages obtained from special analyses of samples from Army purchases.

Values per pound in table 2 were derived from those on the 100-gram basis, using the unrounded figures developed for table 1 and the refuse figures indicated for converting from the "edible portion" to the "as purchased" basis. The items of food in table 1 are numbered consecutively. Corresponding items in table 2 have the same numbers. If a food is included both with and without refuse in table 2, letters are used for additional forms. Bacon, for example, may be purchased both with and without rind and in table 2 both forms are included. As bacon is item 18 in table 1, in table 2 the items derived from it are numbered 18 and 18a.

TABLE 1.—Nutritive value of 100 grams of selected foods, edible portion

Food item	Water	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thiamine	Ribo- flavin	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
MILK, CREAM, ICE CREAM, CHEESE													
Milk:													
1. Buttermilk, cultured	90.5	35	3.5	0.1	5.1	(118)	(93)	(0.07)	(Trace)	(0.04)	(0.18)	(0.1)	(1)
2. Chocolate flavored ¹	83.0	75	3.2	2.2	10.6	109	91	.07	90	.03	.16	.1	0
3. Condensed, sweetened	27.0	327	8.1	8.4	54.8	273	228	(.20)	(430)	(.05)	(.39)	(.2)	(1)
4. Dry skim	3.5	359	35.6	1.0	52.0	1,300	1,030	.58	(40)	.35	1.96	1.1	7
5. Dry whole	3.5	496	25.8	26.7	38.0	949	728	.58	1,400	.30	1.46	.7	6
6. Evaporated, unsweetened	73.7	139	7.0	7.9	9.9	243	195	.17	400	.05	.36	.2	1
7. Fresh skim	90.5	35	3.5	.1	5.1	(118)	(93)	(.07)	(Trace)	.04	(.18)	(.1)	(1)
8. Fresh whole	87.0	69	3.5	3.9	4.9	118	93	.07	(160)	.04	.17	.1	1
Cream; ice cream:													
9. Cream (20 percent), sweet or sour	72.5	208	2.9	20.0	4.0	(97)	(77)	(.06)	(830)	(.03)	(.14)	(.1)	(1)
10. Ice cream, plain ¹	62.0	210	4.0	12.3	20.8	132	104	.10	540	.04	.19	.1	Trace
Cheese:													
11. Cheddar type	39	393	23.9	32.3	1.7	873	610	(.57)	1,740	.04	.50	(.2)	(0)
12. Cottage	74.0	101	19.2	.8	4.3	82	263	(.46)	(30)	.02	.29	(.1)	(0)
13. Cream	53.3	367	7.1	36.9	1.7	(298)	(208)	(.17)	2,210	(.01)	.14	.1	(0)
14. *Processed, canned ²	37.5	382	21.9	31.8	2.0	716	831	.76	1,260	.03	.43	.1	(0)
15. All other	(39)	393	(23.9)	(32.3)	(1.7)	(873)	(610)	(.57)	2,050	.04	.52	.2	(0)
FATS, OILS													
16. *Army spread, canned ³	27.8	562	5.2	56.7	7.7	244	241	.5	2,820	.03	.19	.1	0
17. *Bacon, canned	12.6	704	7.9	74	1.6	14	38	.9	(0)	.26	.10	1.5	0
18. Bacon, medium fat	20	626	9.1	65	(1.1)	13	108	.8	(0)	(.42)	(.10)	(2.1)	0
19. Butter	15.5	733	.6	81	.4	16	16	.2	⁴ 3,300	Trace	.01	.1	0
20. French dressing	38.3	423	.8	39	17.3	(5)	(5)	.1	0	0	0	0	0
21. Lard, other shortening	0	900	0	100	0	0	0	0	0	(0)	(0)	(0)	0
22. Margarine with vitamin A added	15.5	733	.6	81	.4	(2)	(15)	(.2)	⁵ (1,980)	(0)	(0)	(0)	0

Note: Asterisk indicates Army ration component; parentheses, imputed value.
¹ Calculated from ingredients.
² Cheddar type.

³ Not less than 56 percent butter fat on dry solids basis, cheese curd, skim milk powder.
⁴ Year-round average.
⁵ Plain margarine is considered to have no vitamin A value.

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TABLE I.—Nutritive value of 100 grams of selected foods, edible portion—Continued

Food item	Water	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thiamine	Ribo- flavin*	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
FATS, OILS—Continued													
23. Mayonnaise.....	16	720	1.5	78	3.0	(19)	(60)	(1.0)	(210)	(0.04)	(0.04)	(0)	(0)
24. Salad dressing.....	44.7	391	1.1	36.8	13.9	(9)	(30)	(.4)	(140)	(.02)	(.03)	(0)	(0)
25. Salad or cooking oil.....	0	900	0	100	0	0	0	0	0	0	0	0	0
26. Salt pork, fat.....	8	781	3.9	85	0	2	42	.6	(0)	(.18)	(.04)	(.9)	0
EGGS													
27. Egg yolk, fresh.....	49.4	355	16.3	31.9	.7	147	586	7.2	3,210	.32	.52	.2	0
28. *Eggs, whole, dried.....	2	593	(48.2)	(43.3)	(2.6)	187	800	8.7	4,400	.35	1.23	.1	0
29. Eggs, whole, fresh.....	74.0	158	12.8	11.5	.7	54	210	2.7	1,140	.12	.34	.1	0
MEAT, POULTRY, FISH													
Beef:													
Thin—Utility, Grade C:													
30. Carcass; side, including kidney fat.....	66	201	18.8	14	0	11	203	2.8	(0)	.12	.15	5.1	0
Medium—Commercial, Grade B:													
31. Carcass; side, including kidney fat.....	60	268	17.5	22	0	10	189	2.6	(0)	.11	.14	4.7	0
32. Carcass trimmed to retail basis.....	63	235	18.2	18	0	11	196	2.7	(0)	.11	.14	4.9	0
33. *Chopped meat *.....	67	325	16.1	29	0	9	174	2.4	(0)	.10	.13	4.4	0
34. *Roasting meat *.....	63	193	18.9	13	0	11	204	2.8	(0)	.12	.15	5.1	0
35. *Stewing meat *.....	63	235	18.2	18	0	11	196	2.7	(0)	.11	.14	4.9	0
Fat—Good, Grade A:													
36. Carcass; side, including kidney fat.....	55	317	16.3	28	0	10	176	2.4	(0)	.10	.13	4.4	0
Very fat—Choice, Prime, Grade AA:													
37. Carcass; side, including kidney fat.....	47	406	13.7	39	0	8	148	2.1	(0)	.08	.11	3.7	0
Retail items: 7													
38. Chuck roast (wholesale chuck).....	65	218	18.6	16	0	11	200	2.8	(0)	.12	.15	5.0	0
39. *Corned beef, canned.....	57.3	232	24.4	15	0	29	113	4.0	(0)	.02	.19	2.7	0
40. Corned beef, medium.....	54.2	288	15.8	25	0	9	170	2.4	(0)	.05	.10	1.7	0
41. Dried or chipped.....	47.7	194	34.3	6.3	0	20	370	5.1	(0)	.11	.22	3.7	0

42. Hamburger	55	316	16	28	0	9	172	2.4	(0)	.10	.13	4.3	0
43. Loin steaks (wholesale loin)	57	293	16.9	25	0	10	182	2.5	(0)	.10	.13	4.6	0
44. Rib roast or steak (wholesale rib)	59	277	17.4	23	0	10	188	2.6	(0)	.11	.14	4.7	0
45. *Roast, canned	60.0	217	25	13	0	9	164	2.2	(0)	.02	.24	4.5	0
46. Round steak (wholesale round)	67	194	19.3	13	0	11	208	2.9	(0)	.12	.15	5.2	0
47. Rump roast (wholesale rump)	53	341	15.5	31	0	9	167	2.3	(0)	.10	.12	4.2	0
48. Soup meat (wholesale shanks)	70	162	20.3	9	0	12	219	3.0	(0)	.13	.16	5.5	0
49. Stew meat (73 percent lean)	53	333	15.8	30	0	9	170	2.4	(0)	.10	.12	4.3	0
Lamb:													
Carcass; side:													
50. Thin	66.3	202	17.1	14.8	0	10	184	2.6	(0)	.20	.25	5.6	0
51. Intermediate	55.8	312	15.7	27.7	0	9	169	2.4	(0)	.18	.23	5.2	0
52. Fat	46.2	410	13.0	39.8	0	8	140	2.0	(0)	.15	.19	4.3	0
Retail items, 7 intermediate grade:													
53. Leg roast (wholesale leg)	63.7	230	18.0	17.5	0	10	194	2.7	(0)	.21	.26	5.9	0
54. Shoulder roast (wholesale 3-rib shoulder)	58.3	290	15.6	25.3	0	9	168	2.3	(0)	.18	.23	5.2	0
55. Sirloin chop (wholesale leg)	63.7	230	18.0	17.5	0	10	194	2.7	(0)	.21	.26	5.9	0
Pork:													
Packers' carcass; side:													
56. Thin	50	371	14.1	35	0	8	152	2.1	(0)	.89	.18	3.8	0
57. Medium	42	453	11.9	45	0	7	128	1.8	(0)	.75	.15	3.2	0
58. Fat	35	534	9.8	55	0	6	106	1.5	(0)	.62	.12	2.6	0
59. Miscellaneous lean cuts ⁸	52	352	14.5	32.7	0	8	156	2.2	(0)	.92	.18	3.9	0
Retail items: 7													
Bacon. See Fats, Oils.													
60. Boston butt	60	273	16.6	23	0	10	179	2.5	(0)	1.05	.21	4.5	0
61. Ham, fresh	53	340	15.2	31	0	9	164	2.3	(0)	.96	.19	4.1	0
62. Ham, smoked	42	384	16.9	35	(.3)	10	182	2.5	(0)	.78	.19	3.8	0
63. Loin	58	291	16.4	25	0	10	177	2.5	(0)	1.04	.20	4.4	0
64. Picnic	52	347	14.8	32	0	9	160	2.2	(0)	.94	.18	4.0	0
65. Pork links; sausage	41.9	446	10.8	44.8	0	6	116	1.6	(0)	.22	.15	2.3	0
66. Salt pork. See Fats, Oils.													
66. Spareribs	53	346	14.6	32	0	8	157	2.2	(0)	.92	.18	3.9	0

Note: Asterisk indicates Army ration component; parentheses, imputed value.
⁶ Average values for composition of all cuts in a boned and trimmed carcass of commercial grade generally used for (a) chopped meat, (b) roasting and broiling, (c) stewing and boiling.

⁷ Values for fresh items are from the medium fat wholesale cuts considered to be nearest approximations for corresponding retail items.
⁸ Lean cuts from medium fat carcass weighted according to civilian supply, 1944. Excludes bacon, lard, salt side, fat back.

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TABLE 1.—Nutritive value of 100 grams of selected foods, edible portion—Continued

Food item	Water	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thiamine	Ribo- flavin	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
MEAT, POULTRY, FISH—Continued													
Veal:													
67. Carcass; side, excluding kidney fat:													
68. Thin	71	151	19.7	8	0	11	212	3.0	(0)	0.18	0.28	6.5	0
69. Medium	68	184	19.1	12	0	11	206	2.9	(0)	.17	.27	6.3	0
69. Fat	65	218	18.5	16	0	11	199	2.8	(0)	.17	.26	6.1	0
Retail items, 7 medium fat:													
70. Chops (wholesale loin)	69	176	19.2	11	0	11	207	2.9	(0)	.18	.27	6.3	0
71. Cutlet (wholesale round)	70	159	19.5	9	0	11	210	2.9	(0)	.18	.28	6.4	0
72. Leg roast or steak (wholesale leg)	(68)	186	(19.1)	(12.2)	0	11	206	2.9	(0)	.17	.27	6.3	0
73. Stew meat (74 percent lean)	64	226	18.3	17	0	11	197	2.7	(0)	.17	.26	6.0	0
Variety meats; meat mixtures:													
74. *Beef and gravy, canned 9	65.3	188	19.4	11.7	1.3	19	122	2.7	(30)	.09	.19	2.7	0
75. Bologna	62.4	217	14.8	15.9	3.6	9	160	2.2	(0)	.31	.30	3.0	0
76. *Chile con carne, without beans, canned 10	66.3	198	10.2	14.6	6.4	21	152	.7	160	.01	.10	2.1	0
77. Frankfurters	64.3	201	15.2	14.1	3.3	9	164	2.3	(0)	.19	.23	2.4	0
78. *Ham and eggs, canned 11	63.9	227	14.4	18.3	1.2	43	166	2.2	500	.16	.24	1.7	0
79. *Hash, corned beef, canned 12	69.4	143	15.1	6.1	7.0	26	(90)	1.3	(0)	.02	.13	2.4	0
80. *Hash, meat and vegetable, canned 13	73.3	122	10.0	5.0	9.3	14	(66)	1.2	(0)	.04	.11	2.5	6
81. Heart, fresh	75.4	126	(16.5)	(6.3)	(.7)	10	236	6.2	(0)	.54	.90	6.8	14
82. Liver, fresh	70.9	131	(19.8)	(4.2)	(3.6)	8	373	12.1	19,200	.27	2.80	16.1	31
83. Liver sausage	59.0	258	16.7	20.6	1.5	9	228	5.4	(5,750)	.17	1.12	4.6	(0)
84. *Luncheon meat, canned 14	56.3	270	15.2	22.5	1.7	21	170	1.4	(0)	.29	.21	2.7	0
85. *Pork and gravy, canned 15	64.9	206	15.4	15.2	1.9	16	162	1.6	(0)	.19	.24	2.7	0
86. *Pork sausage, bulk, canned	57.0	280	16.0	24.0	0	17	131	2.2	(0)	.19	.21	2.8	0
87. *Spaghetti with meat, canned 16	71.0	142	9.8	3.9	10.2	38	97	1.8	480	.02	.12	2.2	0
88. *Stew, meat and vegetable, canned 17	72.9	127	11.6	5.5	7.8	30	119	1.4	1,780	.04	.12	2.4	4
89. Tongue, fresh, medium fat	68	202	16.4	15	.4	30	119	6.9	(0)	.22	.27	5.0	0
90. *Vienna sausage, canned	64.1	210	16.0	16.2	0	19	(164)	.6	(0)	.07	.14	3.1	0

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Poultry:														
91.	Chicken, boned, canned.....	67.1	175	21.8	9.8	0	32	(218)	(1.9)	Trace	.01	.15	3.7	2
92.	Chicken, roasters ¹⁸	66.0	194	20.2	12.6	0	16	218	1.9	Trace	.11	.18	8.6	
93.	Turkey, medium fat ¹⁸	58.3	262	20.1	20.2	0	23	320	3.8	Trace	.12	.19	7.9	
Fish and shellfish:														
94.	Cod.....	82.6	70	16.5	.4	0	18	189	.9		.04	.05	2.3	2
95.	Fish, miscellaneous, medium fat.....	77.2	98	19.0	2.5	0	21	218	1.0		.07	.07	4.2	(2)
96.	Oysters, solids and liquor.....	87.1	50	6.0	1.2	3.7	68	172	7.1		.18	.23	1.2	
97.	Salmon, canned.....	67.4	169	20.6	9.6	0	67	286	1.3	¹⁹ 80	.03	.18	6.5	0
98.	Sardines, canned in oil, drained solids.....	57.4	207	25.7	11.0	1.2	35	365	1.8	290	.06	.12	5.2	0
99.	Sardines, canned in oil, total contents of can.....	47.1	331	21.1	27	1.0	29	299	1.5	710	.05	.10	4.3	0
100.	Shrimp, canned.....	78.3	82	17.8	.8	.8	(75)	(210)	(2.0)	60	.01	.03	1.9	0
101.	Tuna fish, canned, drained solids.....	57.7	217	27.7	11.8	0	34	290	1.7	70	.04	.13	10.6	0
102.	Tuna fish, canned, total contents of can.....	51.4	294	23.9	22.1	0	30	252	1.5	130	.04	.11	9.2	0
DRY BEANS AND PEAS, NUTS														
Dry beans and peas:														
103.	*Bean soup, navy, dehydrated ²⁰	7.2	332	17.6	1.2	62.7	(148)	(463)	(10.3)	(0)	.46	.22	2.4	1
104.	Beans, canned, baked.....	71.0	117	5.7	2.0	19.0	(49)	(154)	(3.4)	²¹ 70	.05	.05	.8	²¹ 4
105.	Beans, common or kidney, dry seed.....	10.5	350	22.0	1.5	62.1	148	463	10.3	0	.60	.24	2.1	2
106.	Beans, lima, dry seed.....	12.6	341	20.7	1.3	61.6	68	381	7.5	0	.60	.24	2.1	2
107.	Chickpeas.....	10.6	369	20.8	4.7	60.9	92	375	7.1	Trace	.35	.15	1.4	(2)
108.	Cowpeas.....	10.6	351	22.9	1.4	61.6	80	450	7.8	0	.83	.23	2.2	2
109.	*Pea soup, dehydrated ²²	7.2	336	20.4	1.2	60.8	(73)	(397)	(6.0)	220	.62	.21	3.1	2
110.	Peas, split.....	10.0	354	24.5	1.0	61.7	73	397	6.0	370	.87	.29	3.0	2
111.	Soybeans, whole, mature.....	7.5	351	34.9	18.1	²³ (12.0)	227	586	8.0	110	1.14	.31	2.1	Trace
Soy flour; flakes; grits:														
112.	Low fat.....	11	246	44.7	1.1	²³ (14.2)	265	623	13.0	70	1.10	.35	2.9	(0)
113.	Medium fat.....	9	283	42.5	6.5	²³ (13.6)	244	610	13.0	110	.82	.34	2.6	(0)
114.	Full fat.....	9	375	35.9	20.6	²³ (11.4)	195	553	12.1	140	.77	.28	2.2	(0)

NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
⁷ Values for fresh items are from the medium fat wholesale cuts considered to be nearest approximations for corresponding retail items.
⁸ 90 percent beef, 10 percent tomato gravy.
¹⁰ Not less than 60 percent meat, not more than 8 percent cereals, seasonings.
¹¹ 50 percent ham, 50 percent whole eggs.
¹² 72 percent beef, 28 percent potatoes.
¹³ 50 percent meat, 48 percent potatoes, 2 percent onions.
¹⁴ Pork.
¹⁵ 90 percent pork, 10 percent gravy.
¹⁶ 50 percent meat, 10 percent dry spaghetti, 30 percent tomato puree, 5 percent cheese, 5 percent onions.
¹⁷ 50 percent meat, 15 percent potatoes, 15 percent carrots, 8 percent dry beans, 12 percent tomato puree.
¹⁸ Vitamin values based on muscle meat only.
¹⁹ Based on pink salmon. Canned red salmon may have a value several times higher.
²⁰ Navy bean meal, farinaceous flour up to 15 percent.
²¹ Contributed by tomatoes.
²² Pea meal, farinaceous flour up to 15 percent.
²³ "Available" carbohydrate.

TABLE 1.—Nutritive value of 100 grams of selected foods, edible portion—Continued

Food item	Water	Food energy	Protein	Fat	Carbohydrate	Calcium	Phosphorus	Iron	Vitamin A value	Thiamine	Riboflavin	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli-grams	Milli-grams	Milli-grams	International Units	Milli-grams	Milli-grams	Milli-grams	Milli-grams
DRY BEANS AND PEAS, NUTS—Continued													
Nuts:													
115. Almonds.....	4.7	640	18.6	54.1	19.6	254	475	4.4	0	0.25	0.67	4.6	Trace
116. Peanut butter.....	1.7	619	26.1	47.8	21.0	74	393	1.9	0	.20	.16	16.2	(0)
117. Peanuts, roasted.....	2.6	600	26.9	44.2	23.6	74	393	1.9	0	.30	.16	16.2	(0)
118. Pecans.....	3.0	747	9.4	73.0	13.0	74	324	2.4	50	.72	.11	.9	2
119. Walnuts, English.....	3.3	702	15.0	64.4	15.6	83	380	2.1	30	.48	.13	1.2	3
VEGETABLES													
Fresh:													
120. Asparagus.....	93.0	26	2.2	.2	3.9	21	62	.9	1,000	.16	.17	1.2	33
121. Beans, lima, green.....	66.5	131	7.5	.8	23.5	63	158	2.3	280	.25	.14	.9	32
122. Beans, snap.....	88.9	42	2.4	.2	7.7	65	44	1.1	630	.08	.10	.6	19
123. Beet greens.....	90.4	33	2.0	.3	5.6	25	45	3.2	6,700	.05	.17	.3	34
124. Beets.....	87.6	46	1.6	.1	9.6	27	43	1.0	20	.03	.05	.4	10
125. Broccoli.....	89.9	37	3.3	.2	5.5	130	76	1.3	3,500	.09	.21	.9	118
126. Brussels sprouts.....	84.9	58	4.4	.5	8.9	34	78	1.3	400	.11	(.06)	(.3)	94
127. Cabbage.....	92.4	29	1.4	.2	5.3	46	31	.5	80	.07	.06	.3	52
128. Carrots.....	88.2	45	1.2	.3	9.3	39	37	.8	12,000	.07	.06	.5	6
129. Cauliflower.....	91.7	31	2.4	.2	4.9	22	72	1.1	90	.10	.11	.6	69
130. Celery.....	93.7	22	1.3	.2	3.7	50	40	.5	0	.03	.04	.3	7
131. Chard.....	91.8	25	1.4	.2	4.4	26	36	4.0	2,800	.06	.13	.2	38
132. Collards.....	86.6	50	3.9	.6	7.2	249	58	1.6	6,870	.22	(.20)	(.8)	100
133. Corn, sweet, white or yellow.....	73.9	108	3.7	1.2	20.5	9	120	.5	27,390	.15	.14	1.4	12
134. Cucumbers.....	96.1	14	.7	.1	2.7	10	21	.3	280	.04	.09	.2	8
135. Dandelion greens.....	85.8	52	2.7	.7	8.8	187	70	3.1	13,650	.19	.14	(.8)	36
136. Eggplant.....	92.7	28	1.1	.2	5.5	15	37	.4	30	.07	.06	.8	5
137. Kale.....	86.6	50	3.9	.6	7.2	225	62	2.2	7,540	.12	.35	(.8)	115
138. Lettuce, headed.....	94.8	18	1.2	.2	2.9	22	25	.5	540	.06	.07	.2	8

139. Lettuce, all other	94.8	18	1.2	.3	2.9	62	20	1.1	1,620	.06	.07	.2	18
140. Mustard greens	92.2	28	2.3	.3	4.0	220	38	2.9	6,460	.09	.20	.8	102
141. Okra	89.8	39	1.8	.2	7.4	82	62	.7	740	.12	.10	.7	30
142. Onions, mature	87.5	49	1.4	.2	10.3	32	44	.5	50	.03	.02	.1	29 9
143. Parsnips	78.6	83	1.5	.5	18.2	57	80	.7	0	.11	.09	.2	18
144. Peas, green	74.3	101	6.7	.4	17.7	22	122	1.9	680	.36	.18	2.1	26
145. Peppers, green	92.4	29	1.2	.2	5.7	11	25	.4	630	.07	.04	.4	120
146. Potatoes	77.8	85	2.0	.1	19.1	11	56	.7	20	.11	.04	1.2	17
147. Pumpkin	90.5	36	1.2	.2	7.3	21	44	.8	(3,400)	(.05)	(.08)	(.6)	8
148. Radishes	93.6	22	1.2	.1	4.2	37	31	1.0	30	.04	.04	.1	24
49. Rutabagas	89.1	41	1.1	.1	8.9	55	41	.4	330	.06	.06	.5	36
50. Spinach	92.7	25	2.3	.3	3.2	³⁰	55	3.0	9,420	.12	.24	.7	59
151. Squash, summer	95.0	19	.6	.1	3.9	15	15	.4	260	.04	.05	1.1	17
152. Squash, winter	88.6	44	1.5	.3	8.8	19	28	.6	4,950	.05	.08	.6	8
153. Sweetpotatoes	68.5	125	1.8	.7	27.9	30	49	.7	³¹ 7,700	.10	.06	.7	22
154. Tomatoes	94.1	23	1.0	.3	4.0	11	27	.6	1,100	.06	.04	.6	23
155. Turnip greens	89.5	37	2.9	.4	5.4	259	50	2.4	9,540	.10	.56	.8	136
156. Turnips	90.9	35	1.1	.2	7.1	40	34	.5	Trace	.06	.06	.5	28
Canned:													
157. Asparagus	93.6	21	1.6	.3	3.0	20	34	1.0	³² 600	.06	.09	.8	15
158. Beans, lima	80.9	72	3.8	.3	13.5	27	73	1.7	130	.03	.05	.5	8
159. Beans, snap	94.0	19	1.0	0	3.8	27	19	1.4	410	.03	.05	.3	4
160. Beets	89.4	39	1.0	0	8.7	15	29	.6	2c	.01	.03	.1	5
161. Carrots	92.2	30	.5	.4	6.1	22	24	.6	12,000	.03	.02	.3	2
162. Corn, white or yellow	80.5	77	2.0	.5	16.1	4	51	.5	²⁷ 200	.02	.05	.8	5
163. Peas, green	82.3	69	3.4	.4	12.9	25	67	1.8	540	.11	.06	.9	8
164. Pumpkin	90.2	38	1.0	.3	7.9	(20)	(36)	(.7)	3,400	.02	.06	.5	(0)
165. Sauerkraut	93.2	20	1.1	.2	3.4	(46)	(31)	(.5)	Trace	.03	.20	.2	³³ 18
166. Spinach	92.3	25	2.3	.4	3.0	³⁴	33	1.6	6,790	.02	.08	.3	14

Note: Asterisk indicates Army ration component; parentheses, imputed value.
²⁴ Based on peanuts without skins; when skins are included the thiamine value is higher.
²⁵ 118 mg.; may not be available because of presence of oxalic acid.
²⁶ 105 mg.; may not be available because of presence of oxalic acid.
²⁷ Based on yellow corn; white corn contains only a trace.
²⁸ Based on pared cucumber; unpared contains about 260 I. U. vitamin A per 100 gm.

²⁹ Green bunching onions contain about 23 mg. ascorbic acid per 100 gm.
³⁰ 81 mg.; may not be available because of presence of oxalic acid.
³¹ If pale varieties only were used, value would be very much lower.
³² Based on green products; bleached products contain only a trace.
³³ Drained solids only.
³⁴ 90 mg.; may not be available because of presence of oxalic acid.

TABLE 1.—Nutritive value of 100 grams of selected foods, edible portion—Continued

Food item	Water	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thiamine	Ribo- flavin	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
VEGETABLES—Continued													
Canned—Continued:													
167. Tomato catsup.....	69.5	110	2.0	0.4	24.5	12	18	0.8	(1,880)	0.09	0.07	2.2	11
168. Tomato juice.....	93.5	23	1.0	.2	4.3	(7)	(15)	(.4)	1,050	.05	.03	.7	16
169. Tomato puree.....	89.2	40	1.8	.5	7.2	(11)	(37)	(1.1)	1,880	.09	(.07)	1.8	28
170. Tomatoes.....	94.2	21	1.0	.2	3.9	(11)	(27)	(.6)	1,050	.05	.03	.7	16
Dehydrated: 35													
171. *Cabbage, unsulfited 36.....			13.7	1.8	68.8	374	274	4.7	520	.41	.37	2.4	189
172. *Carrots.....	8.8	346	4.0	1.4	83.1	(242)	(102)	(5.9)	117,000	.29	.28	3.2	11
173. *Onions.....	5.6	361	10.1	1.0	75.2	158	256	3.1	20	.23	.15	1.1	37
174. *Potatoes.....	9.9	350	7.1	.7	82.0	25	103	3.7	(0)	.25	.10	4.8	26
175. *Sweetpotatoes.....	7.2	363	5.1	.9	86.1	(76)	(75)	(2.3)	21,900	.18	.14	1.9	34
FRUIT													
Fresh:													
176. Apples.....	84.1	64	.3	.4	14.9	6	10	.3	90	.04	.02	.2	5
177. Apricots.....	85.4	56	1.0	.1	12.9	16	23	.5	2,790	.03	.04	.7	4
178. Avocados.....	65.4	265	1.7	26.4	5.1	10	38	.6	290	.12	.15	1.1	16
179. Bananas.....	74.8	99	1.2	.2	23	8	28	.6	430	.09	.06	.6	10
Berries:													
180. Blueberries.....		68	.6	.6	15.1	16	13	.8	280	(.03)	(.07)	(.3)	16
181. Strawberries.....	83.4	41	.8	.2	4.6	17	16	.9	320	.03	.07	.3	60
182. Other berries.....	90.0	41	.6	.6	15.1	28	34	.8	60	.03	(.07)	(.3)	23
183. Cantaloups.....	84.4	65	1.2	.8	13.2	36	34	.9	320	.03	(.07)	(.3)	33
184. Grapefruit.....	94.0	23	.6	.2	4.6	17	16	.4	37 3,420	.06	.04	.8	40
185. Grapes.....	88.8	44	.5	.2	10.1	17	18	.3	Trace	.04	.02	.2	33
186. Lemons.....	81.6	74	.8	.4	16.7	17	21	.6	80	.05	.03	.4	4
187. Limes.....	89.3	44	.9	.6	8.7	(14)	(10)	(.1)	0	.04	Trace	.1	45
188. Oranges.....	86.0	53	.8	.1	12.3	(14)	(10)	(.1)	0	(.04)	(Trace)	(.1)	27
189. Peaches.....	87.2	50	.9	.2	11.2	33	23	.4	(100)	.08	.03	.2	49
	86.9	51	.5	.1	12.0	8	22	.6	880	.02	.05	.9	8

190.	Pears.....	82.7	70	.7	.4	15.8	13	16	.3	20	.02	.04	.1	4
191.	Pineapples.....	85.3	58	.4	.2	13.7	16	11	.3	130	.08	(.02)	(.2)	24
192.	Plums.....	85.7	56	.7	.2	12.9	17	20	.5	350	.15	(.03)	.6	5
193.	Rhubarb.....	94.9	18	.5	.1	3.8	³⁵	25	.5	30	.01		.1	9
194.	Tangerines; other mandarin type oranges.....	87.3	50	.8	.3	10.9	(33)	(23)	(.4)	(420)	.07	(.03)	(.2)	31
195.	Watermelons.....	92.1	31	.5	.2	6.9	7	12	.2	590	.05	.05	.2	6
Canned:														
196.	Apples; applesauce.....	79.8	80	.2	.1	19.7	(4)	(6)	(.2)	(60)	.01	.01	Trace	1
197.	Apricots.....	77.3	89	.6	.1	21.4	(10)	(15)	(.3)	1,350	.02	.02	.3	4
198.	Cherries.....	78.1	86	.6	.1	20.8	(11)	(14)	(.3)	(430)	.03	.02	.2	3
199.	Cranberry sauce.....	48.1	209	.1	.3	51.4	(8)	(7)	(.3)	(30)		(.04)		2
200.	Fruit cocktail.....	(80.6)	78	(.4)	(.2)	(18.6)	(9)	(12)	(.4)	160	.01	.01	.4	2
201.	Grapefruit juice.....	89.4	41	.5	.2	9.4	8	12	.4	Trace	.03	.02	.2	35
202.	Grapefruit segments.....	79.8	81	.6	.2	19.1	13	14	.3	Trace	.03	.02	.2	30
203.	Orange juice.....	86	55	.6	.1	12.9	(33)	(23)	(.4)	(100)	.07	.02	.2	42
204.	Peaches.....	80.9	75	.4	.1	18.2	(5)	(14)	(.4)	450	.01	.02	.7	4
205.	Pears.....	81.1	75	.2	.1	18.4	(8)	(10)	(.2)	Trace	.01	.02	.1	2
206.	Pineapple juice.....	86.2	54	.3	.1	13.0	15	8	.5	80	.05	.02	.2	9
207.	Pineapples.....	78.0	87	.4	.1	21.1	29	7	.6	80	.07	.02	.2	9
208.	Plums; Italian prunes.....	78.6	84	.4	.1	20.4	8	12	1.1	(230)	.03	.03	.4	1
Dried:														
209.	*Apple nuggets.....	1.6	390	1.4	1.0	93.9	24	42	4.1	(0)	.05	.08	.5	11
210.	Apricots ³⁹	24	292	5.2	.4	66.9	86	119	4.9	7,430	.01	.16	3.3	12
211.	*Cranberries.....	4.9	409	2.9	6.6	84.4	82	22	3.4	660	.19	.18	.9	33
212.	Peaches ³⁹	24	295	3.0	.6	69.4	44	126	6.9	3,250	.01	.20	5.4	19
213.	Prunes ⁴⁰	24	299	2.3	.6	71.0	54	85	3.9	1,890	.10	.16	1.7	3
214.	Raisins ⁴⁰	24	298	2.3	.5	71.2	78	129	3.3	50	.15	.08	.5	Trace
Synthetic fruit powders, canned:														
215.	*Grape juice ⁴¹.....	.2	⁴² 250	.1	.5	3.1	132	65	.1	(0)	0	(0)	(0)	600
216.	*Lemon juice ⁴³	1.7	⁴² 336	.4	.3	60.8	60	33	1.5	(0)	(0)	(0)	(0)	876
217.	*Orange juice ⁴⁴	1.9	⁴² 341	1.1	.2	65.1	180	101	2.2	(0)	(0)	(0)	(0)	927

Note: Asterisk indicates Army ration component; parentheses, imputed value.
³⁵ Freshly dehydrated products; some loss of vitamins is to be expected during storage.
³⁶ If sulfited, the thiamine value would be much lower, and the ascorbic acid value would be about double.
³⁷ Based on deeply colored varieties.
³⁸ 51 mg.; may not be available because of presence of oxalic acid.

³⁹ Sulfured.
⁴⁰ Unsulfured.
⁴¹ Citric acid, dextrose, coloring, flavoring, ascorbic acid.
⁴² Caloric value of organic acids included.
⁴³ Powdered lemon juice and corn sirup, dextrose, citric acid, oil of lemon, ascorbic acid.
⁴⁴ Powdered orange juice, lemon juice, and corn sirup, dextrose, citric acid, oil of orange, ascorbic acid.

TABLE 1.—Nutritive value of 100 grams of selected foods, edible portion—Continued

Food item	Water	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thiamine	Ribo- flavin	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
GRAIN PRODUCTS													
Flour, meal:													
Corn meal:													
218. White, degerminated	12	355	7.5	1.1	78.8	10	140	1.0	(0)	0.16	0.09	0.9	0
219. White, whole-grain	12	365	9.1	3.7	73.9	18	248	2.7	(0)	.41	.12	1.7	0
220. Yellow, degerminated	12	356	8.3	1.2	78.0	10	140	1.0	(0)	.15	.06	.9	0
221. Yellow, whole-grain	12	365	9.1	3.7	73.9	18	276	2.7	300	.45	.17	2.1	0
222. Cornstarch	12	352	.5	.2	87.0	Trace	Trace	Trace	510	(0)	(0)	(0)	0
Flour:													
223. Buckwheat, light	12	354	6.3	1.1	79.7	11	88	1.0	(0)	(0)	(0)	(0)	0
224. Rye, light	11	358	8.9	.9	78.5	18	278	1.3	(0)	.15	.07	.9	0
225. Rye, whole-grain	10	361	11.2	1.7	75.2	61	369	4.8	(0)	.47	.21	1.7	0
226. Soy. See Dry Beans and Peas.	12	355	10.8	.9	75.9	19	93	.7	(0)	.07	.03	.8	0
227. Wheat, patent	12	355	10.8	.9	75.9	19	93	(2.9)	(0)	(.44)	(.26)	(3.5)	0
228. Wheat, patent, enriched	12	340	10.2	.9	72.9	220	330	.6	(0)	.02	.02	.7	0
229. Wheat, self-rising	12	340	10.2	.9	72.9	220	330	(2.9)	(0)	(.44)	(.26)	(3.5)	0
230. Wheat, self-rising, enriched	11	360	13.0	2.0	72.4	38	385	3.8	(0)	.56	.12	5.6	0
Whole wheat													
Baked goods:													
Bread:													
231. Rye, light	37.6	263	(6.4)	(3.4)	(51.7)	(22)	(96)	(.8)	(0)	.16	(.04)	(1.1)	0
232. White, enriched	35.9	261	8.5	2.0	52.3	(56)	(100)	(1.8)	(0)	(.24)	(.15)	(2.2)	0
233. Whole wheat	37	262	9.5	3.5	48.0	(60)	370	2.6	(0)	.28	.15	3.5	0
234. Cake, light batter type	26.8	327	6.4	8.2	57.0	62	(126)	2.0	(0)	.03	.10	.7	0
235. Cookies, assorted, plain	4.8	438	6.0	12.7	75.0	(22)	(65)	(.6)	(0)	(.04)	(.04)	(.5)	0
236. Cracker meal; crackers, assorted	4.5	422	9.5	10.3	72.7	22	102	1.5	(0)	(.07)	(0)	(.6)	0
237. Crackers, graham	5.5	419	8.0	10.0	74.3	20	203	1.9	(0)	.30	.12	1.5	0
238. Fig bars	13.8	363	4.2	4.8	75.8	(69)	(69)	(1.3)	(0)	(.02)	(.06)	(.9)	0
239. Pie, apple	266	223	(2.9)	(9.6)	(42.0)	(11)	(22)	1.9	(0)	(.05)	(.04)	.4	0
240. Pie, cream	29.4	304	(2.8)	(9.8)	(31.0)	20	(38)	.5	(0)	.03	.08	.2	0
241. Rolls, plain, enriched	29.6	304	8.2	6.1	54.1	(56)	(100)	(1.8)	(0)	(.24)	(.15)	(2.2)	0
242. Rolls, sweet, unenriched	29.6	304	7.8	5.4	56.0	(56)	(100)	.5	(0)	.08	.13	.8	0

Breakfast cereals:														
243.	Corn flakes.....	9.3	359	7.9	.7	80.3	(10)	56	(1.0)	(0)	(.16)	.08	1.6	0
	Corn flakes, restored. See page 4.													
244.	Oatmeal.....	8.3	396	14.2	7.4	68.2	54	365	5.2	(0)	.55	.14	1.1	0
245.	Rice flakes; puffed rice.....	8.8	363	7.2	.4	82.6	(9)	(92)	.9	(0)	(.05)	(.03)	(1.4)	0
	Rice flakes; puffed rice, restored. See page 4.													
Wheat cereals:														
246.	Farina.....	11	359	11.5	1.0	76.1	21	125	.8	(0)	.06	.06	1.0	0
247.	Farina, enriched.....	11	359	11.5	1.0	76.1	21	125	(1.3)	(0)	(.37)	(.26)	(1.3)	0
248.	Flakes; puffed wheat.....	6.2	372	11.9	1.5	77.7	33	353	3.7	(0)	.15	.12	4.2	0
	Flakes; puffed wheat, restored. See page 4.													
249.	Shredded wheat.....	7.7	369	10.4	1.4	78.7	(38)	(385)	(3.8)	(0)	.20	.14	4.2	0
250.	Whole-grain, uncooked.....	8.7	368	11.7	2.0	75.8	38	385	3.8	(0)	.45	.13	4.6	0
Other cereals:														
251.	Barley, pearled, light.....	11.1	357	8.2	1.0	78.8	16	189	(2.0)	(0)	.12	.08	3.1	0
252.	Hominy.....	11.4	357	8.5	.8	78.9	11	70	1.0	(0)	.15	.05	(.9)	0
253.	Macaroni; spaghetti.....	11	360	13	1.4	73.9	22	144	1.2	(0)	.13	.08	2.1	0
254.	Noodles.....	9.1	385	14.3	5.0	70.6	24	156	1.9	(200)	(.13)	(.12)	(2.1)	0
Rice:														
255.	Brown.....	12.0	356	7.5	1.7	77.7	39	303	5.5	(0)	.29	.05	4.6	0
256.	Converted.....	(12.3)	351	(7.6)	(.3)	(79.4)	(9)	(92)	(.7)	(0)	.23	.04	3.8	0
257.	White.....	12.3	351	7.6	.3	79.4	9	92	.7	(0)	.05	.03	1.4	0
258.	Tapioca.....	12.6	350	.6	.2	86.4	12	12	(1.0)	(0)	0	(0)	(0)	0
SUGARS, SWEETS														
259.	Honey.....	20	319	.3	0	79.5	5	16	.9	(0)	Trace	.04	.2	4
260.	Jams; marmalades.....	28	288	.5	.3	70.8	12	12	(.3)	10	.02	.02	.2	6
261.	Jellies.....	34.5	261	.2	0	65.0	(12)	(12)	(.3)	(10)	(.02)	(.02)	(.2)	4
262.	Molasses, cane.....	24	240	(0)	(0)	(60)	273	51	6.7	(0)	.08	.16	2.8	(0)
263.	Sirup, table blends.....	25	296	(0)	(0)	(74)	46	16	4.1	0	0	.01	.1	(0)
264.	Sugar, brown.....	3	382	(0)	(0)	(95.5)	48 76	48 37	2.6	(0)	(0)	(0)	(0)	(0)
265.	Sugar, granulated or powdered.....	.5	398	(0)	(0)	99.5	(0)	(0)	.1	(0)	(0)	(0)	(0)	0

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NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
 *⁴⁵ Whole-grain buckwheat flour has approximately 0.61 mg. thiamine; 0.16 mg. riboflavin; and 4.2 mg. niacin per 100 gm.
⁴⁶ Based on dark brown sugar; lower values for light brown sugar.

TABLE 1.—Nutritive value of 100 grams of selected foods, edible portion—Continued

Food item	Water	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thiamine	Ribo- flavin	Niacin	Ascorbic acid
	Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
MISCELLANEOUS													
266. *Bouillon cubes.....	(3)	259	17.7	0	47.0	40	510	9.2	(0)	0.03	0.83	47.6	(0)
267. Chocolate, unsweetened.....	2.3	570	(5.5)	52.9	(18)	48	343	2.5	(0)	Trace	.24	1.1	(0)
268. Cocoa.....	4.3	329	(9.0)	18.8	(31.0)	40	709	2.7	(0)	Trace	(.39)	(2.3)	(0)
269. Coconut, dry, shredded.....	3.3	579	3.6	39.1	53.2	43	191	3.6	0	Trace	Trace	Trace	(0)
270. Gelatin dessert powder.....	1.6	392	9.4	0	88.7	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
271. Olives, green.....	75.2	144	1.5	13.5	4.0	101	15	2.0	420	Trace	Trace	Trace	7
272. Pickles, cucumber.....	95.2	11	.5	.2	1.9	24	22	.9	190	.01	.02	4.6	(0)
273. Wheat germ.....	11.0	389	25.2	10.0	49.5	84	1,096	8.1	(0)	2.05	.80	28.2	(0)
274. Yeast, compressed, baker's.....	70.9	109	13.3	.4	13.0	25	605	4.9	(0)	.45	2.07	36.2	(0)
275. Yeast, dried, brewer's.....	7.0	348	46.1	1.6	37.4	106	1,893	18.2	(0)	9.69	5.45		(0)

Note: Asterisk indicates Army ration component; parentheses, imputed value.

47 Based on vegetable extract type; meat extract type may have up to 27.0 mg. of niacin per 100 gm.

48 95 mg.; may not be available because of presence of oxalic acid.

49 160 mg.; may not be available because of presence of oxalic acid.

TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thia- mine	Ribo- flavin	Niacin	Ascorbic acid
		Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
MILK, CREAM, ICE CREAM, CHEESE														
Milk:														
1. Buttermilk, cultured		0	161	15.9	0.5	23.2	(536)	(422)	(0.3)	(20)	(0.16)	(0.81)	(0.5)	(6)
2. Chocolate flavored ¹		0	340	14.5	10.0	48.1	495	413	.3	410	.15	.72	.5	0
3. Condensed, sweetened		0	1,485	36.8	38.1	248.8	1,239	1,035	(.9)	(1,930)	(.24)	(1.77)	(.9)	(5)
4. Dry skim		0	1,631	161.6	4.5	236.1	5,902	4,676	2.6	(190)	1.60	8.88	5.2	32
5. Dry whole		0	2,249	117.1	121.2	172.5	4,308	3,305	2.6	6,360	1.38	6.63	3.0	29
6. Evaporated, unsweetened		0	630	31.8	35.9	44.9	1,103	885	.8	1,820	.22	1.63	.9	5
7. Fresh skim		0	161	15.9	.5	23.2	(536)	(422)	(.3)	(20)	.16	(.81)	(.5)	(6)
8. Fresh whole		0	312	15.9	17.7	22.2	536	422	.3	(720)	.16	.78	.5	6
Cream; ice cream:														
9. Cream (20 percent), sweet or sour		0	943	13.2	90.8	18.2	(440)	(350)	(.3)	(3,750)	(.14)	(.64)	(.4)	(5)
10. Ice cream, plain ¹		0	953	18.2	55.8	94.4	599	472	.5	2,450	.17	.84	.5	1
Cheese:														
11. Cheddar type		0	1,784	108.5	146.6	7.7	3,963	2,769	(2.6)	7,920	.20	2.29	(.9)	(0)
12. Cottage		0	459	87.2	3.6	19.5	372	1,194	(2.1)	(150)	.08	1.32	(.5)	(0)
13. Cream		0	1,667	32.2	167.5	7.7	(1,353)	(944)	(.8)	10,050	(.06)	.65	.3	(0)
14. *Processed, canned ²		0	1,734	99.4	144.4	9.1	3,251	3,773	3.5	5,720	.14	1.95	.5	(0)
15. All other		0	1,784	(108.5)	(146.6)	(7.7)	(3,963)	(2,769)	(2.6)	9,320	.19	2.36	.9	(0)
FATS, OILS														
16. *Army spread, canned ³		0	2,551	23.6	257.4	35.0	1,108	1,094	2.3	12,790	.15	.85	.5	0
17. *Bacon, canned		0	3,197	35.9	336.0	7.3	64	173	4.1	(0)	1.17	.43	6.8	0
18. Bacon, medium fat, sliced		0	2,840	41.3	295	(5.0)	59	490	3.6	(0)	(1.91)	(.47)	(9.4)	0
18a. Bacon, medium fat, slab	Rind	6	2,676	38.9	278	(4.7)	56	461	3.4	(0)	(1.79)	(.44)	(8.8)	0
19. Butter		0	3,327	2.7	367.7	1.8	73	73	.9	4 15,000	.01	.05	.5	0
20. French dressing		0	1,922	3.6	177.1	78.5	(23)	(23)	(.5)	0	0	0	0	0
21. Lard; other shortening		0	4,086	0	454.0	0	0	0	0	0	0	0	0	0

NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
¹ Calculated from ingredients.

² Cheddar type.
³ Not less than 56 percent butter fat on dry solids basis, cheese curd, skim milk powder.
⁴ Year-round average.

TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased—Continued

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thia- mine	Ribo- flavin	Niacin	Ascorbic acid
		Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
FATS, OILS—Continued														
22. Margarine with vitamin A added		0	3,327	2.7	367.7	1.8	(9)	(68)	(0.9)	⁵ (9,000)	(0)	(0)	(0)	0
23. Mayonnaise		0	3,268	6.8	354	13.6	(86)	(272)	(4.5)	(950)	(.16)	(.16)	(0)	(0)
24. Salad dressing		0	1,776	5.0	167.1	63.1	(41)	(136)	(1.8)	(660)	(.07)	(.14)	(0)	(0)
25. Salad or cooking oil		0	4,086	0	454.0	0	0	0	0	0	0	0	0	0
26. Salt pork, fat	Rind	4	3,407	17.0	371	0	9	183	2.6	(0)	(.78)	(.19)	(3.8)	0
EGGS														
27. Egg yolk, fresh		0	1,612	74	144.8	3.2	697	2,660	32.7	14,590	1.47	2.34		0
28. *Eggs, whole, dried		0	2,692	(218.8)	(196.6)	(11.8)	849	3,632	39.5	20,240	1.59	5.59	1.0	(0)
29. Eggs, whole, fresh	Shell	11	636	51.7	46.5	2.8	218	848	10.9	4,590	.47	1.35	.3	(0)
MEAT, POULTRY, FISH														
Beef:														
Thin—Utility, Grade C:														
30. Carcass; side, including kidney fat	Bone	19	745	69.2	52	0	40	747	10.3	(0)	.43	.55	18.7	0
Medium—Commercial, Grade B:														
31. Carcass; side, including kidney fat	Bone	16	1,023	66.7	84	0	38	720	9.9	(0)	.41	.53	18.0	0
32. Carcass trimmed to retail basis	Bone	16	890	69.4	68	0	40	748	10.4	(0)	.43	.55	18.7	0
33. *Chopped meat ⁶		0	1,480	73.1	132	0	41	790	10.9	(0)	.45	.58	19.7	0
34. *Roasting meat, boned ⁶		0	874	85.8	59	0	50	926	12.7	(0)	.53	.68	23.2	0
35. *Stewing meat, boned ⁶		0	1,068	82.6	82	0	50	890	12.3	(0)	.51	.65	22.3	0
Fat—Good, Grade A:														
36. Carcass; side, including kidney fat	Bone	15	1,224	62.9	108	0	39	679	9.3	(0)	.39	.50	17.0	0
Very fat—Choice, Prime, Grade AA:														
37. Carcass; side, including kidney fat	Bone	12	1,623	54.8	156	0	32	592	8.4	(0)	.34	.43	14.8	0

Retail items: 7															
39.	*Corned beef, canned		0	1,056	110.8	68.1	0	132	513	18.2	(0)	.07	.87	13.4	0
40.	Corned beef, medium, boneless		0	1,313	71.7	114	0	41	772	10.9	(0)	.23	.45	7.7	0
41.	Dried or chipped		0	880	155.7	28.6	0	91	1,680	23.2	(0)	.40	.99	16.8	0
42.	Hamburger		0	1,433	72.6	127	0	41	781	10.9	(0)	.45	.57	19.6	0
44.	Rib roast, rolled (wholesale rib)		0	1,252	79.0	104	0	45	854	11.8	(0)	.49	.62	21.3	0
44a.	Rib roast, standing (wholesale rib)	Bone	21	997	62.5	83	0	36	675	9.3	(0)	.39	.49	16.9	0
45.	*Roast, canned		0	985	113.5	59	0	41	745	10.0	(0)	.07	1.08	20.4	0
46.	Round steak (wholesale round)	Bone	11	789	78.0	53	0	44	840	11.7	(0)	.48	.61	21.0	0
47.	Rump roast, bone in (wholesale rump)	Bone	24	1,177	53.5	107	0	31	576	7.9	(0)	.33	.42	14.4	0
47a.	Rump roast, boned (wholesale rump)		0	1,551	70.4	141	0	41	758	10.4	(0)	.44	.55	19.0	0
48.	Soup bone and meat (wholesale shanks)	Bone	49	377	47.1	21	0	28	508	7.0	(0)	.29	.37	12.7	0
49.	Stew meat, boneless (73 percent lean)		0	1,511	71.7	136	0	41	772	10.9	(0)	.44	.57	19.4	0
Lamb:															
Carcass; side:															
50.	Thin	Bone	31	631	53.5	46.3	0	31	576	8.1	(0)	.63	.79	17.7	0
51.	Intermediate	Bone	22	1,105	55.6	98.1	0	32	596	8.5	(0)	.65	.82	18.3	0
52.	Fat	Bone	19	1,510	47.8	146.5	0	29	515	7.4	(0)	.56	.70	15.8	0
Retail items, 7 intermediate grade:															
53.	Leg roast (wholesale leg)	Bone	17	866	67.9	66.0	0	38	731	10.2	(0)	.80	1.00	22.4	0
54.	Shoulder roast (wholesale 3-rib shoulder)	Bone	20	1,053	56.6	91.8	0	33	610	8.3	(0)	.66	.83	18.7	0
Pork:															
Packers' carcass; side:															
56.	Thin	Bone and skin	18	1,380	52.5	130	0	30	565	7.8	(0)	3.32	.65	14.2	0
57.	Medium	Bone and skin	12	1,810	47.6	180	0	28	512	7.2	(0)	3.01	.59	12.8	0
58.	Fat	Bone and skin	10	2,185	40.1	225	0	25	434	6.1	(0)	2.53	.50	10.8	0
59.	Miscellaneous lean cuts ⁸	Bone and skin	17	1,330	54.9	123.4	0	32	592	8.2	(0)	3.47	.68	14.8	0
Retail items: 7															
Bacon. See Fats, Oils.															
60.	Boston butt	Bone	5	1,177	71.5	99	0	43	771	10.8	(0)	4.52	.89	19.3	0

NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
⁵ Plain margarine is considered to have no vitamin A value.
⁶ Average values for composition of all cuts in a boned and trimmed carcass of commercial grade generally used for: (a) Chopped meat; (b) roasting and broiling; (c) stewing and boiling.

⁷ Values for fresh items are from the medium fat wholesale cuts considered to be nearest approximations for corresponding retail items.
⁸ Lean cuts from medium fat carcass weighted according to civilian supply, 1944. Excludes bacon, lard, salt side, fat back.

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TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased—Continued

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	This- mine	Ribo- flavin	Niacin	Ascorbic acid
		Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
MEAT, POULTRY, FISH—Continued														
Pork—Continued:														
Retail items—Continued: 7														
61. Ham, fresh.....	Bone and skin.....	14	1,326	59.3	121	0	35	640	9.0	(0)	3.75	.73	16.0	0
62. Ham, smoked.....	Bone and skin.....	13	1,514	66.8	138	(1.2)	40	719	9.9	(0)	3.08	0.76	15.1	0
63. Loin; loin chops.....	Bone.....	19	1,070	60.4	92	0	37	651	9.2	(0)	3.81	.75	16.3	0
64. Picnic.....	Bone and skin.....	18	1,291	55.1	119	0	33	595	8.2	(0)	3.48	.68	14.9	0
65. Pork links; sausage.....	.....	0	2,027	49.0	203.4	0	27	527	7.3	(0)	1.02	.68	10.4	0
Salt pork. See Fats, Oils.														
66. Spareribs.....	Bone.....	40	942	39.7	87	0	22	427	6.0	(0)	2.51	.49	10.7	0
Veal:														
Carcass; side, excluding kidney fat:														
67. Thin.....	Bone.....	23	528	69.0	28	0	38	742	10.5	(0)	.63	.97	22.8	0
68. Medium.....	Bone.....	21	661	68.6	43	0	39	740	10.4	(0)	.62	.97	22.6	0
69. Fat.....	Bone.....	19	803	68.1	59	0	40	732	10.3	(0)	.62	.96	22.4	0
Retail items, 7 medium fat:														
71. Cutlet (wholesale round), boneless.....	.....	0	723	88.5	41	0	50	953	13.2	(0)	.80	1.25	29.2	0
73. Stew meat (58 percent lean).....	Bone.....	21	812	65.7	61	0	39	707	9.7	(0)	.60	.93	21.7	0
Variety meats, meat mixtures:														
74. *Beef and gravy, canned ⁹.....	.....	0	854	88.1	53.1	5.9	86	554	12.3	(140)	.40	.87	12.3	0
75. Bologna.....	.....	0	984	67.2	72.2	16.3	41	726	10.0	(0)	1.41	1.36	13.8	0
76. *Chile con carne, without beans, canned. ¹⁰.....	.....	0	898	46.3	66.3	23.1	95	690	3.2	700	.05	.45	9.5	0
77. Frankfurters.....	.....	0	912	69.0	64.0	15.0	41	745	10.4	(0)	.86	1.04	10.7	0
78. *Ham and eggs, canned ¹¹.....	.....	0	1,031	65.4	83.1	5.4	195	754	10.0	2,300	.72	1.08	7.8	0
79. *Hash, corned beef, canned ¹².....	.....	0	651	68.6	27.7	31.8	118	(409)	5.9	(0)	.07	.60	10.8	0
80. *Hash, meat and vegetable, canned ¹³.....	.....	0	555	45.4	22.7	42.2	64	(300)	5.4	(0)	.16	.52	11.4	26
81. Heart, fresh.....	.....	0	570	(74.9)	(28.6)	(3.2)	45	1,071	28.1	(0)	2.46	4.07	30.9	63
82. Liver, fresh.....	.....	0	597	(89.9)	(19.1)	(16.3)	36	1,693	54.9	87,000	1.23	12.73	73.6	140
83. Liver sausage.....	.....	0	1,172	75.8	93.5	6.8	41	1,081	24.5	(26,000)	.76	5.07	20.7	(0)
84. *Luncheon meat, canned ¹⁴.....	.....	0	1,227	69.0	102.2	7.7	95	772	6.4	(0)	1.32	.94	12.2	0
85. *Pork and gravy, canned ¹⁵.....	.....	0	935	69.9	69.0	8.6	73	735	7.3	(0)	.87	1.07	12.2	0

86.	*Pork sausage, bulk, canned		0	1,271	72.6	109.0	0	77	595	10.0	(0)	.86	.94	12.8	0
87.	*Spaghetti with meat, canned ¹⁶		0	645	44.5	31.3	46.3	173	440	8.2	2,180	.10	.56	9.9	
88	*Stew, meat and vegetable, canned ¹⁷		0	577	52.7	25.0	35.4	163	(617)	6.4	8,060	.19	.56	11.0	20
89.	Tongue, fresh, medium fat	Skin	5	875	70.7	65.0	1.7	129	513	29.7	(0)	.95	1.16	21.6	0
90.	*Vienna sausage, canned		0	952	72.6	73.5	0	86	(745)	2.7	(0)	.34	.61	13.9	0
Poultry:															
91.	*Chicken, boned, canned		0	796	99.0	44.5	0	145	(990)	(8.6)	Trace	.05	.69	16.8	11
92.	Chicken, roasters, dressed ¹⁸	Head, feet, bone, inedible viscera.	39	538	56.0	34.9	0	44	604	5.3	Trace	.31	.49	23.8	
93.	Turkey, medium fat, dressed ¹⁸	Head, feet, bone, inedible viscera.	33	797	61.3	61.3	0	70	973	11.6	Trace	.38	.58	24.0	
Fish and shellfish:															
94.	Cod steaks	Bones	9	288	68.1	1.7	0	74	781	3.7		.19	.22	9.3	8
Fish, miscellaneous, medium fat:															
95.	Drawn	Head, tail, bones and fins	52	214	41.4	5.4	0	46	475	2.2		.15	.14	9.0	(4)
95a.	Dressed	Bones	33	300	57.8	7.6	0	64	663	3.0		.20	.20	12.6	(6)
95b.	Steaks or sections	Bones	16	375	72.4	9.5	0	80	831	3.8		.25	.25	15.8	(8)
95c.	Whole	Head, tail, entrails, bones, fins.	55	201	38.8	5.1	0	43	445	2.0		.14	.13	8.5	(4)
96.	Oysters, fresh, shucked, solids and liquor.		0	225	27.2	5.4	16.8	309	781	32.2		.84	1.04	5.7	
97.	Salmon, canned		0	766	93.5	43.6	0	304	1,298	5.9	¹⁹ 370	.15	.80	29.6	0
98.	Sardines, canned in oil	Oil	18	768	95.6	40.9	4.5	130	1,358	6.7	1,080	.21	.43	19.4	0
99.	Sardines, canned in oil, total contents of can.		0	1,504	95.6	122.6	4.5	130	1,358	6.7	3,040	.21	.43	19.4	0
100.	Shrimp, canned		0	370	80.8	3.6	3.6	(340)	(953)	(9.1)	280	.04	.14	8.6	0
101.	Tuna fish, canned	Liquor	14	728	108.0	46.0	0	133	1,131	6.6	270	.16	.51	41.3	0
102.	Tuna fish, canned, total contents of can.		0	1,337	108.5	100.3	0	136	1,144	6.8	590	.17	.51	41.8	0

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Note: Asterisk indicates Army ration component; parentheses, imputed value.
⁷ Values for fresh items are from the medium fat wholesale cuts considered to be nearest approximations for corresponding retail items.
⁹ 90 percent beef, 10 percent tomato gravy.
¹⁰ Not less than 60 percent meat, not more than 8 percent cereals, seasonings.
¹¹ 50 percent ham, 50 percent whole eggs.
¹² 72 percent beef, 28 percent potatoes.
¹³ 50 percent meat, 48 percent potatoes, 2 percent onions.
¹⁴ Pork.
¹⁵ 90 percent pork, 10 percent gravy.
¹⁶ 50 percent meat, 10 percent dry spaghetti, 30 percent tomato puree, 5 percent cheese, 5 percent onions.
¹⁷ 50 percent meat, 15 percent potatoes, 15 percent carrots, 8 percent dry beans, 12 percent tomato puree.
¹⁸ Vitamin values based on muscle meat only.
¹⁹ Based on pink salmon. Canned red salmon may have a value several times higher.

TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased—Continued

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thia- mine	Ribo- flavin	Niacin	Ascorbic acid
		Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
DRY BEANS AND PEAS, NUTS														
Dry beans and peas:														
103.	*Bean soup, navy, dehydrated ²⁰	0	1,508	79.9	5.5	284.7	(672)	(2,102)	(46.8)	²¹ 310	2.07	0.98	10.8	5
104.	Beans, canned, baked	0	531	25.9	9.1	86.3	(222)	(699)	(15.4)	0	.22	.21	3.6	²¹ 16
105.	Beans, common or kidney, dry seed	0	1,588	99.9	6.8	281.9	672	2,102	46.8	0	2.71	1.07	9.6	8
106.	Beans, lima, dry seed	0	1,548	94.0	5.9	279.7	309	1,730	34.0	0	2.71	1.07	9.6	8
107.	Chickpeas	0	1,675	94.4	21.3	276.5	418	1,702	32.2	Trace	1.59	.68	6.4	(8)
108.	Cowpeas	0	1,592	104.0	6.4	279.7	363	2,043	35.4	0	3.76	1.05	10.1	8
109.	*Pea soup, dehydrated ²²	0	1,523	92.6	5.4	276.0	(331)	(1,802)	(27.2)	990	2.81	.94	14.3	11
110.	Peas, split	0	1,606	111.2	4.5	280.1	331	1,802	27.2	1,680	3.94	1.30	13.8	9
111.	Soybeans, whole, mature	0	1,591	158.4	82.2	²³ (54.5)	1,031	2,660	36.3	490	5.18	1.40	9.4	Trace
	Soy flour; flakes; grits:													
112.	Low fat	0	1,115	202.9	5.0	²³ (64.5)	1,203	2,828	59.0	300	4.99	1.58	13.0	(0)
113.	Medium fat	0	1,284	193.0	29.5	²³ (61.7)	1,108	2,769	59.0	500	3.70	1.53	11.8	(0)
114.	Full fat	0	1,701	163.0	93.5	²³ (51.8)	885	2,511	54.9	640	3.51	1.28	9.9	(0)
Nuts:														
115.	Almonds	49	1,484	43.2	125.5	45.5	589	1,102	10.2	0	.57	1.55	10.6	Trace
116.	Peanut butter	0	2,808	118.5	217.0	95.3	336	1,784	8.6	0	.89	.72	73.5	(0)
117.	Peanuts, roasted	28	1,961	88.0	144.5	77.2	242	1,285	6.2	0	²⁴ .96	.52	53.0	(0)
118.	Pecans	48	1,762	22.2	172.3	30.7	175	765	5.7	120	1.69	.27	2.1	4
119.	Walnuts, English	55	1,432	30.6	131.4	31.8	169	775	4.3	70	.98	.27	2.4	6
VEGETABLES														
Fresh:														
120.	Asparagus	25	90	7.5	.7	13.3	71	211	3.1	3,430	.54	.59	3.9	113
121.	Beans, lima, green	66	239	13.6	1.5	42.8	115	288	4.2	520	.45	.26	1.7	58
122.	Beans, snap	10	172	9.8	.8	31.5	266	180	4.5	2,560	.32	.41	2.5	79
123.	Beet greens	25	112	6.8	1.0	19.0	²⁵	153	10.9	22,700	.18	.57	1.1	115
124.	Beets	25	155	5.4	.3	32.6	92	146	3.4	80	.11	.17	1.4	34
	Skinnings, root ends and base of stems.													
125.	Broccoli	39	103	9.1	.6	15.2	300	211	3.6	9,700	.25	.59	2.5	327
126.	Brussels sprouts	23	208	15.4	1.8	31.2	119	273	4.6	1,390	.40	(.22)	(.9)	328

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127. Cabbage	Outer leaves and core	27	95	4.0	.7	17.5	152	103	1.7	270	.23	.21	.9	173
128. Carrots	Scrapings	12	179	4.8	1.2	37.2	156	148	3.2	48,000	.27	.26	2.0	24
129. Cauliflower	Main stalk and leaf stalks	55	63	4.9	.4	10.0	45	147	2.2	200	.21	.22	1.2	141
130. Celery	Leaves and trimmings	37	63	3.7	.6	10.6	143	114	1.4	0	.09	.12	.9	20
131. Chard	Inedible leaves and trimmings	14	98	5.5	.8	17.2	26	140	15.6	10,920	.22	.51	.9	148
132. Collards	Tough stalks and some leaves	55	102	8.0	1.2	14.7	508	118	3.3	14,020	.44	(.42)	(1.7)	203
133. Corn, sweet, white or yellow	Husks and cob	62	186	6.4	2.1	35.5	16	208	.9	27,680	.27	.24	2.4	20
134. Cucumbers	Parings	30	46	2.2	.3	8.6	32	67	1.0	290	.12	.28	.5	27
135. Dandelion greens	Main stalk and inedible leaves	(25)	178	9.2	2.4	29.9	636	238	10.5	46,410	.64	.49	(2.9)	122
136. Eggplant	Calyx and parings	13	111	4.3	.8	21.7	59	146	1.6	100	.27	.22	3.2	19
137. Kale	Stalks, outer leaves, in some cases midribs	36	144	11.3	1.7	21.0	655	180	6.4	21,950	.35	1.01	(2.4)	335
138. Lettuce, headed	Stalks and outer leaves	31	57	3.8	.6	9.1	69	78	1.6	1,710	.20	.21	.5	24
139. Lettuce, all other	Stalks and outer leaves	31	57	3.8	.6	9.1	194	63	3.4	5,060	.20	.21	.5	57
140. Mustard greens	Stalks and outer leaves	27	92	7.6	1.0	13.2	728	126	9.6	21,370	.31	.68	2.8	338
141. Okra	Stem ends	12	154	7.2	.8	29.6	328	248	2.8	2,950	.49	.42	2.8	121
142. Onions, mature	Skins and rootlets	6	208	6.0	.9	44.0	137	188	2.1	210	.15	.10	.6	3938
143. Parsnips	Scrapings	22	295	5.3	1.8	64.4	202	283	2.5	0	.40	.32	.7	63
144. Peas, green	Pods	55	206	13.7	.8	36.1	45	249	3.9	1,390	.72	.37	4.2	54
145. Peppers, green	Stem ends, seeds, and cores	16	112	4.6	.8	21.7	42	95	1.5	2,410	.27	.17	1.4	457
146. Potatoes	Parings	16	325	7.6	.4	72.8	42	213	2.7	70	.40	.15	4.4	64
147. Pumpkin	Rind and contents of cavity	31	112	3.8	.6	22.8	66	138	2.5	(10,640)	(.15)	(.24)	(1.8)	26
148. Radishes	Tops and rootlets	51	50	2.7	.2	9.3	82	69	2.2	70	.10	.08	.3	54
149. Rutabagas	Parings	15	158	4.2	.4	34.4	212	158	1.5	1,280	.25	.23	1.8	140
150. Spinach	Main stalk and outer leaves	18	92	8.6	1.1	11.9	30	205	11.2	35,040	.44	.90	2.6	219
151. Squash, summer	Stem ends	3	83	2.6	.4	17.2	66	66	1.8	1,140	.18	.23	5.0	75
152. Squash, winter	Rind and contents of cavity	26	147	5.0	1.0	29.6	64	94	2.0	16,640	.16	.26	1.9	28
153. Sweetpotatoes	Parings	14	488	7.0	2.7	108.8	117	191	2.7	31,030	.37	.23	2.8	86

NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
²⁰ Navy bean meal, farinaceous flour up to 15 percent.
²¹ Contributed by tomatoes.
²² Pea meal, farinaceous flour up to 15 percent.
²³ "Available" carbohydrate.
²⁴ Based on peanuts without skins; when skins are included, the thiamine value is higher.
²⁵ 401 mg.; may not be available because of presence of oxalic acid.

²⁶ 410 mg.; may not be available because of presence of oxalic acid.
²⁷ Based on yellow corn; white corn contains only a trace.
²⁸ Based on pared cucumber; unpared contains about 830 I. U. of vitamin A per pound as purchased.
²⁹ Green bunching onions contain about 43 mg. of ascorbic acid per pound as purchased.
³⁰ 301 mg.; may not be available because of presence of oxalic acid.
³¹ If pale varieties only were used, the value would be very much lower.

TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased—Continued

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thia- mine	Ribo- flavin	Niacin	Ascorbic acid
		Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
VEGETABLES—Continued														
Fresh—Continued:														
154. Tomatoes.....	Skins, stem end, inedible flesh.	12	91	4.0	1.2	16.0	44	108	2.4	4,380	.24	.16	2.5	93
155. Turnip greens.....	Discarded leaves.....	16	140	11.0	1.5	20.6	987	190	9.1	36,370	0.37	2.15	2.9	518
156. Turnips.....	Parings.....	13	136	4.3	.8	28.0	158	134	2.0	20	.26	.24	1.8	113
Canned:														
157. Asparagus.....		0	96	7.3	1.4	13.6	91	154	4.5	³² 2,750	.29	.39	3.7	67
158. Beans, lima.....		0	327	17.3	1.4	61.3	123	331	7.7	590	.16	.22	2.2	36
159. Beans, snap.....		0	87	4.5	0	17.3	123	86	6.4	1,880	.14	.22	1.5	18
160. Beets.....		0	176	4.5	0	39.5	68	132	2.7	80	.05	.13	.5	21
161. Carrots.....		0	136	2.3	1.8	27.7	100	109	2.7	54,480	.12	.10	1.5	10
162. Corn, white or yellow.....		0	350	9.1	2.3	73.1	18	232	2.3	²⁷ 920	.11	.21	3.8	24
163. Peas, green.....		0	312	15.4	1.8	58.6	114	304	8.2	2,470	.48	.26	4.1	39
164. Pumpkin.....		0	174	4.5	1.4	35.9	(91)	(163)	(3.2)	15,440	.07	.28	2.5	(0)
165. Sauerkraut.....		0	90	5.0	.9	15.4	(209)	(141)	(2.3)	50	.14	.91	1.0	³³ 80
166. Spinach.....		0	112	10.4	1.8	13.6	³⁴	150	7.3	30,830	.09	.38	1.4	66
167. Tomato catsup.....		0	497	9.1	1.8	111.2	54	82	3.6	(8,540)	.41	.32	10.2	51
168. Tomato juice.....		0	104	4.5	.9	19.5	(32)	(68)	(1.8)	4,770	.23	.15	3.2	72
169. Tomato puree.....		0	184	8.2	2.3	32.7	(50)	(168)	(5.0)	8,540	.40	(.32)	8.1	126
170. Tomatoes.....		0	97	4.5	.9	17.7	(50)	(123)	(2.7)	4,770	.23	.15	3.2	75
Dehydrated: ³⁵														
171. *Cabbage, unsulfited ³⁶		0	1,572	32.2	8.2	312.4	1,698	1,244	21.3	2,350	1.86	1.67	10.9	858
172. *Carrots.....		0	1,639	18.2	6.4	377.2	(1,099)	(463)	(26.8)	531,180	1.32	1.27	14.5	50
173. *Onions.....		0	1,590	45.9	4.5	341.4	717	1,162	14.1	90	1.04	.68	5.0	168
174. *Potatoes.....		0	1,647	32.2	3.2	372.3	114	468	16.8	(0)	1.15	.45	21.8	113
175. *Sweetpotatoes.....		0	1,693	23.2	4.1	390.9	(345)	(340)	(10.4)	99,290	.81	.62	8.6	156
FRUIT														
Fresh:														
176. Apples.....	Skins and core.....	12	258	1.2	1.6	59.6	24	40	1.2	360	.15	.08	1.0	18
177. Apricots.....	Pits.....	6	241	4.3	.4	55.1	68	98	2.1	11,930	.13	.17	3.2	15

178.	Avocados	Seeds and skins	25	901	5.8	89.8	17.3	34	129	2.0	970	.42	.51	3.7	54
179.	Bananas	Skins	33	299	3.6	.6	69.9	24	85	1.8	1,300	.27	.19	1.7	29
	Berries:		0	310	2.7	2.7	68.6	73	59	3.6	1,290	(.12)	(.30)	(1.3)	74
180.	Blueberries		4	179	3.5	2.6	35.3	122	118	3.5	250	.13	.29	1.3	261
181.	Strawberries	Stems and caps	0	294	5.4	3.6	59.9	163	154	4.1	1,460	.12	(.30)	(1.3)	106
182.	Other berries		0					36	34	.9	at 7,290	.12	.08	1.7	69
183.	Cantaloups	Rind and cavity contents	53	48	1.3	.4	9.8	36	34	.9	(70)	.11	.06	.6	121
184.	Grapefruit	Rind and seeds	34	133	1.5	.6	30.3	51	54	.9				.6	17
185.	Grapes	Seeds and stems	3	324	3.5	1.8	73.5	75	92	2.6	330	.24	.12	1.9	127
186.	Lemons	Rind and seeds	38	123	2.5	1.7	24.4	(39)	(28)	(.3)	0	.13	.01	.4	94
187.	Limes	Rind and seeds	24	184	2.8	.3	42.4	(48)	(34)	(.3)	0	(.16)	(.02)	(.5)	162
188.	Oranges	Rind and seeds	28	164	2.9	.7	36.6	108	75	1.3	(620)	.25	.08	.8	31
189.	Peaches	Rind and seeds	12	204	2.0	.4	48.0	32	88	2.4	3,530	.08	.19	3.6	16
		Pits and skins	17	262	2.6	1.5	59.6	49	60	1.1	90	.08	.16	.5	57
190.	Pears	Skins and core	47	140	1.0	.5	33.0	39	27	.7	310	.20	(.06)	(.5)	20
191.	Pineapples	Crown, core, and parings	5	242	3.0	.9	55.6	73	86	2.2	1,510	.63	(.13)	2.4	28
192.	Plums	Pits	32	56	1.5	.3	11.7	ss	77	1.5	100	.03		.3	99
193.	Rhubarb	Leaves	29	160	2.6	1.0	35.1	(106)	(74)	(1.3)	(1,360)	.22	(.08)	(.8)	
194.	Tangerines; other mandarin type oranges	Rind and seeds	54	65	1.0	.4	14.4	15	25	.4	1,240	.10	.11	.4	13
195.	Watermelons	Rind and seeds	0	366	.9	.5	89.4	(18)	(27)	(.9)	(270)	.05	.05	.2	5
	Canned:		4	387	2.6	.4	93.3	(44)	(65)	(1.3)	5,900	.07	.10	1.4	17
196.	Apples; applesauce	Pits	4	377	2.6	.4	90.7	(48)	(61)	(1.3)	(1,870)	.13	.09	.8	14
197.	Apricots	Pits	4	377	2.6	.4	90.7	(48)	(61)	(1.3)	(1,870)	.13	.09	.8	14
198.	Cherries		0	948	.5	1.4	233.4	(36)	(32)	(1.4)	(140)		(.18)		8
199.	Cranberry sauce		0	353	(1.8)	(.9)	(84.4)	(41)	(54)	(1.8)	730	.05	.05	1.6	9
200.	Fruit cocktail		0	188	2.3	.9	42.7	36	54	1.8	60	.13	.08	1.0	158
201.	Grapefruit juice		0	366	2.7	.9	86.7	59	64	1.4	80	.13	.08	1.0	134
202.	Grapefruit segments		0	250	2.7	.5	58.6	(150)	(104)	(1.8)	(450)	.31	.08	1.0	191
203.	Orange juice		0	342	1.8	.5	82.6	(23)	(64)	(1.8)	2,030	.03	.09	3.1	19
204.	Peaches		0	342	.9	.5	83.5	(36)	(45)	(.9)	20	.04	.08	.6	8
205.	Pears		0	246	1.4	.5	59.0	98	36	2.3	360	.24	.07	.8	41
206.	Pineapple juice		0	395	1.8	.5	95.8	132	32	2.7	360	.32	.07	.8	41
207.	Pineapples		4	366	1.7	.4	88.9	35	52	4.8	(990)	.12	.11	1.6	5
208.	Plums; Italian prunes	Pits	4	366	1.7	.4	88.9	35	52	4.8	(990)	.12	.11	1.6	5

27

NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
 27 Based on yellow corn; white corn contains only a trace.
 32 Based on green products; bleached products contain only a trace.
 33 Drained solids only.
 34 409 mg.; may not be available because of presence of oxalic acid.

35 Freshly dehydrated products; some loss of vitamins is to be expected during storage.
 36 If sulfited, the thiamine value would be much lower, and the ascorbic acid value would be about double.
 37 Based on deeply colored varieties.
 38 158 mg.; may not be available because of presence of oxalic acid.

TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased—Continued

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thia- mine	Ribo- flavin	Niacin	Ascorbic acid
		Percent	Calories	Grams	Grams	Grams	Milli- grams	Milli- grams	Milli- grams	Inter- national Units	Milli- grams	Milli- grams	Milli- grams	Milli- grams
FRUIT—Continued														
Dried:														
209. *Apple nuggets.....		0	1,771	6.4	4.5	426.3	109	191	18.6	(0)	0.24	0.35	2.3	50
210. Apricots ³⁹		0	1,325	23.6	1.8	303.7	390	540	22.2	33,730	.06	.71	15.0	57
211. *Cranberries.....		0	1,856	13.2	30.0	383.2	372	100	15.4	3,000	.87	.84	4.1	149
212. Peaches ³⁹		0	1,339	13.6	2.7	315.1	200	572	31.3	14,760	.04	.89	24.5	86
213. Prunes ⁴⁰		15	1,153	8.9	2.3	274.1	208	328	15.0	7,300	.38	.64	6.6	11
214. Raisins ⁴⁰		0	1,355	10.4	2.3	323.2	354	586	15.0	230	.69	.37	2.2	Trace
Synthetic fruit powders, canned:														
215. *Grape juice ⁴¹		0	42 1,135	.5	2.3	14.1	599	295	.5	(0)	0	(0)	(0)	2,724
216. *Lemon juice ⁴³		0	42 1,525	1.8	1.4	276.0	272	150	6.8	(0)	(0)	(0)	(0)	3,977
217. *Orange juice ⁴⁴		0	42 1,548	5.0	.9	295.6	817	459	10	(0)	(0)	(0)	(0)	4,209
GRAIN PRODUCTS														
Flour, meal:														
Corn meal:														
218. White, degerminated.....		0	1,612	34.0	5.0	357.8	45	636	4.5	(0)	.72	.42	4.3	0
219. White, whole-grain.....		0	1,658	41.3	16.8	335.5	82	1,126	12.3	(0)	1.86	.55	7.9	0
220. Yellow, degerminated.....		0	1,615	37.7	5.4	354.1	45	636	4.5	1,360	.68	.27	4.1	0
221. Yellow, whole-grain.....		0	1,658	41.3	16.8	335.5	82	1,253	12.3	2,330	2.04	.75	9.3	0
222. Cornstarch.....		0	1,597	2.3	.9	395.0	Trace	Trace	Trace	(0)	(0)	(0)	(0)	0
Flour:														
223. Buckwheat, light.....		0	1,607	28.6	5.0	361.8	50	400	4.5	(0)	45 1.41	45 .36	45 9.5	0
224. Rye, light.....		0	1,624	40.4	4.1	356.4	82	1,262	5.9	(0)	.68	.31	4.1	0
225. Rye, whole-grain.....		0	1,638	50.8	7.7	341.4	277	1,675	21.8	(0)	2.13	.94	7.9	0
Soy. See Dry Beans and Peas.														
226. Wheat, patent.....		0	1,611	49.0	4.1	344.6	86	422	3.0	(0)	.30	.15	3.5	0
227. Wheat, patent, enriched.....		0	1,611	49.0	4.1	344.6	86	422	(13.2)	(0)	(2.0)	(1.2)	(16.0)	0
228. Wheat, self-rising.....		0	1,546	46.3	4.1	331.0	1,000	1,500	2.7	(0)	.10	.10	3.0	0
229. Wheat, self-rising, enriched.....		0	1,546	46.3	4.1	331.0	1,000	1,500	(13.2)	(0)	(2.0)	(1.2)	(16.0)	0
230. Whole wheat.....		0	1,633	59.0	9.1	328.7	173	1,748	17.3	(0)	2.53	.56	25.3	0

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Baked goods:														
Bread:														
231.	Rye, light.....	0	1,194	(29.1)	(15.4)	(234.7)	(100)	(436)	(3.6)	(0)	.71	(.18)	(5.0)	0
232.	White, enriched.....	0	1,186	38.6	9.1	237.4	(254)	(454)	(8.2)	(0)	(1.10)	(.70)	(10.0)	0
233.	Whole wheat.....	0	1,187	43.1	15.9	217.9	(272)	1,680	11.8	(0)	1.28	.70	16.1	0
234.	Cake, light batter type.....	0	1,486	29.1	37.2	258.8	281	(572)	9.1	(0)	.15	.44	3.0	0
235.	Cookies, assorted, plain.....	0	1,990	27.2	57.7	340.5	(100)	(295)	(2.7)	(0)	(.16)	(.16)	(2.3)	0
236.	Cracker-meal; crackers, assorted.....	0	1,914	43.1	46.8	330.1	100	463	6.8	(0)	(.31)	(0)	(2.7)	0
237.	Crackers, graham.....	0	1,903	36.3	45.4	337.3	91	922	8.6	(0)	1.36	.54	6.8	0
238.	Fig bars.....	0	1,649	19.1	21.8	344.1	(313)	(313)	(5.9)	(0)	(.11)	(.27)	(4.1)	(0)
239.	Pie, apple.....	0	1,208	(13.2)	(43.6)	(190.7)	(50)	(100)	8.6	(0)	(.23)	(.18)	1.8	(0)
240.	Pie, cream.....	0	1,014	(12.7)	(44.5)	(140.7)	91	(173)	2.3	(0)	.15	.38	.9	(0)
241.	Rolls, plain, enriched.....	0	1,380	37.2	27.7	245.6	(254)	(454)	(8.2)	(0)	(1.10)	(.70)	(10.0)	0
242.	Rolls, sweet, unenriched.....	0	1,379	35.4	24.5	254.2	(254)	(454)	2.2	(0)	.35	.60	3.5	0
Breakfast cereals:														
243.	Corn flakes.....	0	1,631	35.9	3.2	364.6	(45)	254	(4.5)	(0)	(.72)	.39	7.2	0
	Corn flakes, restored. See page 4.													
244.	Oatmeal.....	0	1,799	64.5	33.6	309.6	245	1,657	23.6	(0)	2.49	.63	5.2	0
245.	Rice flakes; puffed rice.....	0	1,647	32.7	1.8	375	(41)	(418)	4.1	(0)	(.23)	(.12)	(6.3)	0
	Rice flakes; puffed rice, restored. See page 4.													
Wheat cereals:														
246.	Farina.....	0	1,631	52.2	4.5	345.5	95	568	3.6	(0)	.28	.25	4.4	0
247.	Farina, enriched.....	0	1,631	52.2	4.5	345.5	95	568	(6)	(0)	(1.66)	(1.2)	(6)	0
248.	Flakes; puffed wheat.....	0	1,688	54.0	6.8	352.8	150	1,603	16.8	(0)	.67	.56	19.3	0
	Flakes; puffed wheat, restored. See page 4.													
249.	Shredded wheat.....	0	1,676	47.2	6.4	357.3	(173)	(1,748)	(17.3)	(0)	.93	.66	19.0	0
250.	Whole-grain, uncooked.....	0	1,671	53.1	9.1	344.1	173	1,748	17.3	(0)	2.02	.59	20.7	0
Other cereals:														
251.	Barley, pearled, light.....	0	1,620	37.2	4.5	357.8	73	858	(9.1)	(0)	.55	.37	14.1	0
252.	Hominy.....	0	1,620	38.6	3.6	358.2	50	318	4.5	(0)	.68	.23	(4.3)	0
253.	Macaroni; spaghetti.....	0	1,636	59.0	6.4	335.5	100	654	5.4	(0)	.59	.36	9.5	0

Note: Asterisk indicates Army ration component; parentheses imputed value.
³⁹ Sulfured
⁴⁰ Unsulfured.
⁴¹ Citric acid, dextrose, coloring, flavoring, ascorbic acid.
⁴² Caloric value of organic acids included.

⁴³ Powdered lemon juice and corn sirup, dextrose, citric acid, oil of lemon, ascorbic acid.
⁴⁴ Powdered orange juice, lemon juice, and corn sirup, dextrose, citric acid, oil of orange, ascorbic acid.
⁴⁵ Whole-grain buckwheat flour has approximately 2.77 mg. thiamine; 0.75 mg. riboflavin; and 18.9 mg. niacin per pound.

TABLE 2.—Nutritive value of 1 pound of selected foods, as purchased—Continued

Food item	Nature of refuse	Refuse	Food energy	Protein	Fat	Carbo- hydrate	Calcium	Phos- phorus	Iron	Vitamin A value	Thia- mine	Ribo- flavin	Niacin	Ascorbic acid
GRAIN PRODUCTS—Continued														
Other cereals—Continued:														
254. Noodles.....		0	1,746	64.9	22.7	320.5	109	708	8.6	(890)	(.59)	(.54)	(9.5)	0
Rice:														
255. Brown.....		0	1,616	34.0	7.7	352.8	177	1,376	25.0	(0)	1.33	0.22	20.7	0
256. Converted.....		0	1,593	(34.5)	(1.4)	(360.5)	(41)	(418)	(3.2)	(0)	1.04	.18	17.2	0
257. White.....		0	1,593	34.5	1.4	360.5	41	418	3.2	(0)	.24	.12	6.3	0
258. Tapioca.....		0	1,588	2.7	.9	392.3	54	54	(4.5)	(0)	0	(0)	(0)	0
SUGARS, SWEETS														
259. Honey.....		0	1,449	1.4	0	360.9	23	73	4.1	(0)	.02	.17	1.0	16
260. Jams; marmalades.....		0	1,307	2.3	1.4	321.4	54	54	(1.4)	50	.07	.11	.7	26
261. Jellies.....		0	1,184	.9	0	295.1	(54)	(54)	(1.4)	(50)	(.07)	(.11)	(.7)	17
262. Molasses, cane.....		0	1,090	(0)	(0)	(272.4)	1,239	232	30.4	(0)	.36	.72	12.9	(0)
263. Sirup, table blends.....		0	1,344	(0)	(0)	(336.0)	209	73	18.6	0	0	.05	.5	(0)
264. Sugar, brown.....		0	1,734	(0)	(0)	(433.6)	46 345	46 168	11.8	(0)	(0)	(0)	(0)	(0)
265. Sugar, granulated or powdered.....		0	1,807	(0)	(0)	451.7	(0)	(0)	.5	(0)	(0)	(0)	(0)	0
MISCELLANEOUS														
266. *Bouillon cubes.....		0	1,175	80.4	0	213.4	182	2,315	41.8	(0)	.12	.3.75	47 2.7	(0)
267. Chocolate, unsweetened.....		0	2,589	(25.0)	240.2	(81.7)	48	1,557	11.4	(0)		1.09	5.0	(0)
268. Cocoa.....		0	1,495	(40.9)	85.4	(140.7)	49	3,219	12.3	(0)		(1.77)	(10.4)	(0)
269. Coconut, dry, shredded.....		0	2,629	16.3	177.5	241.5	195	867	16.3	(0)	0	Trace	Trace	(0)
270. Gelatin dessert powder.....		0	1,782	42.7	0	402.7	(0)	(0)	(0)	(0)	Trace	Trace	Trace	(0)
271. Olives, green.....	Pits	21	516	5.4	48.5	14.4	363	54	7.2	1,500	Trace	(0)	(0)	(0)
272. Pickles, cucumber.....		0	52	2.3	.9	8.6	109	100	4.1	870	.03	.11	.2	30
273. Wheat germ.....		0	1,765	114.4	45.4	224.7	381	4,976	36.8	(0)	9.31	3.63	20.7	(0)
274. Yeast, compressed, baker's.....		0	494	60.4	1.8	59.0	114	2,747	22.2	(0)	2.05	9.38	128.0	(0)
275. Yeast, dried, brewer's.....		0	1,582	209.3	7.3	169.8	481	8,594	82.6	(0)	43.99	24.72	164.2	(0)

NOTE: Asterisk indicates Army ration component; parentheses, imputed value.
⁴⁶ Based on dark brown sugar; lower values for light brown sugar.

⁴⁷ Based on vegetable extract type; meat extract type may have up to 123 mg. of niacin.
⁴⁸ 431 mg.; may not be available because of presence of oxalic acid.
⁴⁹ 726 mg.; may not be available because of presence of oxalic acid.

B6



*We are all
in the War
-the whole
family*



*We are all in the War
- the whole family*

WHAT WE CAN ALL DO ON THE HOME FRONT

In wartime there are certain things the Government can do, and other things that individuals must do for themselves.

The armed forces and the local authorities have their tremendous task, but there also remain our own personal responsibilities. This booklet discusses some of the duties and opportunities of the individual and the family in meeting the war situation.

AN ALL-OUT WAR

This war is not being fought only on the battlefield, on the sea, or in the air. It is being fought, as well, in every home, in every family, in every factory, and in every office. It is being fought in the honest, hard-day's work, in our participation in community activities, in the buying of War Bonds, in the better care of our health, and in everything that contributes to the maintenance and support of the Nation's war effort. We are all fighting together for a way of life that we want to see continue for ourselves and our children.

This concept of all-out war suggests certain things that we all can do toward victory:

Local Organizations Need Our Help.

We should learn about the organizations created for the emergency—learn about the services we may expect from them

and the ways in which we can help carry out their purposes.
(See later pages for concrete suggestions.)

Cooperation and caution are necessary for the protection of the home front. We should join our neighbors in observing precautions recommended or ordered by the authorities, and should exercise care not to make disclosures that would benefit the enemy.

|| Good Health Is Essential.

We should so live and work as to continue our steady contribution of effort toward victory. This means taking greater care than ever before to keep ourselves and our families well. This is a definite duty everyone owes to his country at this time. We should learn about well-balanced meals and how to serve them.* We should not neglect the beginnings of illness. Children should be immunized against diphtheria, whooping cough, and smallpox. We should see that each member of the family has regular and sufficient sleep and rest. This is particularly important for children and for those who are working long hours or at tasks to which they are not accustomed. Good health is a fundamental of steady work and of maximum production. An idle machine due to the absence of one worker may mean a production loss with serious consequences to our armed forces.



||| The Rules of Safety Are Important

at Work and at Home.

Many of us are newly employed in industry in circumstances unfamiliar to us. Care in observing safety regulations, both in the plant and in the home, will prevent many accidents and save great losses of time. Our homes should be checked for safety.† We should drive and walk with unusual care to prevent accidents. Needless loss of time today has a far-reaching influence in terms of its effect on the fighting forces.

*See the Metropolitan pamphlet *Your Food*.

†See the Metropolitan pamphlet *Home Defense Against Accidents*.

IV Of Special Concern at This Time

Is the Care of the Children.

Children can't escape the war. They learn to live in the world as it is. But they do need orderliness, calmness, understanding, and as much security as possible. They will reflect the steadiness or lack of steadiness in those about them. If parents can take troublesome times in their stride, usually the children will do so too. If children seem unduly concerned, they need careful and sympathetic care. We should do everything possible to comfort them, to give them every reasonable assurance, and to keep them occupied. If actual danger comes, the local community will remember the children first. It will plan for their safety. If in doubt what to do, talk it over with the local air-raid warden, the children's teacher, a visiting nurse, a clergyman, or an understanding friend or neighbor.

A COMMON DANGER DRAWS US TOGETHER

We all want to do something to help. Go ahead and help! Little things can mean a lot. An old-fashioned neighborliness at this time will ease the stress and strain for many. The following pages give some concrete suggestions as to what each of us can do.

*Concrete Ways
to Help -*

In practically every community there are committees working in conjunction with military authorities—Office of Civilian Defense; Red Cross; police, health, and fire departments; or other official agencies, which have made a study of local needs in connection with the war emergency. *It is best to get our specific instructions direct from these organizations or their representatives. They know the local needs and*

facilities. Frequently, too, instructions must be changed, and they are in the best position to keep you informed.

A Few Things We Should Learn from the Local Authorities and Which Each Member of the Family Should Know

- 1 . . . The name of the neighborhood air-raid warden and how to reach him. *Get acquainted with him and assure him of your cooperation.*
- 2 . . . How to recognize air-raid and blackout signals and alerts.
- 3 . . . Definite dimout and blackout instructions. (Arrange the home so that you can follow the instructions and still live as comfortably and normally as possible. The blackout is an important element in the protection program. A light showing may become a target in an air raid. Even though you escape a hit, you may face a heavy penalty for exposing your neighbors to attack.)
- 4 . . . Definite information where *the family* should go for safety in case of an air raid. (In selecting some part of the home that will best afford shelter from bomb hazards, rely for advice upon the training the air-raid warden has had as to the best space and as to equipping it for use.)
- 5 . . . What arrangements have been made for emergency food or housing centers.
- 6 . . . Official instructions for fighting fires caused by incendiary bombs—what tools are necessary and how they should be used. (The family unit will likely have to depend upon itself in case of such fires. Have family drills to make certain that each person knows what should be done.)



Other Suggestions

FOR ORGANIZING THE HOME AND THE FAMILY

- 1 . . . Remove from the attic, cellar, basement, closets, and yard, all useless and unnecessary things which increase the danger of fire and help it to spread more rapidly. Put everything that must be stored in attics, cellars, or closets in order, and keep the home in as good repair as circumstances permit.
- 2 . . . Certain waste materials are needed by the Government—rubber, tin cans, metals, fats, etc. Find out what the local arrangements are for having them collected and turning them in.
- 3 . . . It may be necessary to leave the home with little notice, so make a list of the things which should be taken. Some of these can be kept ready in a bag; others should be easily assembled. Such things as the following will be helpful:

Extra door key.

Change for bus or carfare, or other minor expenses.

A notebook containing addresses of those whom it may be necessary to notify or call in a hurry.

Pencils and notepaper.

Games, puzzles, books, magazines, or some form of entertainment both for children and for adults.

Flashlight, matches, and candles.

Toilet articles for each member of the family.

Supplies necessary for the care of a baby if there is one in the family.

Emergency clothing—warm and comfortable.

- 4 . . . Telephone service will be restricted in time of a raid. This is another reason for fully completing air-raid precautions, including arrangements with the air-raid warden for necessary messenger service.

AFTER A RAID

The first duty when bombing ceases is to extinguish any fires that may have been caused. The safety of persons injured or trapped depends upon putting out all fires promptly. Instruction in fire control is a service of the air-raid warden.

The next duty is to look after the injured.* It is important that the nature and extent of injury be recognized before the patient is treated or moved. Movement can delay or prevent cure. The air-raid warden should be called. He has been trained to handle just such situations. Also, he has ways of getting assistance from physicians, nurses, or hospitals.

In the event of serious raid damage, it may be decided to evacuate the residents of a section. In such an event the warden will secure transportation for removal to areas where food and shelter will be provided by other branches of the emergency organization.

TRAINING AS A VOLUNTEER

The family will feel safer and actually be safer if at least one member has taken a course in first aid and home nursing. Ask the officials where these courses can be taken. They will give information also about first-aid kits and the best types of flashlights.



There are many other opportunities for volunteer service—for example, as air-raid wardens, nurses aides, airplane spotters, fire watchers, auxiliary police, etc. The air-raid warden can direct you to the organization where your services may be of the greatest help. Special training is given for these jobs. Do not take on more than you can handle, but be

*See the Metropolitan pamphlet *First Aid*.

prepared to stick it out when the work becomes difficult and trying.

KEEPING CALM

No other air-raid instruction has been so often repeated as the injunction to "keep cool." A person with a level head can meet situations that would baffle one blinded by excitement. Conscientious attention to the items mentioned in this pamphlet will help to create the confidence that comes from being prepared.

BE INFORMED

Newspapers, the radio, and magazines carry helpful information from the Government on every phase of this emergency. Additional copies of this leaflet, and pamphlets on health, nutrition, first aid, and safety, may be had from your Metropolitan representative or by writing direct to the Company.

*Buy Stamps
and Bonds*

They pay for planes, guns, ships, and tanks. Fighting forces must have fighting tools. "It is our money or their lives."

There can be only one end to this war . . . a free
life for free men. LET US PLAY OUR PART.

METROPOLITAN LIFE INSURANCE COMPANY

HOME OFFICE: NEW YORK

Pacific Coast Head Office: San Francisco Canadian Head Office: Ottawa

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THREE MEALS A DAY



METROPOLITAN LIFE INSURANCE COMPANY
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GOOD HEALTH REQUIRES THE RIGHT FOOD

WHEN selecting foods for the family it is important to remember that certain food elements are needed to help children grow and to protect the health of the whole family. To be sure of getting all of these elements, it is necessary to use a variety of foods. Milk, fruit, vegetables, eggs, meat, cereal products, fats, and sweets all make essential contributions. Under normal conditions of health, the quantities of food suggested in the table on pages 4 and 5 will provide for the needs of each member of the family and offer a reasonable variety.

Although the quantity of milk and eggs given in the table is adequate to protect health, still greater protection is provided when each member of the family has one egg each day, and children through 18 years of age have one quart of milk.

The foods suggested for adults are those which are needed by a woman in good health doing housework for a medium-sized family, and for a man in good health doing moderately hard work. **Men and women doing very hard work need larger quantities of food, and for them increases should be made in such foods as potatoes, breads, cheese, fats, and dried legumes.**

COST OF FOOD

Many factors must be taken into consideration in deciding how much of the income is to be set aside for food. Among these are the season of the year, local prices, the skill of the shopper in making selections from a variety of foods of equal value, and whether or not the family raises some of its own food.*

The foods listed in the tables are those that are usually plentiful and inexpensive. When it is not necessary to limit the amount to be spent for food, additional fruits and salads should be used.

*If space for a vegetable garden is available, information about the kind and quantity of vegetables to plant can be obtained from the College of Agriculture in each State.

THREE MEALS A DAY

The quantity of meat given in the table is based on cuts which have little waste, such as chuck, chopped meat, liver, and most fish. Expensive cuts of meat will increase the total cost of the food, since they must be purchased in larger quantities than those suggested in order to provide for the extra weight of bones and trimmings.

PLANNING MEALS FOR VARIETY

The menus on pages 6 and 7 are intended only as a pattern for a week's meals. They illustrate one way in which the foods listed in the table may be used to obtain varied and satisfying meals. Different menus are given for each day in the week, but the order in the book need not be followed.

The menus on pages 8 and 9 are planned especially for use in anemia, malnutrition, fractures, and other conditions for which the doctor recommends food high in minerals, vitamins, and protein. However, they are quite suitable for any family that can afford the higher cost of these meals.

When either children or adults must carry lunches, care should be taken that the food for this meal makes the right contribution to the food needs of the day.

GENERAL SUGGESTIONS

In the summer, when fresh fruit and berries are plentiful and cheap, any of those in season may be used where fruit is suggested. In the winter, when a variety of fresh fruit is limited and expensive, canned citrus fruit juices or canned tomatoes should be used daily. These are suitable even for the baby.

Canned vegetables and fruits have practically the same food value as fresh-cooked ones. Use all the liquid from both of them.

GENERAL SUGGESTIONS

Leaf vegetables, such as tops of beets or turnips, escarole, kale, spinach, dandelion greens, and collards, are all approximately equal in food value, and whichever is preferred should be used. Money can be saved by selecting the least expensive of these greens and by using edible wild greens.

Sweet potatoes and white potatoes may be used interchangeably.

Dried fruit and dried beans and peas which have been soaked for several hours, or overnight, will need less cooking. They should be cooked in the water in which they were soaked.

Use whole-grain or fortified cereal. Use whole-grain bread together with enriched bread.

All liver is high in food value. Beef liver and pork liver are better in some respects than lamb liver and calf liver, and are less expensive.

In some areas fish and poultry are plentiful and inexpensive and may be used frequently or wherever meat is suggested in the menus.

Fish-liver oils, for example, cod-liver and halibut-liver oils, are needed daily by all children through the second year of age and are desirable for all children through adolescence.

Brown eggs and white eggs have the same food value. Whichever are cheaper may be used.

Fuel can be saved by planning the meals for the day and doing all the baking at one time.

Foods should be bought by weight rather than by "cents' worth."

The labels on cans and packages give the exact weight of the contents and should be used as a guide in estimating cost.

WEEKLY FOOD NEEDS FOR INDIVIDUALS OF VARIOUS AGES (see page 8 also)

AGES	Milk (quart)	Cheese (ounce)	Eggs (each)	Potatoes (pound)	Green Leaves (pound)	Other Vegetables (pound)	Dried Legumes (ounce)	Tomatoes (pound)	Fresh Fruit (pound)	Dried Fruit (ounce)	Bread, Whole-Grain and Enriched (pound)	Cereal, Flour, Rice, Macaroni, etc. (pound)	Meat or Fish (pound)	Butter (ounce)	Other Fats (ounce)	Sugar, Molasses, Honey (ounce)	Coffee, Tea, Cocos, Seasonings, etc. (Cost per person)
1 and 2 years	7	0	4	1½	1	¾	1	½	2	2	½	½	½	1		1	5 cts.
3, 4, and 5 years	5	1	4	2½	1	1½	2	½	2	4	1½	½	½	3	3	5	5 cts.
6, 7, and 8 years	5	2	4	2½	2	2	3	½	3	5	1½	¾	¾	4	3	6	5 cts.
9, 10, and 11 years	5	2	4	3	2	2	3	½	3	6	2	1	1¼	8	4	10	5 cts.
12, 13, and 14 years	5	3	4	5	2	2	3	½	3	6	3	1	1½	10	6	12	5 cts.
15 and 16 years	5	3	4	5	2	2	3	½	3	6	3½	2	1¾	10	6	16	5 cts.
†Man, moderately active	3½	3	4	5	2	2	4	½	3	6	4½	2	2½	10	6	16	10 cts.
†Woman, moderately active	3½	2	4	4½	2	2	2	½	3	5	2	1½	1½	8	4	12	10 cts.
Woman, pregnant	7	2	7	4	2	2	2	¾	3	6	2½	1½	2¼	8	4	12	10 cts.
Woman, nursing	10	2	7	4½	2	2	2	¾	3	7	2½	2	2½	10	6	12	10 cts.

YOUR FAMILY To make your weekly food order, fill in the quantities of food needed by each person.

Man																	
Wife																	
Child, age																	
Child, age																	
Child, age																	
Child, age																	
Child, age																	
Child, age																	
Child, age																	
Other adult																	
Other adult																	
1. Total quantity																	
2. Quantity to purchase*																	
3. Cost per unit (quart, pound, or dozen)																	
4. Actual cost (Item 2 × Item 3)																	

†Including boys over 16.
 ‡Including girls over 16.
 *Foods are usually purchased in half-pound or pound quantities. Change ounces to the nearest half-pound or pound. Sixteen ounces equal 1 pound.

NOTES
 No. 2 can of tomatoes weighs about 1¼ pounds; No. 2½ can, about 1¾ pounds.
 One peck of potatoes weighs about 15 pounds; 1 peck of green leaves, from 4 to 5 pounds.
 One 14¼-ounce can of evaporated milk equals a little less than 1 quart of fluid milk.
 Five ounces of cheese equal 1 quart of fluid milk.
 One pound of dried milk equals 4 quarts of fluid milk.
 Buttermilk and skim milk may be used as part of the milk allowance.

TOTAL OF ACTUAL COSTS (ITEM 4)

Milk.....	\$ _____	Dried fruit.....	\$ _____
Cheese.....	_____	Bread.....	_____
Eggs.....	_____	Cereal.....	_____
Potatoes.....	_____	Meat or fish.....	_____
Green leaves.....	_____	Butter.....	_____
Other vegetables.....	_____	Other fats.....	_____
Dried legumes.....	_____	Sugar, molasses, honey.....	_____
Tomatoes.....	_____	Coffee, tea, cocos, seasonings, etc.....	_____
Fresh fruit.....	_____		
TOTAL.....	\$ _____	GRAND TOTAL.....	\$ _____

THREE MEALS A DAY

SAMPLE MENUS FOR ONE WEEK

(For use with food order on pages 4 and 5)

A page number in parentheses following a particular food indicates the page in the *Metropolitan Cook Book* (edition m) on which the recipe may be found.

SUNDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Citrus fruit	Braised beef (p. 21)	Toasted peanut butter sandwich
Whole-grain cereal with milk	Potatoes (white or sweet)	Cocoa, or milk with fruit juice (p. 6)
Toast and butter	String beans or peas	
Milk for children	Cole slaw (p. 42)	
Coffee or tea for adults	Bread and butter	
	Jelly roll (p. 12)	

MONDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Fresh fruit	Baked rice and meat from leftover beef (p. 30)	Baked beans
Whole-grain cereal with milk	Buttered carrots	Lettuce and tomato salad
Toast and butter	Bread and butter	Bread and butter
Milk for children	Brown Betty (p. 47)	Stewed dried fruit
Coffee or tea for adults		Milk

TUESDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Fruit	Macaroni with cheese (p. 34)	Oatmeal chowder (p. 17)
Whole-grain cereal with milk	Beets with beet greens	Bread and butter
Toast and butter	Bread and butter	Grated raw carrot and raisin salad
Milk or cocoa for children	Lemon meringue pie (p. 51)	Milk
Coffee or tea for adults		

SAMPLE MENUS

WEDNESDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Dried fruit	Liver with rice or potatoes (p. 27)	Creamed eggs and potatoes (p. 33)
Whole-grain cereal with milk	Bread and butter	Apple and celery salad
Toast and butter	Swiss chard, escarole, or spinach	Bread and butter
Milk for children	Caramel pudding (p. 45)	Milk or cocoa
Coffee or tea for adults		

THURSDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Citrus fruit	Lamb stew with dumplings	Cream of potato soup (p. 17)
Whole-grain cereal with milk	Raw cabbage salad	Bread and butter
Toast and butter	Bread and butter	Stewed fruit
Milk or cocoa for children	Bread pudding (p. 45)	Oatmeal cookies (p. 14)
Coffee or tea for adults		

FRIDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Citrus fruit	Fish chowder (p. 18)	Scrambled eggs
Whole-grain cereal with milk	Buttered turnip greens, collards, or kale	Scalloped potatoes (p. 39)
Toast and butter	Bread and butter	Tomatoes
Milk or cocoa for children	Apple dumplings	Bread and butter
Coffee or tea for adults		

SATURDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Dried fruit	Meat loaf (p. 23)	Stuffed potatoes
Whole-grain cereal with milk	Baked potato	Raw green salad
Toast and butter	Cauliflower or mashed turnips	Bread and butter
Milk or cocoa for children	Bread and butter	Fruit
Coffee or tea for adults	Chocolate pudding (p. 45)	Cookies
		Milk

THREE MEALS A DAY

MENUS ESPECIALLY HIGH IN MINERALS
AND VITAMINS

To prepare these menus, certain foods must be purchased in larger quantities than those given on pages 4 and 5. For each member of the family over 2 years of age, add the quantities listed below of each of the foods specified.

- | | |
|--------------------|---------------------------------|
| 1 ounce of cheese | 3 eggs for each person |
| 1 ounce of legumes | 2 quarts of milk for each child |

Fish-liver oils are a desirable addition to these foods.

A page number in parentheses following a particular food indicates the page in the *Metropolitan Cook Book* (edition m) on which the recipe may be found.

SUNDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Citrus fruit	Swiss steak (p. 24)	Scrambled eggs and tomatoes
Cooked whole-grain cereal	Potatoes	Crisp toast
Toast and butter	Bread and butter	Cocoa
Milk or cocoa (p. 5)	Beets or squash	Molasses ginger hermits (p. 15)
	Lettuce salad	
	Lemon snow (p. 46)	
	Milk	

MONDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Whole-grain cereal with raisins	Liver loaf (p. 27)	Baked beans (p. 35)
Egg	Potatoes	Bran muffins (p. 7)
Toast and butter	Collards, kale, or spinach	Winter salad (p. 43)
Milk or cocoa	Bread and butter	Milk
	Apple sauce	
	Milk	

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SPECIAL MENUS

TUESDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Citrus fruit	Salmon loaf (p. 20)	Dried-bean soup (p. 16)
Whole-grain cereal	Potatoes (white or sweet)	(use leftover beans)
Egg	Bread and butter	Whole-wheat bread (p. 10)
Toast and butter	Lima beans or carrots	Mixed raw vegetable salad
Milk or cocoa	Bread pudding (p. 45)	Milk with fruit juice (p. 6)

WEDNESDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Cornmeal mush with dried fruit	Roast pork	Vegetable soup (p. 16)
Egg	Browned potatoes	Crisp toast
Toast and butter	Peas or collards	Plain cake with lemon sauce (p. 49)
Milk or cocoa	Bread and butter	
	Prune whip (fruit whip, p. 48)	

THURSDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Fresh fruit	Macaroni with ground leftover pork	Peanut butter soup (p. 17)
Whole-grain cereal	Cooked greens	Toast and butter
Toast and butter	Bread and butter	Rice pudding (p. 44)
Milk or cocoa	Gingerbread (p. 9)	

FRIDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Fruit, dried or fresh	Scalloped fish or oysters (p. 20)	Corn chowder (p. 17)
Whole-grain cereal	Baked potatoes	Bread and butter
Toast and butter	Bread and butter	Cabbage and carrot salad
Milk or cocoa	Squash, onions, or stuffed eggplant (p. 37)	
	Apple pie	

SATURDAY

<i>Breakfast</i>	<i>Dinner</i>	<i>Lunch or Supper</i>
Fresh fruit	Lamb stew with dumplings	Toasted cheese sandwiches
Whole-grain cereal	Bread and butter	Carrot strips
Egg	Cabbage salad	Stewed fruit
Toast and butter	Chocolate pudding (p. 45)	Spice cake (p. 13)
Milk or cocoa		Milk

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Information

ON BREAD AND FLOUR ENRICHMENT



ON BREAD AND FLOUR ENRICHMENT



1. What does "Enriched" Bread mean?

Food values of ordinary white bread plus thiamine, riboflavin, niacin and iron.

"Enriched" bread and flour are the usual white bread and flour made with added amounts of three B-vitamins (thiamine, riboflavin, niacin) and iron.

Enriched bread and flour compare favorably in nutritive value with the coarser whole wheat products. Enrichment does not change the character or taste of the customary white bread and flour.



2. Do we need these enrichment ingredients? (vitamins and iron)?

Yes. Scientific surveys prove it.

Inadequate diets are widespread in the nation. Without enrichment, American diets often are low in thiamine, riboflavin, niacin and iron.

All available evidence shows that bread and flour enrichment improves diets.

Prepared by American Institute of Baking - 1135 Fullerton Ave., Chicago 14, Illinois
The Scientific and Educational Organization of the Baking Industry - Founded in 1919



8. Does enrichment prevent further improvement of bread?

No.

Enrichment means that good white bread has been made better by addition of thiamine, riboflavin, niacin and iron.

Plus values encouraged for variety.

Bakers may and do add other factors to bread such as milk solids, wheat germ, soya flour.

These other foods help give variety to bread — basic food of Americans.



9. What does bread enrichment cost?

About one cent for 20 loaves of bread.

Cost absorbed by baker.



About 1c for 20 loaves of bread, a cost which has been absorbed by the baker. The price of bread has not been increased because of enrichment.



10. Who endorses enrichment?

Every professional scientific body in this country which has considered it.



Every professional scientific body in this country which has considered the enrichment program has endorsed it.

The Federal Government considered enrichment so important to the health of the nation that enrichment of all white bread and rolls was ordered for the duration of the war emergency. In view of this importance it is logical that enrichment be continued in peace time as well as during the emergency. Peace time nutrition is just as important as war time nutrition.



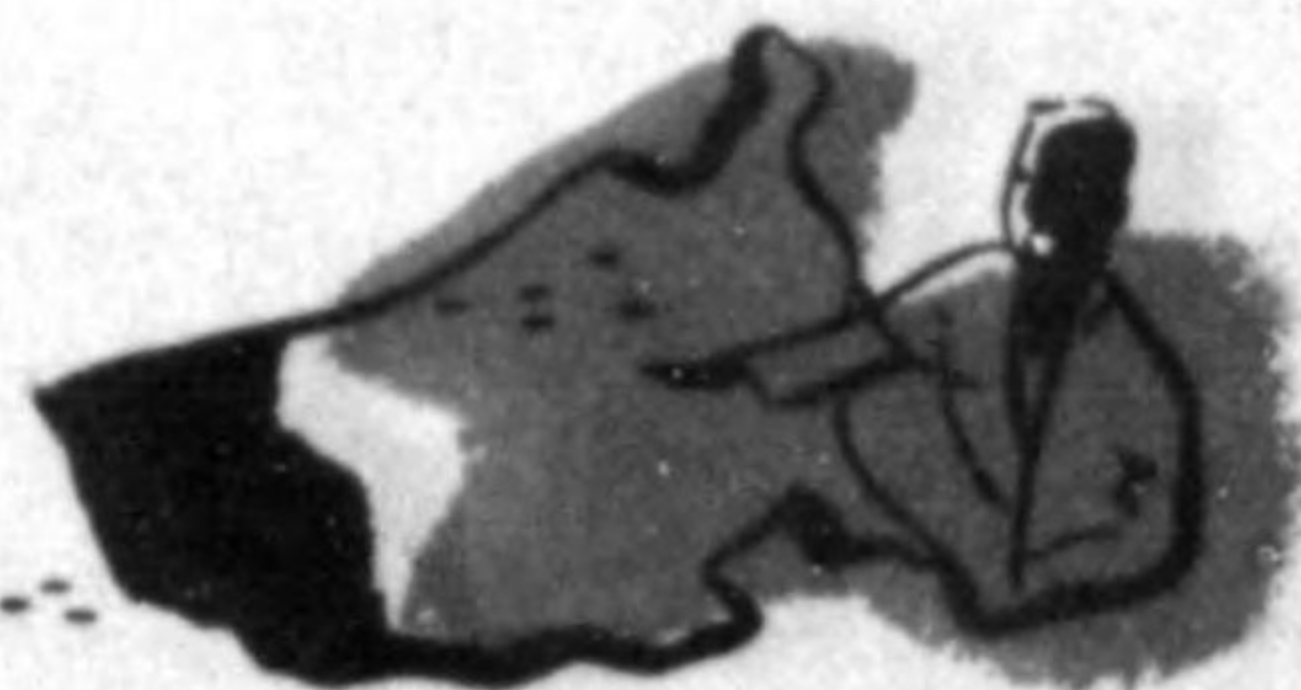
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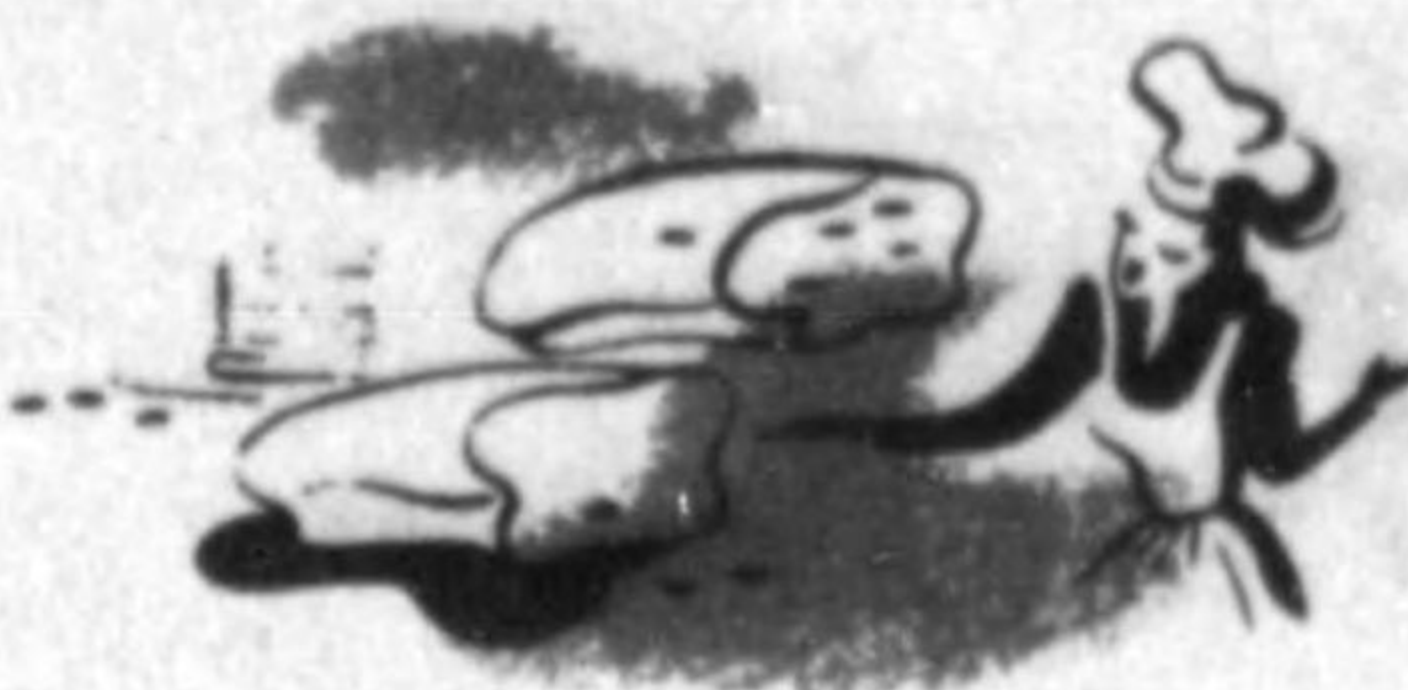


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*Prepared by American Institute of Baking - 1135 Fullerton Ave., Chicago 14, Illinois
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3. Why was bread selected for enrichment (vitamins and iron)?

*Bread is basic.
Bread is eaten in quantity
at every meal.*

Bread is a thrifty food.

*Enrichment ingredients
are natural to flour and
bread.*

Bread is basic. It is eaten more often and in larger quantities than any other food.

Bread is an economical food and therefore is eaten most often by low-income families whose diets are apt to be inadequate. Enrichment of bread and flour is the thriftiest and easiest way to provide important nutrients without changing food habits.

Flour, and therefore, bread, is a natural carrier of thiamine, riboflavin, niacin and iron. For this reason, scientists selected bread and flour to carry added amounts of these enrichment ingredients.



4. Are the vitamins used to enrich bread equal to natural vitamins?

Yes.

They are identical.



5. Why not add all the vitamins which are removed from whole wheat during milling?

*Nutrients added are
the most important of those
usually low in diets.*

The vitamins which are added are recognized as being most important in human nutrition. They are commonly low in a large percentage of diets.

CHMENT

bread and flour made with
(riboflavin, niacin) and iron.
in nutritive value with the
not change the character

iron)?
ion. Without enrichment,
riboflavin, niacin and iron.
flour enrichment improves

Ave., Chicago 14, Illinois
Industry - Founded in 1919



More evidence needed to warrant inclusion of other nutrients.



When sufficient evidence is available, other nutrients may be added to bread if important to national health.

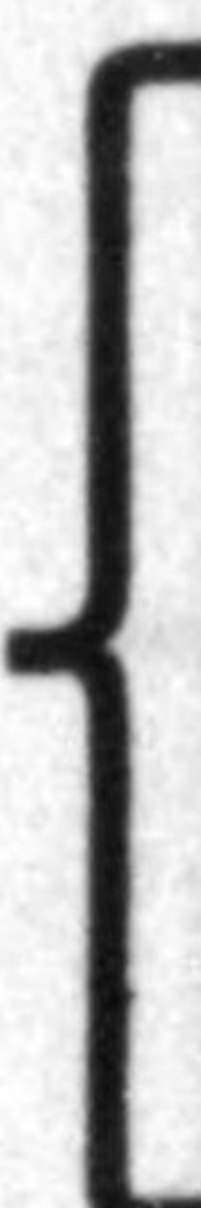


n)?
ger quantities than any
aten most often by low-
ate. Enrichment of bread
vide important nutrients
of thiamine, riboflavin,
bread and flour to carry

6. Why not teach people to eat whole wheat bread?

Problem is not enrichment vs. whole wheat bread but enrichment plus education.

Most people prefer white bread as a basic product; dark breads for variety.



The problem is not enrichment versus whole wheat but enrichment plus educational effort.

Nutritionists have urged people to eat whole wheat bread for years without success. Not more than a fraction of one percent of today's entire bread output is one hundred per cent whole wheat.

Most of the dark bread eaten today contains only ten to thirty per cent whole wheat flour; the remainder of the flour is white. Most rye bread ordinarily contains more than sixty per cent white flour.



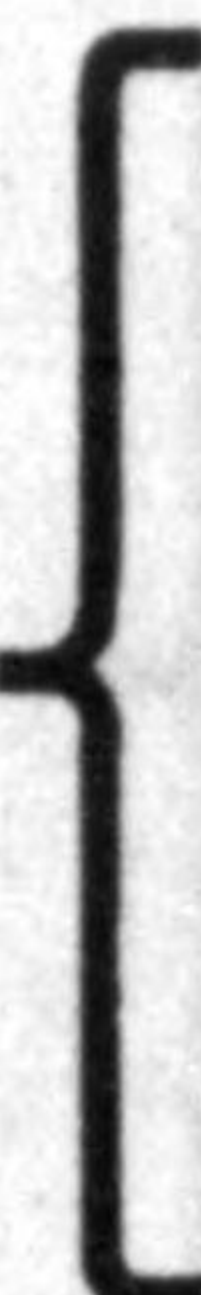
vitamins?
being most important in
rge percentage of diets.

7. Does unenriched bread made with milk have the same nutritive value as enriched bread?

No.

Milk and enrichment factors complement each other.

Milk does one thing; enrichment does another.



Both milk and enrichment ingredients should be used in bread. They are both important.

Enrichment ingredients contribute thiamine, niacin and iron (which are not substantially increased by milk) and also additional amounts of riboflavin.

Milk adds high quality animal protein to the protein of flour. It also adds calcium and riboflavin. Milk improves the flavor and character of bread.

The Baking Industry has continued to use milk in enriched breads. Enrichment plus the milk used by all bakers makes bread a truly "protective" food.



8. Does enrichment prevent further improvement of bread?

No.

Plus values encouraged for variety.

Enrichment means that good white bread has been made better by addition of thiamine, riboflavin, niacin and iron.

Bakers may and do add other factors to bread such as milk solids, wheat germ, soya flour.

These other foods help give variety to bread — basic food of Americans.



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Every professional scientific body in this country which has considered the enrichment program has endorsed it.

The Federal Government considered enrichment so important to the health of the nation that enrichment of all white bread and rolls was ordered for the duration of the war emergency. In view of this importance it is logical that enrichment be continued in peace time as well as during the emergency. Peace time nutrition is just as important as war time nutrition.

Groups that have approved the enrichment program are:

American Dietetics Association
American Home Economics Association
American Medical Association

American Public Health Association
Council of State Governments
Food & Nutrition Board of National Research Council

In addition the national organizations of the Baking and Milling Industries have approved and supported the program from the beginning.



11. Why do we need state legislation requiring enrichment?

*To improve
the national diet.*

Without legislation bakers and millers, because of competitive conditions, may not enrich their least expensive products which are sold to low income groups. Yet it is precisely these products which most need to be enriched from the public health standpoint, even though there is no commercial incentive to do so.

*Federal legislation governs
only interstate trade.*

State legislation is necessary because Federal legislation governs only those products that go into interstate trade. Approximately ninety per cent of all bakers' bread is sold within the state in which it is made.

At the beginning of 1946 eighteen states, as listed below, and Hawaii and Puerto Rico had enacted bread and flour enrichment laws:

Alabama, Arkansas, Georgia, Indiana, Kentucky, Louisiana, Maine, Mississippi, New Hampshire, New York, North Carolina, North Dakota, South Carolina, South Dakota, Texas, Washington, West Virginia, Wyoming

A Guide
TO GOOD EATING

MILK
2 OR MORE GLASSES DAILY . . FOR ADULTS
3 - 4 OR MORE GLASSES DAILY . . FOR CHILDREN
*To drink, combined with other foods,
in ice cream and in cheese*

VEGETABLES
2 OR MORE SERVINGS DAILY BESIDES
POTATO . . . 1 green or yellow; "greens" often

FRUITS
2 OR MORE SERVINGS DAILY
At least 1 raw; citrus fruit or tomato often

EGGS
3 TO 5 A WEEK; 1 DAILY PREFERRED

MEAT, CHEESE, FISH, FOWL
1 OR MORE SERVINGS DAILY
Dried beans, peas, peanuts occasionally

CEREAL AND BREAD
2 OR MORE SERVINGS DAILY
Whole-grain value or enriched

BUTTER
2 OR MORE TABLESPOONS DAILY

**OTHER FOODS TO SATISFY
APPETITE AND COMPLETE
GROWTH AND ACTIVITY NEEDS**

 Statements on this chart have been accepted by the Council on Foods and Nutrition of the American Medical Association.

A GUIDE TO GOOD EATING

A Guide to Good Eating represents the best in nutrition standards. We should strive to include in our meals something from each of the food groups in the quantities indicated, though at times we may be limited in our choice of foods within each group.

The following day's menu pattern gives one way in which the necessary food groups recommended in *A Guide to Good Eating* may be included:

<i>Breakfast</i>		<i>Dinner</i>	
	Fruit	Main Dish	
Cereal or Egg or Both		Vegetable	Potato
Toast or Roll and Butter		Bread or Roll and Butter	
Milk	Coffee	Milk	Dessert
 <i>Lunch or Supper</i> 			
Main Dish		Vegetable	
Bread or Roll and Butter		Fruit	
Milk			

Keep menus as varied and interesting as possible, using *A Guide to Good Eating* to assure yourself that they provide adequate meals. Two to three average servings of milk dishes may be figured as about equal to one glass of milk. One-half cup of vegetables or fruits is considered an average serving.

B6

HEALTHFUL FOODS AT LOW COST

**FOR A HEALTHY BODY
YOU NEED EACH DAY
FOOD FROM THESE FIVE GROUPS**

MILK

1 qt. for children
1 pt. for adults

BREAD AND CEREALS

Whole grain or enriched
breads or cereals at each
meal.

FRUITS AND VEGETABLES

2 servings fruit 1 citrus, as oranges grape- fruit or tomato 1 other, either canned, dried or fresh.	1 serving potatoes 1 serving green or yellow vegetable 1 other vegetable Raw vegetables often
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PROTEIN FOODS

Eggs, 3 or 4 a week
Lean meat, 3 or 4 times a
week
Liver once a week
Fish once a week
Beans or peas once or twice
a week

FATS AND SWEETS

Butter at each meal or
oleomargarine fortified with
Vitamin A
Other fats and sweets as
needed by individual
Cod-liver oil for children
up to 4 years.

**STATE DEPARTMENT OF HEALTH
RICHMOND, VIRGINIA**

TIPS FOR PLANNING MENUS

1. Plan a week ahead, or at least several days in advance. By doing this, you save:
 - a. Time in marketing
 - b. Fuel in preparation (for you often prepare things ahead)
 - c. Money by marketing for the week at one time
 - d. Worry over "what shall I have?"
2. Make out marketing list from weeks menu, and buy everything on one trip to market.
3. Plan to use leftovers. Meat trimmings and celery tops may be used for soups.
4. Dried beans may be used several times a week in place of meat.
5. Cheaper grades of meat may be made palatable with proper cooking. Plan to use them often.
6. A garnish, such as a sprig of parsley or a dash of paprika, will very often make even the less expensive food look very appetizing.
7. Have some colorful food in each meal. Colorful foods as a rule have more food value than the colorless ones. A good rule is to visualize the meal in your mind before you write it down.

SAMPLE MENUS FOR ONE DAY

BREAKFAST

Stewed prunes
Oatmeal
Toast and butter
Cocoa or milk for children
Coffee for adults

LUNCH

Creamed eggs on toast
Carrot and raisin salad
Whole wheat bread
Milk
Raw fruit

DINNER

Liver Loaf*
Baked potatoes
Stewed tomatoes
Cole slaw
Whole wheat rolls
Dutch Apple Cake*

**Recipes on back

THRIFTY TIPS FOR BUYING

1. One tall can of evaporated milk plus 1 can of water has the same food value as 5/6 quart of whole milk. Use for cooking and in milk drinks. Buttermilk and skim milk may also be used often and are cheap.
2. Food bought loose (in bulk) is cheaper than that put up in packages. Remember always, the fancier the wrapping, the more you pay.
3. Dried fruits are often much cheaper than fresh, and have a great deal of food value.
4. Ready to eat cereals cost more than the ones that must be cooked. Oatmeal, wheatena, and other raw cereals have a great deal of food value and are economical. If you have a large family, it is also much cheaper to bake your bread rather than buy it, unless you can buy day old bread.
5. Use cold storage eggs for cooking when eggs are high.
6. Canned tomatoes may be used in place of oranges when oranges are high.
7. Buying in large quantities is cheaper than buying 1 lb. at a time (if you have sufficient storage space).
8. Take advantage of week-end sales, but check the net weight of the cans. Remember things that look like bargains often are not packed as tightly or do not weigh as much as other cans, so may not be bargains.
9. Buy fruits and vegetables at the height of the season to get them cheap.
10. Shop around to compare prices.
11. Buy by grade whenever possible, then you know you are getting the quality you are paying for. Remember, the cheaper grades have just as much food value as the more expensive ones.
12. Go to the store personally to select your groceries. You usually get better values than marketing by phone.
13. Watch the scales, and be sure the hand stops before the package is taken off.

B1

TIPS FOR COOKING HEALTHFUL FOOD

1. Soak dried fruits and dried beans over night before cooking. This saves fuel.
2. Potatoes boiled or baked in their jackets keep all of their food value.
3. Use just enough water in vegetables to keep them from burning. If you pour liquid off of the vegetable you are pouring away food value.
4. Cook vegetables just until barely tender. Overcooking destroys some of the food value.
5. Put vegetables on in boiling water.
6. Do not put soda in vegetables, as this destroys much of the vitamin content.

1 lb. liver
 1 small onion
 1 ½ teaspoon salt
 1 egg
 1 cup milk
 2 cups bread crumbs

LIVER LOAF

Cut liver into slices and boil until tender in small amount of water. Grind through food chopper, and add other ingredients. The water the liver was cooked in should be used to moisten loaf. Shape into loaf, pour into well greased pan, and bake in a moderate oven 30 to 40 minutes.

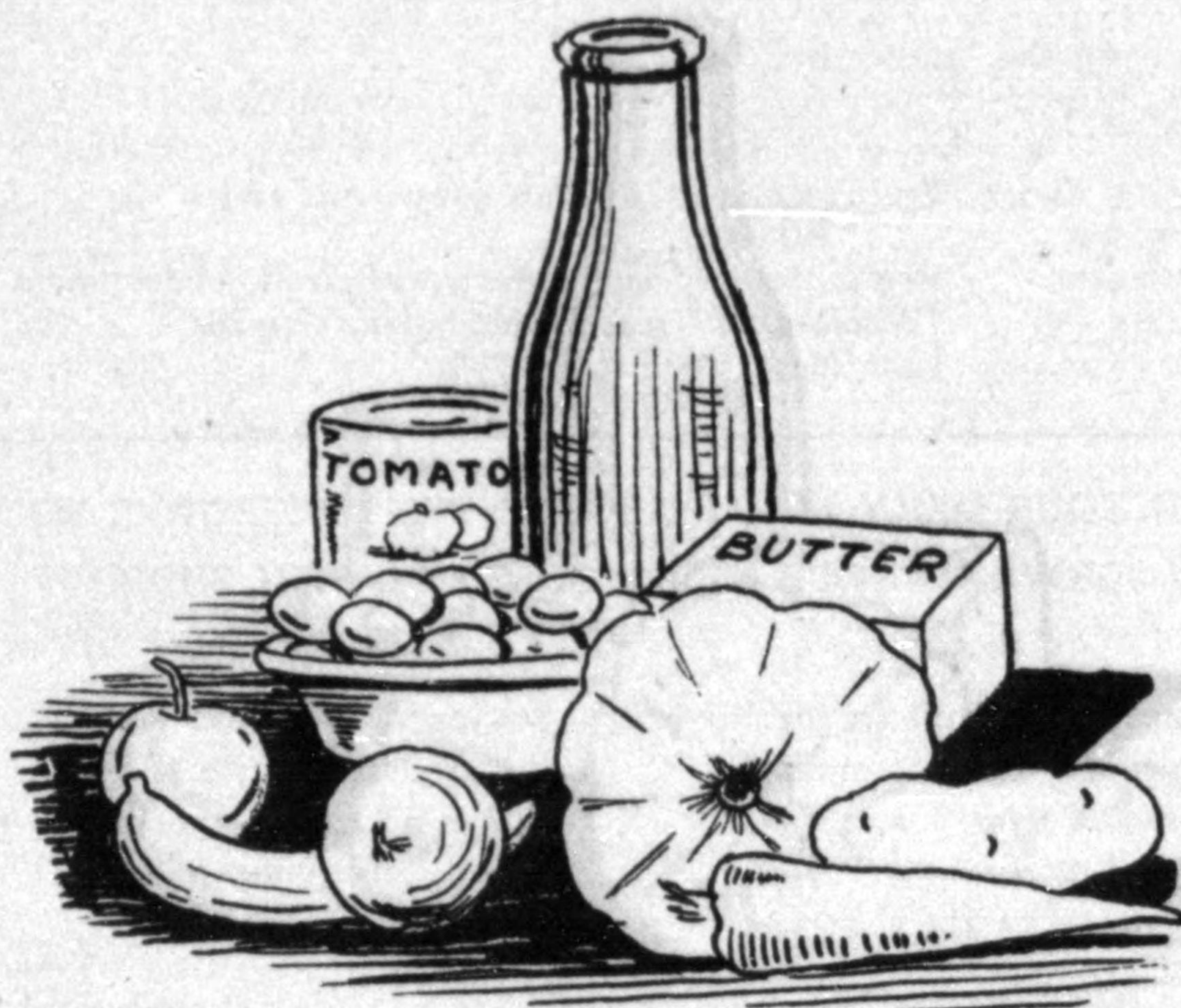
2 cups flour
 4 teaspoons baking powder
 4 tablespoons shortening
 ½ teaspoon salt
 ¾ cup water
 4 apples
 ½ cup sugar
 2 teaspoons cinnamon

DUTCH APPLE CAKE

Sift the flour, baking powder, and salt together. Cut in the fat. Add water to make a soft dough. Spread ½ inch thick in a greased cake pan. Wash, peel, and core the apples and cut in slices, place on dough, and press them in. Dot with bits of butter. Mix sugar and cinnamon together and sprinkle on apples. Bake in moderate oven for about 25 minutes. Serve with lemon or vanilla sauce.

B.6

PROTECTIVE FOODS



Prepared by
DIVISION OF CHILD HYGIENE

MINNESOTA DEPARTMENT OF HEALTH

A. J. CHESLEY, M.D.
Secretary and Executive Officer



Drink More Milk, Eat More Butter—For Your Health and Prosperity.

PROTECTIVE FOODS

Protective Foods are the Best Foods for Every Member of the Family.
 They are the foods which make children grow best.
 They build strong teeth and bones and firm muscles.
 They help keep the whole family strong and healthy.
 Protect your family's health with protective foods.
 Serve protective foods in each one of your daily meals.
 What are the "protective" foods?

They are:

- | | |
|----------|--|
| MILK and | Fruit (tomatoes, oranges, grapefruit and |
| CHEESE | others |
| BUTTER | Vegetables (especially green leafy and yellow kinds) |
| EGGS | "Whole grain" cereals and "dark" breads |
| | Lean meat, poultry and fish. |

**PLAN YOUR DAILY MEALS AROUND THE PROTECTIVE FOODS
 HOW DO YOUR MEALS COMPARE WITH THESE?**

BREAKFAST

- Orange, grapefruit or tomato juice
- Whole wheat cereal—milk
- Scrambled eggs
- Toast—butter
- Milk or cocoa for children

DINNER

- Scalloped liver and potatoes
- Buttered peas
- Whole wheat or rye bread—butter
- Baked apple—top milk
- Milk for children

LUNCH OR SUPPER

- Macaroni and cheese
- Cabbage and carrot salad
- Oatmeal and raisin muffins—butter
- Molasses cookies
- Cocoa for all

RECIPES

TOMATO JUICE

- | | |
|-----------------------------|-------------------|
| 1 number 2 can tomatoes, or | 1/2 teaspoon salt |
| 1 pint home canned tomatoes | Pepper to taste |

Strain tomatoes to remove seeds. Add salt and pepper to taste. Chill and serve.

NOTE: Finely chopped onion may be added if desired.

ESCALLOPED LIVER AND POTATOES

1 pound beef or pork liver	1½ cups milk
5-6 medium size potatoes	salt, pepper and flour
	1 small onion

Salt, pepper and flour the sliced liver. Brown in fat and cut into small pieces. Peel and slice potatoes thin. Put a layer of raw potatoes into a greased baking dish, sprinkle with salt and pepper, add some of the liver and a few slices of onion; continue until all are used, ending with the potatoes on the top layer. Add milk. Cover and bake at 350°F. until potatoes are tender (about 1 hour). Remove cover and allow potatoes on top to brown.

NOTE: Cooked rice, macaroni or noodles may be used instead of potatoes; meat balls, raw ham and ground left over meat may be used instead of liver.

BAKED APPLES

Apples	Water	Sugar
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Wash apples, remove core and seeds. Prick skins of apples in several places. Arrange in baking dish. Fill cavity of each apple with sugar, cover bottom of pan with water. Bake 25-30 minutes in moderate oven until soft. Cool and serve plain or with top milk.

NOTE: Raisins or cut up dates may be baked in the center of the apple. Pears, peaches and bananas may also be baked in their skins.

MACARONI AND CHEESE

½ pound macaroni	2 cups milk
2 quarts boiling water	1 cup grated cheese
2 teaspoons salt	1 cup buttered bread crumbs

Break macaroni into short lengths and add to boiling salted water. Boil until tender, about 25 minutes. Drain. Run cold water through macaroni. Arrange a layer of macaroni in bottom of buttered baking dish, then a layer of cheese. Repeat until all macaroni is used. Pour milk over the macaroni and top with buttered bread crumbs. Bake in moderate oven (375° F.) until crumbs are golden brown.

CABBAGE AND CARROT SALAD

1½ cups shredded cabbage	1 teaspoon onion chopped fine
1½ cups grated carrots	Salt and pepper to taste
	Salad dressing

Mix the vegetables, add seasonings and salad dressing as desired.

CREAMED EGGS ON TOAST

3 hard cooked eggs	2 cups milk
3 tablespoons butter or fat	1/2 teaspoon salt
4 tablespoons flour	6 slices toast

Melt fat, add flour and stir. Mix well, add milk. Stir until smooth. Cook over direct flame 2-3 minutes, stir constantly. Cut hard cooked eggs into pieces and add to hot white sauce. Serve hot on toast.

NOTE: Canned salmon, peas or other cooked vegetable may be used in place of the hard cooked eggs.

SCALLOPED TOMATOES

1 number 2 can tomatoes, or	1 teaspoon chopped onion
1 pint home canned tomatoes	Salt and pepper to taste
Sugar if desired	

Cover bottom of baking dish with buttered crumbs. Add tomato and seasonings. Sprinkle top thickly with buttered crumbs. Brown in a moderate oven (360° F.)

NOTE: Grated cheese may be sprinkled over top of crumbs before browning. Cream style canned corn may be combined with tomatoes for variety.

MIXED VEGETABLE SALAD

1 1/2 cups shredded cabbage	1/2 small onion chopped fine
1/2 cup peas	1 cup carrots, cooked and diced
Salt and pepper to taste	

Mix vegetables, add seasonings and combine with cooked salad dressing or French dressing. Serve cold.

NOTE: Other vegetables raw or cooked may be used in many combinations.

OATMEAL AND RAISIN MUFFINS

2 tablespoons shortening	1 egg
1 cup milk	1 teaspoon salt
1/4 cup sugar	3/4 cup flour
4 teaspoons baking powder	1 1/2 cups rolled oats
1/2 cup raisins	

Mix flour, rolled oats, sugar, baking powder and salt, add raisins which have been washed. Beat egg, add milk and melted fat which has been slightly cooled. Add liquid ingredients to dry mixture, stir just enough to combine. Fill greased muffin tins 2-3 full. Bake in oven 400° F. to 425° F., about 20 minutes.

FRENCH DRESSING

1 teaspoon mustard	1 teaspoon paprika	1 cup salad oil
1 teaspoon sugar	1 1/2 teaspoons salt	1/4 cup vinegar

Put all ingredients into a bottle or fruit jar. Shake well.

Recipes serve 5-6 persons.

B6



**THE FAMILY
FOOD SUPPLY**

**METROPOLITAN
LIFE INSURANCE COMPANY**
HOME OFFICE - NEW YORK
Pacific Coast Head Office - San Francisco
Canadian Head Office - Ottawa

FAMILY FOOD SUPPLY

WHAT TO BUY AND WHY

Food and Marketing Helps for the Homemaker



THE health of the family depends very largely upon proper foods. This is particularly true of children whose bodies are growing and developing. By knowing something of the body's needs and how food supplies them, it is possible to feed the family well at moderate cost. Every member of the family needs food which will give:

1. Energy.
2. Material for growth and to build and repair muscle, bone, and blood.
3. Material for protecting and regulating the body.

ENERGY NEEDS

Our bodies must have fuel to supply the energy for work and play and for all other activities. Even when we are asleep, the body requires energy, and every movement adds to this requirement. Therefore, people who do hard physical labor and active children need more fuel than those whose work or play keeps them seated most of the day. We get fuel from all kinds of food, but because some foods supply it more abundantly than others, they are sometimes called fuel foods. The more active persons are, the more of this kind of food they will need. The principal fuel foods are carbohydrates (starches and sugar) and fats.

PRINCIPAL ENERGY FOODS

STARCHES	SUGARS	FATS
Bread	Sugar	Butter
Crackers	Molasses	Cream
Cereals	Honey	Lard and other animal fats
Tapioca	Dried fruits	Olive oil
Macaroni	Candy	Cottonseed oil and corn oil
Rice	Sirups	Chocolate

BUILDING NEEDS

Children need body-building foods for growth and for strong bones and teeth. After they are grown, the wear and tear of living breaks down a certain amount of body tissue which must be replaced. Foods containing proteins, mineral salts, and vitamins are the ones especially required for these purposes. They also supply fuel. However, with the exception of milk and whole-grain cereals, they should not be depended upon for fuel, as they are more expensive than the carbohydrates. For adults, the quantity of building material which the body needs is rather small, and the amount does not change very much with exercise or work—it is about the same, whether a person is active or inactive.

PRINCIPAL BUILDING FOODS

Meats	Dried peas and beans	Fruits	Eggs
Fish	Gelatine	Milk	Nuts
Poultry	Whole-grain cereals	Cheese	Vegetables

PROTECTING AND REGULATING NEEDS

Foods which contain mineral salts are required to maintain proper balance within the body as well as for building and repair material. Such processes as the beating of the heart and the transportation of oxygen by the blood depend upon mineral salts. They are also needed in all the tissues of the body. If one is careful to eat foods containing calcium, iron, and iodine, there will be little likelihood of a shortage of the others, as they occur in combination with those mentioned. Fruits, vegetables, whole grains, milk, cheese, eggs, and meat—particularly the

FAMILY FOOD SUPPLY

internal organs, such as liver and kidney—are the foods which supply minerals. The first three also contain fibrous material called roughage, which does not digest completely and serves to carry off waste through the intestines. Water is essential to the life and work of all the tissues, including the digestion and absorption of food, and helps to carry off waste through the intestines and kidneys. One should drink from four to eight glasses a day.

FOODS RICH IN MINERAL SALTS

CALCIUM	IRON	IODINE
Milk	Egg yolk	Sea foods
Cheese	Leaf vegetables	Iodized salt
Vegetables, (leaf ones, especially)	Meat, especially liver	Vegetables, fruits, and grains from regions where the soil is rich in iodine
Egg yolk	Whole grains and en- riched flour and bread	
	Dried peas, beans, etc.	
	Dried fruits	

CALORIES

Foods supply various amounts of heat when they are burned in the body. The calorie is the unit used to measure heat. Therefore, foods are said to give a certain number of calories. The number of calories* needed by an individual varies with age, size, physical condition, and the amount of work done. For young and middle-aged adults, the number may be from 14 to 27 calories for each pound of body weight, depending upon the amount of exercise taken. Boys and girls between the ages of 13 and 17, because they are growing, very often need as many calories as an active man requires.

VITAMINS

Vitamins in our foods are necessary for growth and development, for maintaining health, and for protection against certain diseases. There is considerable difference between the amount of vitamins which will protect the body against disease and the

*A calorie table is given in the Metropolitan pamphlet *Overweight and Underweight*.

METROPOLITAN LIFE INSURANCE COMPANY

amount which will provide the best growth and health at all ages. However, for the average person adequate amounts of vitamins, as well as other essentials, can be obtained from well-selected food. Vitamin supplements in the form of concentrates should be taken only on the recommendation of a physician. All of the vitamins contribute to health and well-being; yet each has its special uses in the body. Human beings are known to require nine vitamins. Several others have been isolated and may be required, but their exact need has not been determined. The six vitamins about which we know the most are discussed in this book.

Vitamin A is needed for growth and vitality and to help the body build resistance against disease. It is important at all ages, but it is especially needed by pregnant and nursing mothers and by children. Lack of it affects the structure of the eye and finally interferes with the ability of the eye to adjust to changes in intensity of light. This is called night blindness and may develop into a serious disease of the eyes. Vitamin A is associated with green and yellow color in foods. Thin, dark-green leaves are especially high in vitamin A. While it is gradually destroyed by exposure to the air and by very high temperature, ordinary cooking has no effect on it. Pasteurization of milk does not affect its vitamin-A content.

Vitamin A is found in:

ANIMAL PRODUCTS

Fish-liver oil	Enriched margarine	Egg yolk	Cheese (whole milk)
Liver	Cream	Salmon	Kidney
Butter	Milk	Shad roe	

PLANT PRODUCTS

GREEN AND YELLOW VEGETABLES

Spinach	Watercress	Chard	Mustard greens
Escarole	Turnip tops	Collards	Dandelion greens
Romaine	Broccoli	Cabbage, green	Brussels sprouts
Beans, snap	Sweet potatoes	Squash, yellow	Asparagus
Carrots	Peas	Peppers	Tomatoes, red and yellow
Kale	Endive	Beet leaves	

FAMILY FOOD SUPPLY

FRUITS

Apricots	Persimmons	Papaya
Peaches, yellow	Cantaloupe	Oranges

Thiamin (vitamin B₁) is needed for growth and health. It increases appetite, stimulates digestion, protects nerve tissue, and helps release energy from sugars and starches. It is important for everyone, especially the pregnant and the nursing mother and the baby. Lack of it causes beriberi, a disease of the nerves. Many people whose food contains too little thiamin, although they do not get this disease, have such symptoms as easy fatigue, irritability, lack of concentration, and are generally below par. Some of this vitamin is destroyed in cooking, both from the action of heat and because it dissolves in water. Cooking water from vegetables and the liquid on canned products should be used. Baking soda or other alkaline substances added to the water in which vegetables and fruits are cooked tend to hasten thiamin destruction.

Thiamin is found in:

ANIMAL PRODUCTS

Milk	Kidney	Egg yolk
Liver	Lean pork	Oysters

PLANT PRODUCTS

Whole grains—wheat, rye, corn, rice, barley, oats, wheat germ, and rice polishings.
 Enriched breads and cereals.
 Nuts—almonds, walnuts, chestnuts, Brazil nuts, pecans, and peanuts.
 Legumes—beans, all kinds; cowpeas; lentils; dried peas, and soy beans.
 Yeasts.

VEGETABLES

Asparagus	Peas	Brussels sprouts
Tomatoes	Collards	Parsnips

FRUITS

Grapefruit	Pineapple, fresh or canned	Watermelon
Oranges		

Most fruits and vegetables contain some thiamin, but they cannot be depended upon as the only source.

Riboflavin (vitamin G) is necessary for growth and well-being at all ages. Digestion, stability of the nervous system, general body tone, resistance to infection, and extension of the "prime of life" are all influenced by this vitamin. Lack of riboflavin affects the eyes and causes a roughening and cracking of the skin, especially at the corners of the mouth and around the nose. It occurs in many foods in moderate or small quantities. Like thiamin, riboflavin dissolves easily in water. It is not so easily destroyed by heat, except in the presence of baking soda or other alkaline substances.

It is found in:

ANIMAL PRODUCTS

Whole milk	{ fresh evaporated dried	Eggs	Meat—liver (beef and pork) kidney spleen heart lean cuts of beef, pork, or lamb
Skim milk	{ fresh dried		
Buttermilk			
Cheese			
		Fish	

PLANT PRODUCTS

GREEN LEAVES

Mustard	Beet tops	Spinach
Turnip tops	Carrot tops	Broccoli
Kale	Collards	Watercress

Niacin (P. P. factor) is necessary to prevent and cure pellagra. This disease is caused by a generally poor diet in which there are usually many deficiencies. The symptoms of pellagra include skin rash, sore tongue and mouth, digestive disturbances, and general debility. While some of the symptoms respond to treatment with niacin, a good diet is necessary for complete cure. Since niacin is found in foods that supply thiamin and riboflavin, persons who have adequate amounts of foods that contain them will not be lacking in niacin.

FAMILY FOOD SUPPLY

Other parts of the vitamin B complex. Thiamin, riboflavin, and niacin belong to what is known as the vitamin B complex. Pantothenic acid, pyridoxine, and biotin are other known parts or factors in this group, but their relation to the health of human beings is not yet fully known.

Ascorbic acid (vitamin C) is needed daily to keep the body in good condition. It increases resistance to infections and helps in the healing of wounds. It is important for the protection of the teeth, gums, and blood vessels both of adults and children, and for the prevention of scurvy. Sometimes a lack of it shows in symptoms similar to rheumatism and by the appearance of small black and blue marks under the skin. It is destroyed to a certain extent by cooking, and is most easily destroyed when baking soda or some other alkaline substance is added to the water in which foods are cooked.

Ascorbic acid is found in:

PLANT PRODUCTS

FRUITS

Oranges and orange juice, fresh and canned	Watermelon	Peaches, fresh and canned
Grapefruit and grapefruit juice, fresh and canned	Cantaloupe	Pineapple, fresh and canned
Lemons	Strawberries	Papaya
Tangerines	Raspberries	Rhubarb
	Cranberries	Guavas
	Gooseberries	Persimmons
	Currants	

VEGETABLES

Cabbage	Snap beans	Escarole
Tomatoes, fresh and canned	Endive	Legumes, sprouted
Spinach, fresh and canned	Peppers	Cauliflower
Broccoli	Watercress	Radishes
Rutabagas	Turnips	Beet greens
Collards	Turnip greens	

Some fruits and vegetables, like apples and potatoes, which are not so high in ascorbic acid as those listed, contribute significant amounts when eaten in abundance.

Vitamin D is needed by the body for the utilization of calcium and phosphorus for building bones and teeth. It is the vitamin which protects children against rickets and is especially important to them and to pregnant and nursing mothers. Vitamin D is developed in the body by exposure of the skin to direct sunlight or the rays of an ultraviolet lamp. It is not found in large quantities in as many foods as are some of the other vitamins, but some foods can be enriched with it by exposure to the rays of an ultraviolet lamp or by adding a concentrate of vitamin D to the food. These methods are used with some oils, cereals, and milk. Vitamin-D milk may be produced also by adding irradiated yeast to the feed of the cows. Vitamin D is not destroyed by heat. The fish-liver oils are the richest natural source of this vitamin.

Other foods that contain some vitamin D are:

Egg yolk	Butter	Oysters
Milk	Salmon	California sardines

BUYING AND USING FOOD

Milk—In spending the food money, milk should be considered first, as it is necessary for everyone and is the best building food for children. It also supplies the body with fuel, minerals, vitamin A, and the vitamin B complex.

The pasteurization of milk destroys all harmful bacteria that might be present, such as those which cause tuberculosis, infantile diarrhea, septic sore throat, undulant fever, typhoid fever, diphtheria, and scarlet fever. If your milk is not pasteurized, you should be sure that it is produced under the best sanitary conditions. You can make sure it is safe by boiling it for at least five minutes and quickly cooling it.

Milk should be covered and kept cold. If there is no ice in the home, it may be necessary in hot weather to buy milk twice a day, letting the dealer keep it cold, or to use dried or evaporated milk. A temperature between 45 and 50 degrees (Fahrenheit) keeps milk from spoiling.

Dried whole milk and evaporated milk have the same food value as pasteurized milk and, in some places, cost less. Dried milk can be used in small quantities as needed and need not be kept on ice. After the can is opened, evaporated milk must have the same care as fresh milk. Dried skim milk and buttermilk retain much of the food value of whole milk, but when all of the milk used is of these varieties, extra butter or enriched margarine should be used. Sweetened condensed milk has had sugar added as a preservative. It can be used in cooking, or in place of cream. It, too, must have the same care as fresh milk after the can is opened. Use milk in soups, puddings, and creamed dishes as well as to drink.



Breads and Cereals supply fuel at low cost as well as some of the other necessary elements.

Enriched bread is white bread made either from flour to which specified amounts of thiamin, niacin, and iron have been added, or with yeast in which these elements have been developed by a special process. All white bread and flour used should be enriched. Whole grains, however, supply roughage with larger quantities of the elements that are in the enriched products, as well as some others natural to the whole grain, and should be used frequently. Restored breakfast cereals are those in which elements, removed or destroyed by milling or processing, have been returned in the quantity originally contained in the whole grain.

Other cereal products, like macaroni and rice, are valuable. Although they are not as high in food value as whole grains, they can be used as the basis for nutritious and satisfying dishes by the addition of cheese, milk, or vegetables.

Home-cooked cereals are usually less expensive than the ready-to-serve cereals. While the home-cooked cereals should

be fed to children less than 3 years old, the others are good and may be used by the older members of the family for variety.

The quantity of flour to be bought depends upon the baking to be done. Some money can be saved by buying as large a bag as can be stored. One 24½-pound bag may cost from 25 to 50 cents less than seven 3½-pound bags.

Cereals and flour should be kept in covered glass jars or tin boxes for protection from dust and insects.

Vegetables are valuable chiefly for their minerals, vitamins, and roughage. This is particularly true of the leafy vegetables, like cabbage, kale, spinach, beet and turnip tops, and lettuce, which also add bulk for good elimination, and should be used at least three or four times a week. Tomatoes, fresh or canned, are a valuable source of vitamins A, B complex, and ascorbic acid, and may be used even for children when it is not possible to give them orange juice. Root vegetables, like carrots, onions,



beets, and turnips, also supply vitamins and minerals. Potatoes are important because of their cheapness and health-giving qualities. Vegetables and fruits, however, are apt to lose a part or all of their vitamins in the process of cooking. For that reason, raw vegetables and fruit should be used daily if possible. Cabbage, onions, and carrots can be bought all year round, and usually they are cheap. They make delicious salads, too, and can be

served quickly and easily.

Legumes—Dried peas, beans, and lentils are useful foods containing protein, mineral salts, and vitamins, although, with the exception of soy beans, they do not contain as good protein as meat, eggs, and milk. A satisfactory main dish for a meal can be made from any one of them combined with other vegetables, or with a little meat.

Fresh vegetables should be cooked in small amounts of boiling water in a covered pan only until tender. Quick-frozen vegetables should be cooked by the same method without defrosting. Canned vegetables are already cooked, so they need only to be heated. Dried vegetables should be cooked in the water in which they have been soaked.

Fruits add water, minerals, sugar, and vitamins to the diet, and bulk for good elimination. Some fresh fruit is needed to be sure of getting ascorbic acid which is likely to be low in most cooked foods.

Some dried fruits, like prunes, apricots, raisins, figs, and dates, may be eaten raw or cooked. Others, like apples, peaches, or pears, require cooking. When dried fruits are cooked, they should be soaked in water several hours and cooked slowly in the same water.

Quick-frozen fruits and vegetables retain all of their minerals and vitamins and are as good as fresh ones.

Fruits and vegetables to be eaten raw should be sound and well matured. It is best to go to market and select them. A change in the meal plans may be wise if some unplanned-for fruits or vegetables are found to be especially good or cheap. Unless good storage room is available, the quantities bought should be small.

Fruits and vegetables should be looked over before they are put away. If any are bruised or imperfect, they should be used first, as they will spoil more quickly than the rest.

Money can be saved by purchasing slightly imperfect fruits and vegetables, especially for cooking, rather than the more costly, perfect ones. If one buys only enough for immediate use, the purchase may turn out very well.

Small fruits and vegetables are sometimes cheaper than the



better-looking, larger ones. For example, a cup of juice from small oranges may cost one third less than the same quantity from large, fancy ones. A pound of small potatoes, even allowing for the greater waste from paring, may cost less than a pound of large ones. Although more time is spent preparing the small potatoes, the money saving may be worth while.

Meats supply protein, minerals, and some of the vitamins. The glandular organs are especially high in iron, vitamin A, and the B complex. Meat should be cooked at moderate temperature.

All lean meat has about the same food value, regardless of the part of the animal from which it comes, although this does affect its tenderness. About $\frac{1}{4}$ -pound of meat is an average portion for an adult. This provides approximately one third of the day's protein need. Other foods, including milk, eggs, cheese, bread, cereals, and vegetables, supply protein also. Good meat should have a clear, bright color, fine grain, firm white fat, and very little sinew running through the grain of the meat.

Cuts from the less tender parts of the animal are less expensive than those from the more tender parts and are usually called the economical cuts. While they require more time and care in cooking, they can be made into attractive and flavorful dishes. They can be used for pot roast, meat pie, Hamburg steak, stews, meat loaf, and Swiss steak. In considering the relative cost of various cuts of meat, the lean parts in different cuts should be compared.

Meat trimmings should be used, the fat rendered for cooking and the bones and lean bits put into soup.

Breast of lamb boned and rolled is used for pot roast. Shoulder or neck is satisfactory for stews. It may be cooked with onions, carrots, or other vegetables which add to the flavor.

Veal neck or breast is very good for meat pies, loaf, or stews.

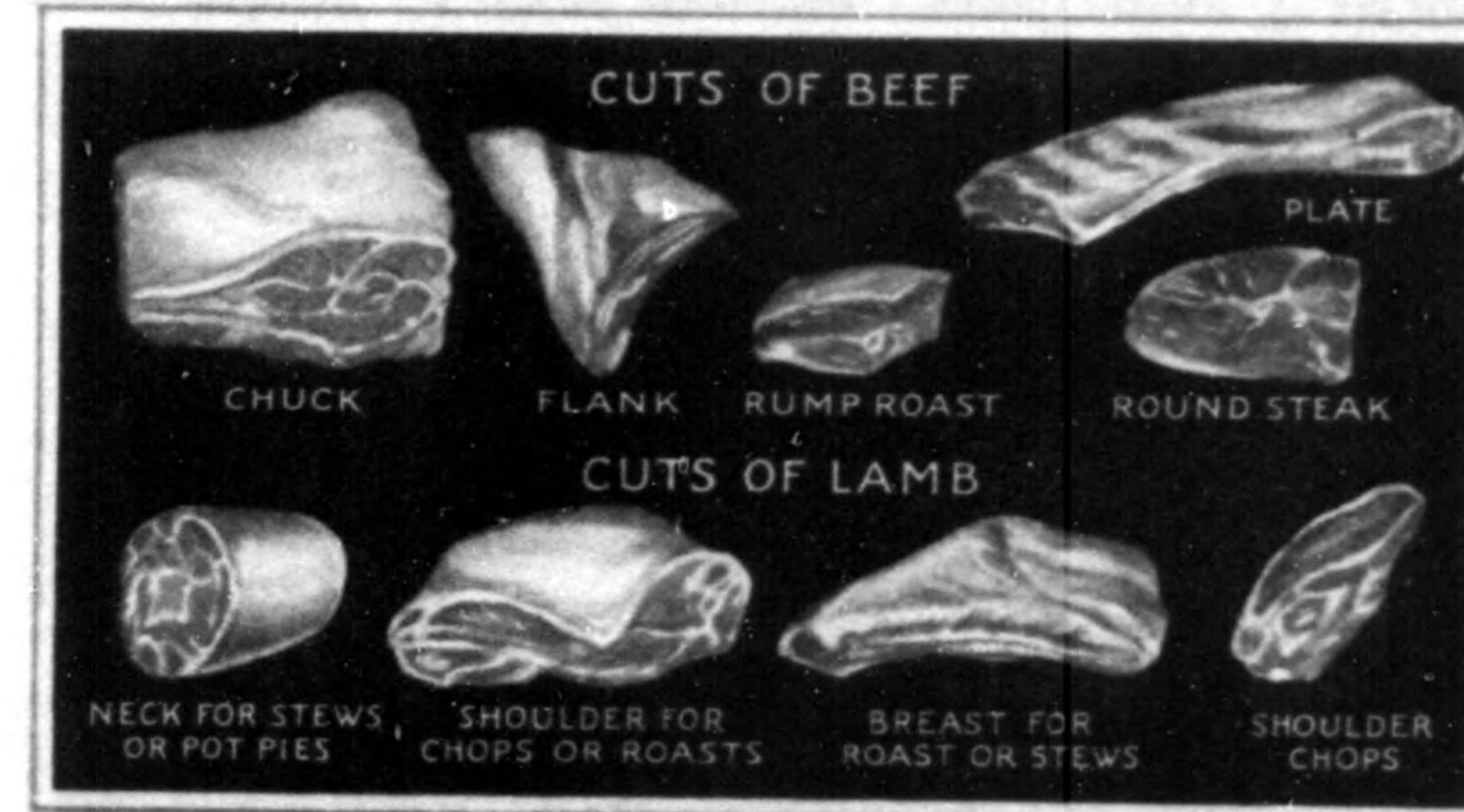
Flank, neck, chuck, or plate beef is good for stews or chopped meat. Vegetables and herbs may be used for seasoning; and dumplings occasionally added to stews will give variety.

For a beef pot roast, the chuck, arm section of the shoulder, rump, or boned brisket is cheaper than the round, and will be tender if well cooked.

Liver, brains, heart, and kidney are all high in food value. Liver may be broiled or made into stew or loaf. Heart is frequently stuffed and braised. Brains may be cooked in water and creamed. Veal or lamb kidney may be broiled or, like beef kidney, stewed.

Ham butts and shanks and the ends of cured hams are good for boiling or for baking.

Usually meat slaughtered and sold in the same State is inspected by State or local inspectors. All animals killed in slaughter houses in one State and shipped across the State line for sale must be United States government inspected. A purple circle printed on meat indicates United States government



Less-Expensive Cuts of Meat

inspection and shows that the animal was healthy and slaughtered under sanitary conditions. Other stamps that may be found on meat are those of local inspectors, United States government grade, or the packer's stamp.

Poultry may be an expensive food when it must be purchased in the market, not so much because the price per pound

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is high as because one must pay for the parts discarded in dressing it, and for the bones. However, when it is raised at home, it may be quite inexpensive. It has the same food value as other meats.

Older fowls are less expensive than young chickens. They can be used for roasting and fricassee, and can be made quite tender with long, slow cooking. The age of a chicken can be determined by noting certain points. The feet of a young chicken are smooth, and the claws are sharp. As it becomes older the claws become dull; scales appear on the legs; the skin becomes coarse, especially that of the neck; and the breast bone, at its lower end, is not easily bent.

Fish can be used interchangeably with meat. It is a building food containing protein, minerals, and some vitamins. Sea foods are also valuable for iodine. Small fish, with their bones and other uneatable parts, leave more waste than the steaks cut from large fish, like cod. With some fish the proportion of waste is large, and this must be kept in mind when deciding whether fish is cheaper than other foods.

Modern methods of preserving fish by freezing have made the supply general throughout the country at all seasons. There are also many varieties of canned and dried fish on the market. Both of these can be used to lend variety to meals.

Eggs, another building food, can take the same place in a meal as meat or fish. They are rich in minerals and in vitamin A and the B complex, and are one of the few food sources of vitamin D.

From December to May eggs are usually less expensive than at other seasons, as this is the time hens lay best. If desired, they can be preserved in water glass for future use. At other times when fresh eggs are expensive, cold storage eggs can be used, at least for general cooking. The flavor of the strictly fresh eggs is better, but the storage eggs are wholesome and much less costly. Brown eggs and white ones have the same food value.

Eggs should be kept cold, preferably in a refrigerator. They should be cooked at a slow, even temperature.

Fats—Some fat is necessary for everyone. It supplies energy, essential fatty acids, and, in the case of butter and vitamin-enriched margarine, vitamin A. Tub butter is cheaper than print butter and is often of very good flavor.

Other fats, like lard, vegetable cooking fats, olive oil and other salad oils, and salt pork, do not contain vitamin A. When these are used to the exclusion of butter or vitamin-enriched margarine, it is especially important to use larger quantities of green-leaf vegetables and to be sure that the quantity of milk is enough to make up for the lack of vitamin A.

All fats become rancid on standing in a warm temperature. They should be kept covered in the refrigerator.

Sugar, cane sirup, sorghum, corn sirup, maple sugar and sirup, honey, and molasses may all be used to add flavor and sweetening to food. All sugars supply energy. Molasses is a good source of iron. Honey and sorghum also contain small amounts of minerals.

CANNED FOODS FOR CONVENIENCE AND VARIETY

Meals have more variety with no greater cost when canned vegetables and fruits, as well as fresh ones, are served. One important consideration is that canned foods can be kept on hand; another, that canned fruits and vegetables have the same food value as the fresh. The liquid on canned foods contains valuable elements and should always be used. Canned food in which there is the slightest evidence of spoilage should not be tasted or used. Bulging at the ends of cans, seepage over the top of glass containers, and discoloration of the foods are all evidences of spoilage.

Home Canning is a means of preserving surplus material for use later. If the housewife has a home garden or can buy

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fruit and vegetables cheap enough in season, it may be wise to do some home canning. Frequently, however, the prices that must be charged in city markets make home canning a questionable saving. If canning is done at home the instructions of the United States Department of Agriculture should be followed carefully.*

Commercial Canning—Modern methods of commercial canning preserve the food value of the fresh product. Products which are best adapted to canning procedures are especially grown, and they are canned immediately after harvesting.

There are three sizes of commercial cans most commonly used. One should learn to ask by number for the size desired.

SIZE OF CAN	CUPFULS	APPROXIMATE WEIGHT
No. 2	2½	1 lb. 2 oz. to 1 lb. 8 oz.
No. 2½	3½	1 lb. 10 oz. to 2 lb. 3 oz.
No. 10	12-13	6 lb. to 8 lb.

The No. 2 can is used more generally than any other, and most fruits, fruit juices, and vegetables are available in it. However, a few vegetables, as well as tomatoes and fruits, also come in No. 2½ cans. Frequently money can be saved by buying the No. 2½ can, as it holds considerably more than the No. 2 can.

The No. 10 can is the so-called "institutional" or "restaurant" size. While most fruits, fruit juices, and vegetables are packed in No. 10 cans, they are not always available in retail stores.

GRADING CANNED FOODS

Two methods are used for designating the grades of canned vegetables and fruits. In the packing trade, canned vegetables are designated as fancy, extra standard, and standard. Fruit grades are fancy, choice, and standard. Another method which has been devised by the Agricultural Marketing Service of the Department of Agriculture is to use the letters A, B, and C to

*Farmers Bulletin No. 1471—Can be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents per copy.

FAMILY FOOD SUPPLY

describe different grades of fruits and vegetables. The label on the container will tell which method of grading has been used.

All of these grades of canned foods are wholesome and have the same food value. The fancy, or grade A, products are the most perfectly formed pieces of uniform size. In canned fruits, they usually have a heavier sirup. Fruits and vegetables in the next grade are not so uniform in size, while those in the lowest grade may be small or irregular in size. Many people find the two lower grades quite satisfactory for general family use. They are considerably less expensive than the highest grade.

Canned products which fall below standard or grade C must be marked substandard, but even these may be used in soups, fruit pies, or for other cooked foods where uniformity in size is not important. By always reading labels it is possible to learn which grade is best suited for a given use.

OTHER METHODS OF PRESERVING FOOD

In many sections of the country, lockers in quick-freezing plants are available. The food is especially prepared and placed in the locker at the height of the season, is quickly frozen, and can be used at any time throughout the year. Quick-frozen foods are prepared commercially also. This method of preservation conserves both minerals and vitamins in food. Some foods lend themselves to drying also. Home drying of fruits and vegetables should be done only after specific instructions applying to that section of the country and to the food to be dried have been obtained from the State Department of Agriculture.



METROPOLITAN LIFE INSURANCE COMPANY

WHAT TO EAT

MILK

For children— $\frac{3}{4}$ to 1 quart a day.
 For adults—1 pint a day.
 For expectant mothers—1 quart a day.
 For nursing mothers— $1\frac{1}{2}$ quarts a day.

FRUIT

For all the family—
 Twice a day, if possible—
 one a citrus fruit or to-
 matoes, canned or fresh;
 the other dried, fresh, or
 canned.

VEGETABLES

For all the family—
 Potatoes once or twice a day.
 Two others, if possible—a
 green-leaf vegetable,
 three to four times a week.

SALADS

For all the family—
 Raw; once a day.

CHEESE

Cheese made from whole milk
 has the same food value as
 milk and can be used alone
 or in combination with other
 foods.

SUGARS AND SWEETS

Enough to make meals attrac-
 tive.

FISH-LIVER OIL

Fish-liver oil is needed by
 infants and children during
 growth; also by expectant
 and nursing mothers.

BREAD AND CEREALS

For all the family—
 Bread, enriched and whole
 grain.
 Cereal for breakfast (include
 some of the whole-grain
 varieties).

EGGS

For all the family—
 One a day, at least three to
 four a week.

MEAT, FISH, POULTRY

For all the family—
 Once a day.

OTHER MAIN DISHES

For all the family—
 Dried peas, beans, lentils,
 macaroni, and rice for
 lunch or supper dishes, or
 occasionally for the main
 dish at dinner.

BUTTER AND OTHER FATS

For all the family—
 Some butter or vitamin-
 enriched margarine every
 day, and moderate
 amounts of other fats,
 such as salad oil, salt
 pork, lard, or vegetable
 cooking fat.

FAMILY FOOD SUPPLY



MEAL SUGGESTIONS

Breakfast

Fruit (stewed or fresh)
 Whole-grain or restored cereal with milk
 Toast and butter
 Milk for children—tea or coffee for adults

Variety may be secured by serving different kinds of cereals.
 If a heavier breakfast is needed, eggs or bacon may be added.

Lunch or Supper

A made dish, like macaroni and cheese
 Raw vegetable as cole slaw or grated carrots
 Whole-grain or enriched bread and butter Stewed fruit
 Tea, coffee, or milk

OR

Cream soup Salad
 Whole-grain or enriched bread and butter Simple dessert

For those needing a greater amount of energy, a vegetable other
 than potatoes and a heavier dessert may be added to the first
 lunch.

Dinner

Meat, fish, or eggs Another vegetable
 Potatoes Dessert
 Bread and butter

Soup or other appetizer and salad added to this meal make it
 suitable for any occasion.

HOW TO SPEND THE FOOD MONEY

Most families need to spend from one quarter to one third of their income for food. To be sure that they are getting the food they need and are not overspending for any one kind of food, they should have a definite plan for buying food.

The Weekly Market List—The *first step* is to prepare a weekly market order, listing the quantity of the various foods needed to provide health protection for the family.*

A knowledge of local prices will serve as a guide in estimating the cost of this food. When the first estimate exceeds the amount of money available, instead of omitting some foods, consideration should be given to ways in which the right amount of food can be obtained for less money.

Planning the Meals—The *second step* is to plan ahead of time, considering the day as a whole, so that the meals may supplement each other.

Leftovers should have first attention. If there is not enough of any one food for the entire family, what is left can perhaps be saved by combining it with some other food. For example, a small piece of leftover meat can be chopped and added to cooked rice and tomatoes or to other cooked vegetables for the main dish of a second meal.

Sometimes it may pay to buy a slightly larger quantity of a food than can be used at a meal, in order to provide for some economical dish that can be used at a later meal.

Economical Buying—It is the pennies saved on a pound of butter and the few cents saved on sugar, eggs, and bread which reduce the total cost of food and add up to a neat savings account, because these are the things most often purchased. Small price differences are not so important in buying clothing, since it is bought less frequently. One overcoat is bought in two or three years. But food is bought every day, and 10 cents a day saved on food amounts to \$30 a year.

*The Metropolitan pamphlet *Three Meals a Day* contains this information.

FAMILY FOOD SUPPLY

The prices charged by neighboring stores should be compared to learn where values are greatest. Such comparisons should always be based on the cost of food per pound. For example, if a 12-ounce loaf of bread costs 6 cents, the cost per pound is obtained as follows: Dividing 6 by 12 gives the cost of one ounce; this multiplied by 16 gives the cost of a pound, since a pound contains 16 ounces.

$$6 \div 12 \times 16 = 8 \text{ cents}$$

It is especially important to figure the cost per pound of package foods, since many packages hold less than a pound.

Many factors contribute to the price of food. Such operating costs as giving credit and delivery service are sometimes reflected in prices. A day-to-day comparison of prices, service, and quality in all types of stores will enable the homemaker to decide which type she prefers.

The cleanly store should be preferred. In all stores food should be covered so that it will not be touched by flies, other insects, or mice, or handled unnecessarily. In this respect, the small store with cheap equipment may excel the large store with expensive counters and fine display windows.

The homemaker should go to the store to select her foods, especially meats and fresh fruits and vegetables. She will make a better selection than a busy salesman would. At the same time, she will learn to know and compare prices and brands, and will keep in touch with any food bargains that are offered. Shopping early in the day gives the advantage of a better selection of foods.

Staple foods that keep should be bought in as large quantities as can be stored. One homemaker saved 38 cents by buying a pound can of strawberry jam instead of buying four of the small 4-ounce jars at different times. The cost of large bags or packages, if compared with the cost of the same food in smaller packages, will show how easily such sav-

ings can be made. Although space is at a premium in the small apartment, sometimes room can be discovered for an extra shelf; or, by careful planning, a better use can be made of the old spaces, and larger quantities can be stored than would have seemed possible.



Other economies—In some communities dried or unsweetened evaporated milk is less expensive than fluid milk. Use some of the less expensive kinds.

Storage eggs can be used for baking and in other cooked foods where their flavor is not important.

Buy foods in season. Out-of-season foods are always more expensive, since they are scarce and usually require long-distance transportation which adds to their cost. When fresh citrus fruits are expensive, substitute the unsweetened canned juices or tomatoes for them.

Select the less-expensive dried fruits, like prunes and raisins.

Use cabbage, raw spinach, carrots, or turnips for salads in place of the more expensive salad plants.

Watch for week-end specials. This is frequently a very good way to save money on staples such as canned vegetables and fruits, flour, and cereals. Even meats are sometimes included in week-end specials.

Use home-cooked foods. Prepared foods, like canned baked beans or stews, usually cost more than the same food cooked at home.

Buy by weight and not by cents' worth.

Keep food from spoiling—Spoiled food is usually a sign of poor marketing, careless meal-planning, or bad housekeeping. Even though good-quality food is bought, it will not remain so unless it is properly cared for. Leftover cooked food needs just as much care as uncooked food. Bacteria, yeasts, and molds are

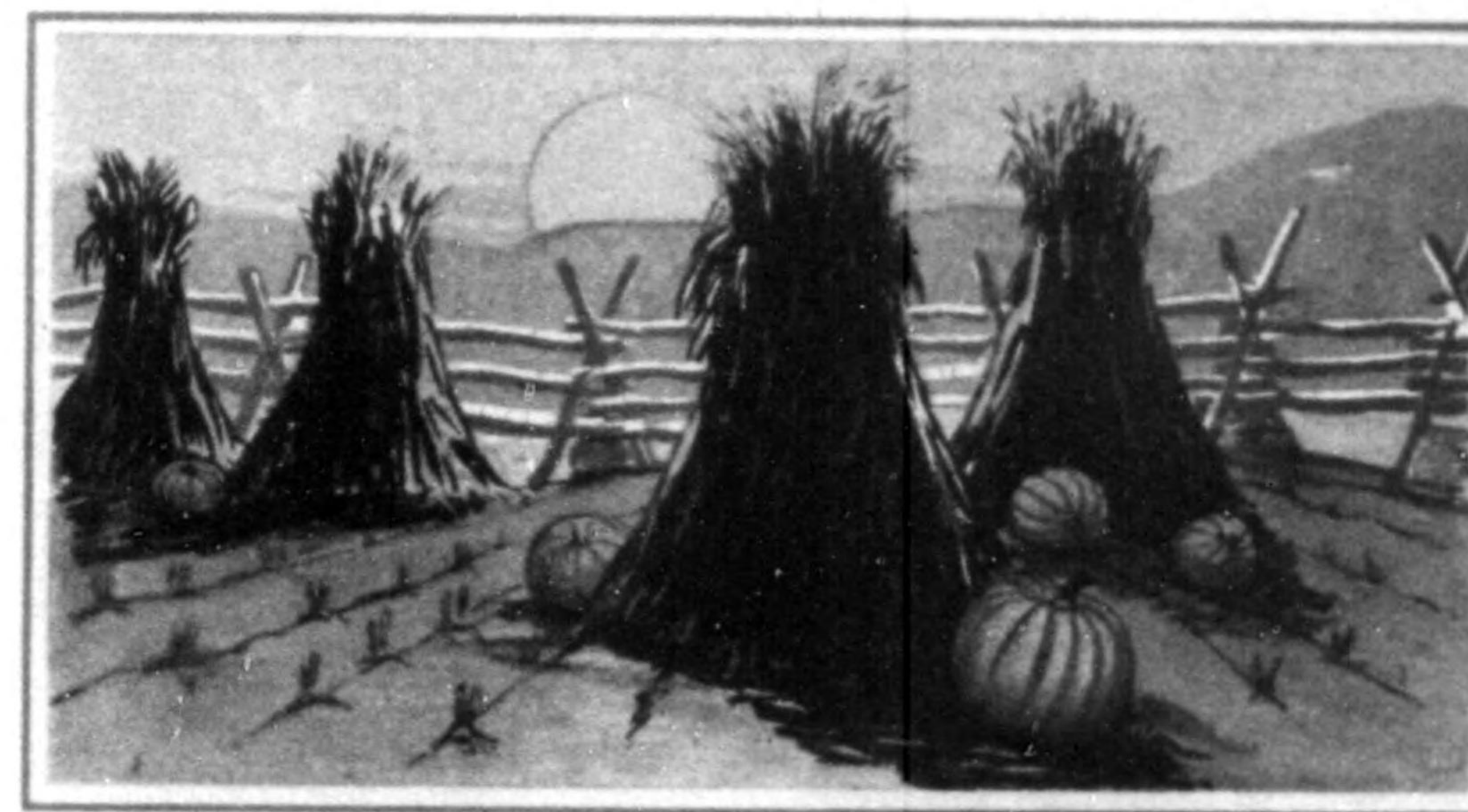
the three chief causes of food spoilage. Sometimes their action in food leaves no visible trace. This is particularly true of bacteria, although their presence in food may be the cause of serious digestive disturbances.

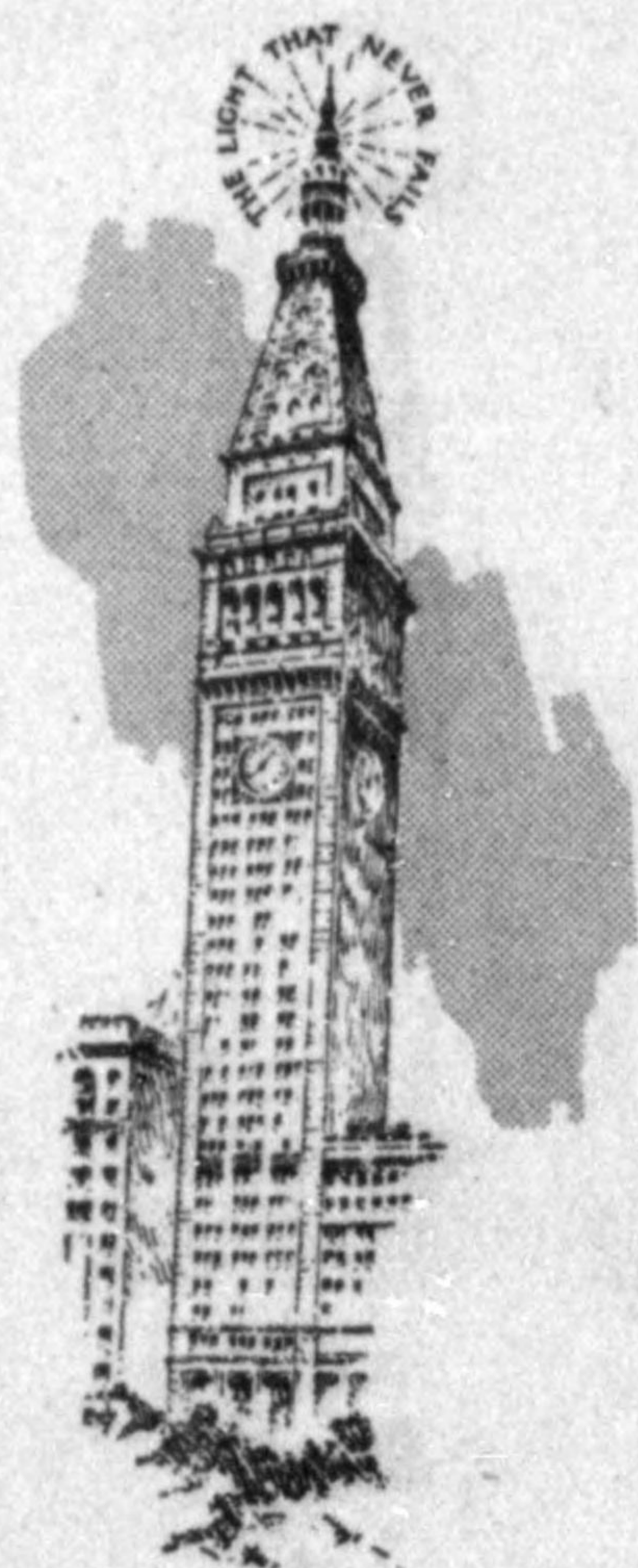
During most of the year a refrigerator is a necessity. As stated earlier, a temperature of from 45 to 50 degrees (Fahrenheit) is required to keep food from spoiling. In some climates, a small outdoor cupboard will serve this purpose during the winter months.

FOOD ACCOUNTS

It is wise to keep account of what is spent for each kind of food, from month to month, to see whether one cannot find ways of feeding the family well and saving money at the same time.

Frequently records of purchases reveal that disproportionate amounts are going for certain foods. Then, too, recording expenditures serves as a checkrein. Sometimes it requires several months to work out a satisfactory plan, but the final result is worth the effort.



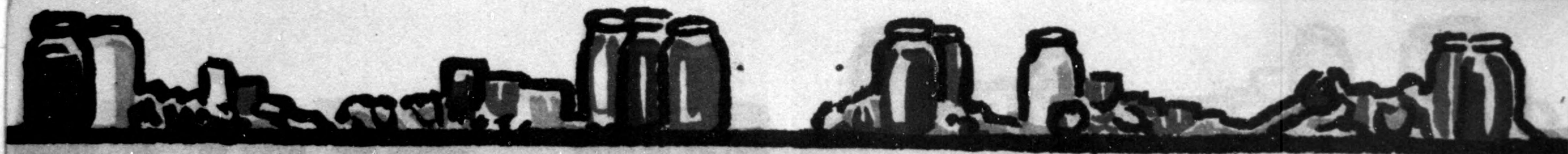


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.B6

FOR HEALTH





Why do we need vegetables and fruits?

Vegetables and fruits give our body some of the things it must have to grow, to play, to work, to keep healthy. They help build rich red blood. They help keep our muscles in good working order. Vegetables and fruits give us bulk which we need to prevent constipation.

How much vegetables and fruits do we need?

At least four servings of vegetables and fruits every day -- and a potato too. At least one of these vegetables should be green or yellow. One of the fruits should be tomatoes or oranges -- or strawberries or melon when in season -- or raw cabbage may be used. A serving is about three-fourths of a cupful.

What are green and yellow vegetables?

Think of the vegetables you ate yesterday. What color were they? Our best green vegetables are the dark green leaves -- turnip greens, rape, collards, kale, mustard greens, beet tops and spinach. Some other green vegetables are pole beans, bunch beans, okra, English peas, green peppers, broccoli and asparagus. Some yellow vegetables are sweet potatoes, carrots, rutabagas and yellow squash. We can grow lots of green and yellow vegetables in our own gardens. Be sure to can a good supply for winter.

Do we need raw vegetables and fruits?

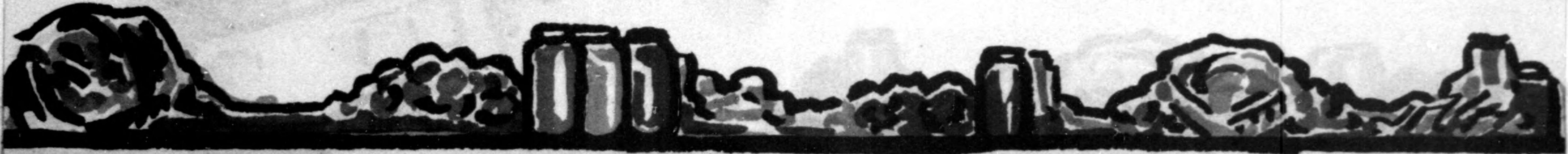
Raw vegetables and fruits are good for us and good to eat. Try a mixed raw vegetable salad or some cabbage slaw. Raw carrot sticks are extra good. Raw turnips are good, too. And don't forget tomatoes. Have a raw vegetable or fruit every day.

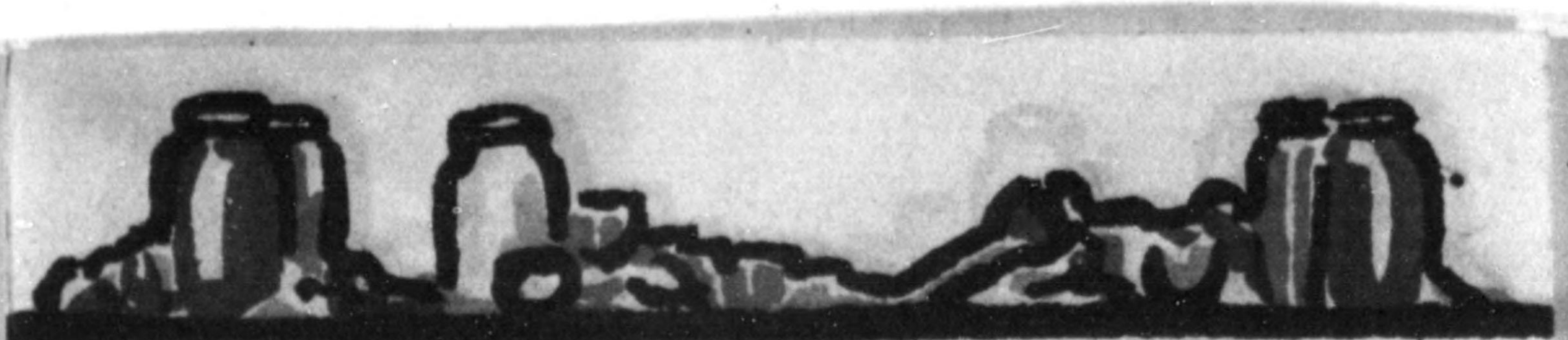
How should vegetables be cooked?

We want them to taste good, to look good, and also still have the food values our body wants. So there are a few rules to follow. First, cook vegetables in a small amount of water for a short time -- just until they are tender. Have the water salted and boiling when you drop the vegetables in. Keep the lid on the pot. Another important rule is **never add soda** to any fruit or vegetable or beans. It destroys the vitamins our body needs. Another thing -- cook the vegetables in large pieces, in the skin if you can. "Pot-likker" is good food. Be sure to use it all.

Do we need many kinds of vegetables and fruits?

We want variety. Don't just give your family the same old vegetables all the time. Plant some new kinds in the garden. Have a winter garden. And what about some more fruit trees and berry vines? Try cooking vegetables a new way. Make eating really fun and also good for you.





YOU NEED THESE FOODS EVERY DAY

Check the Foods You Ate Yesterday

1. Milk --- at least a pint for grownups every day, a quart for children.
2. Green or Yellow Vegetables --- one or more servings every day.
3. Oranges, Grapefruit, Tomatoes, Raw Cabbage, or Strawberries in season --- one or more servings every day.
4. Other Vegetables, Potatoes and Fruits --- two or more servings every day.
5. Lean Meat, Poultry or Fish --- at least five or six servings every week.
6. Eggs --- at least four or five every week.
7. Dried Beans, Peas, Peanuts, Pecans -- two or more servings every week.
8. Bread, Flour, Home Ground Cornmeal, Oatmeal, or Other Cereal --- two or more servings every day. All either whole grain or enriched.
9. Butter or Oleomargarine Fortified with Vitamin A --- some every day.

If it is not possible to have foods mentioned in 5, 6, or 7 every day, it is wise to have at least two of these groups.

MISSISSIPPI STATE BOARD OF HEALTH

Felix J. Underwood, M. D.
Executive Officer
Jackson, Mississippi



B6

VITAMIN C (ASCORBIC ACID)

Have you ever seen a case of scurvy? Scurvy is a rare disease, but often mentioned by the modern physician. It is caused by a deficiency of vitamin C. The symptoms of this disease are swollen and bleeding gums, weakness, and a general feeling of ill health. It is preventable by taking a few tablets of vitamin C daily.

How does vitamin C function in the body?

One of the major functions of this vitamin is to serve as a catalyst for the formation of collagen. Collagen is a protein that is essential for the strength and elasticity of the skin, blood vessels, and other connective tissues. It is also necessary for the absorption of iron. A deficiency of vitamin C leads to a condition known as scurvy, which is characterized by swollen and bleeding gums, weakness, and a general feeling of ill health. It is preventable by taking a few tablets of vitamin C daily.

Is there a vitamin C deficiency in your diet?

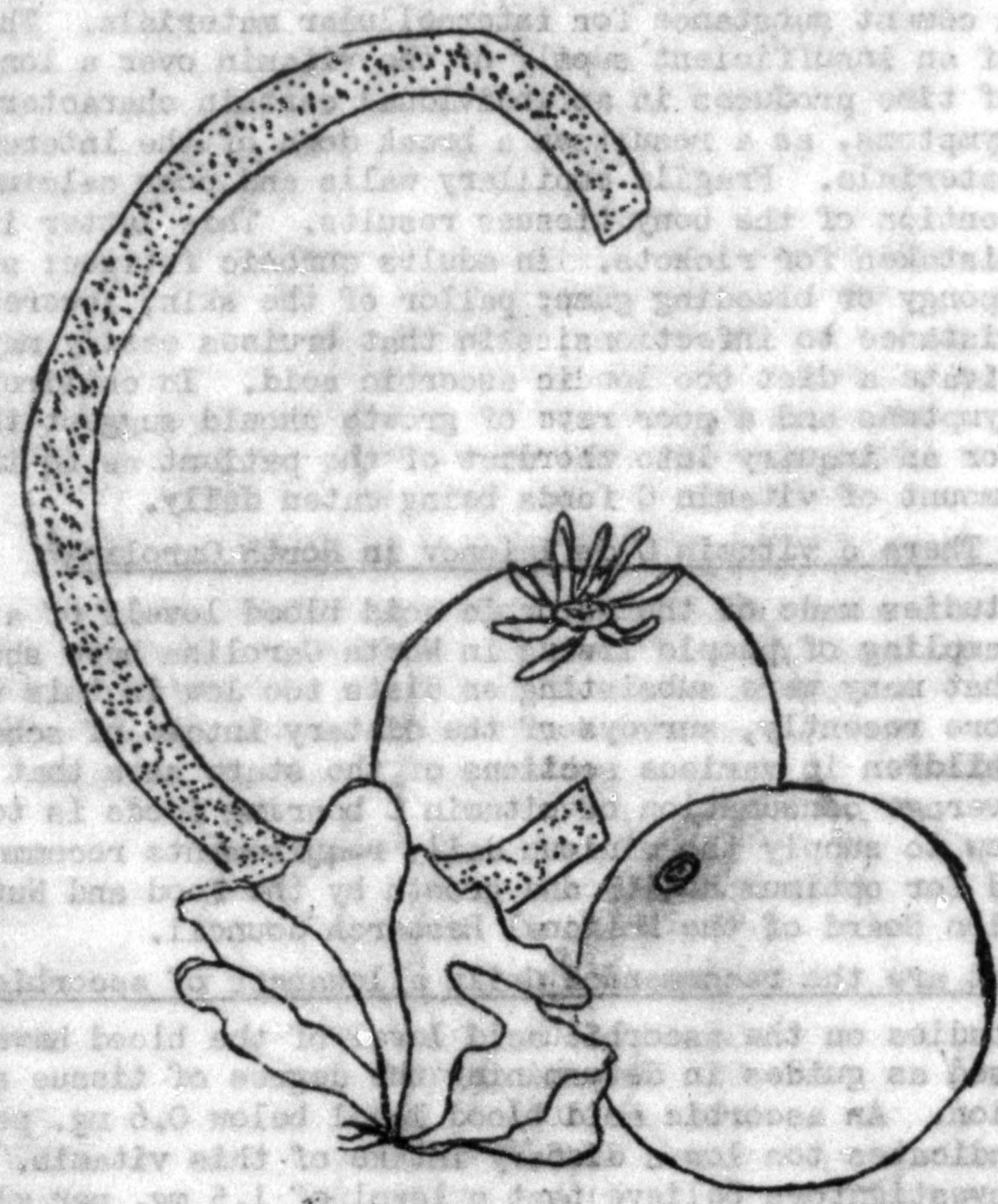
Studies have shown that the average American diet is deficient in vitamin C. This is because most of the vitamin C in our diet is destroyed during the cooking process. To avoid this, it is recommended that you eat fresh fruits and vegetables, and take a few tablets of vitamin C daily.

What are the symptoms of a vitamin C deficiency?

The symptoms of a vitamin C deficiency are swollen and bleeding gums, weakness, and a general feeling of ill health. It is also characterized by a loss of appetite and a general feeling of fatigue. If you experience these symptoms, it is recommended that you take a few tablets of vitamin C daily.

How can you prevent a vitamin C deficiency?

The best way to prevent a vitamin C deficiency is to eat a diet rich in fresh fruits and vegetables. You should also take a few tablets of vitamin C daily. This will ensure that you have enough of this important vitamin to maintain good health.



VITAMIN C (ASCORBIC ACID)

Have you ever seen a case of scurvy? True scurvy is a rare disease, not often encountered by the modern physician, but sub-acute manifestations of deficiency are not uncommon. These mild forms of ascorbic acid deficiency have been overlooked, at times, yet even minor vitamin C deficiencies can prevent an individual from enjoying optimal health.

How does vitamin C function in the body?

One of the major functions of this vitamin is to serve as a cement substance for intercellular materials. The effect of an insufficient supply of the vitamin over a long period of time produces in an individual certain characteristic symptoms, as a result of a break down of the intercellular materials. Fragile capillary walls and poor calcium retention of the bony tissues results. This latter is often mistaken for rickets. In adults chronic fatigue; soft, spongy or bleeding gums; pallor of the skin; lowered resistance to infections; skin that bruises easily may indicate a diet too low in ascorbic acid. In children these symptoms and a poor rate of growth should suggest the need for an inquiry into the diet of the patient as to the amount of vitamin C foods being eaten daily.

Is There a vitamin C deficiency in North Carolina?

Studies made of the ascorbic acid blood levels of a large sampling of people living in North Carolina have shown that many were subsisting on diets too low in this vitamin. More recently, surveys of the dietary intake of school children in various sections of the state show that the average consumption of vitamin C bearing foods is too low to supply the minimum daily requirements recommended for optimum health and growth by the Food and Nutrition Board of the National Research Council.

What are the recommended daily allowances of ascorbic acid?

Studies on the ascorbic acid level of the blood have been used as guides in determining the degree of tissue saturation. An ascorbic acid blood level below 0.6 mg. per ml. indicates too low a dietary intake of this vitamin. Most investigators believe that a level of 1.5 mg. per ml. is evidence of a desirable state of tissue saturation. The Food and Nutrition Board of the National Research Council recommends the following daily intake of vitamin C:

	Mgs.		Mgs.
Man (70 Kg.)		Infant-under 1 yr.	50
Moderately active	75	Children 4-6 years	50
Woman (50 Kg.)		Girls 13-20 years	80
Moderately	70	Boys 13-15 years	90
Pregnancy (latter Half)	100	16-20 years	100
Lactation	150		

Which Foods furnish ascorbic Acid?

Citrus fruits, of course, are the best sources of the vitamin but they are not always available to every one at all seasons of the year. In North Carolina, however, a more generous use of tomatoes and raw vegetables should be encouraged to increase the intake of ascorbic acid. Green leafy vegetables and raw vegetables are also outstanding for their vitamin C content.

Vitamin C is a substance which is easily oxidized therefore precautions need to be taken to prevent its loss from foods. Exposure of cut surfaces of vegetables and fruits to air and long cooking periods destroy vitamin C quickly. For this reason the method of food preparation is important in the conservation of ascorbic acid in foods. Some foods retain their initial ascorbic acid values better than others, for example, cooked tomatoes lose less vitamin C than cooked cabbage. Foods such as apples and potatoes, while not outstanding in their ascorbic acid content, may be used in such large quantities as to provide significant amounts of the vitamin if they are handled with reasonable care.

Vitamin C Content of Some Typical Foods

<u>Foods</u>	<u>Amounts</u>	<u>Milligrams of Ascorbic Acid</u>
Orange juice	$\frac{1}{2}$ cup	54
Grapefruit juice	$\frac{1}{2}$ cup	48
Strawberries	$\frac{1}{2}$ cup	38
Cabbage, raw	$\frac{1}{2}$ cup	32
Cantaloupe	$\frac{1}{4}$ Melon	30
Tomato juice	$\frac{1}{2}$ cup	23
Turnip greens	$\frac{1}{2}$ cup cooked	16
Sweet potatoes	$\frac{1}{2}$ medium	9
Rhubarb	$\frac{1}{2}$ cup	9
Apple	1 medium	8
White Potato	1 medium, baked	7
Blackberries	$\frac{1}{2}$ cup	3

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State Board of Health,
Raleigh, N. C.

B6

FIGHT ABSENTEEISM WITH FOOD

The fact that faulty food habits of industrial workers have a direct bearing on production loss and absenteeism has only been emphasized within the past few years. Emile Souvestre expressed a profound truth when he said, "The stomach is a slave that must accept everything that is given to it, but which avenges wrongs as slyly as does the slave." That vengeance often takes the form of fatigue, lack of energy, decreased efficiency and illness.

The production line makes it possible for the front line to wage war. It requires 12 to 18 persons working on the home front to keep a man stationed in the first lines of defense. It has been estimated that time lost because of illness is costing the American industries ten billion dollars a year. Dr. Victor G. Heiser states that ordinarily disease, such as prevails in communities, is responsible for nearly 15 times as much loss of time as trade hazards and accidents combined.

No one knows how much of this absenteeism could be reduced by adequate diets but every dietary experiment with workers, however incomplete, has shown beneficial results. The importance of adequate nutrition for the armed forces has been fully realized, with the result that America has the best fed army in the world. If men and women in industry are to make their best contribution to the war effort, they too must be provided with the right kind of food.

There are many difficulties to be overcome in improving the nutritional status of industrial workers. Education along lines of good nutrition must be popularized and extended to reach the entire public. People, in general, are slow to change their food habits. Many dislike green vegetables and refuse to eat them. Others will not drink milk or eat raw vegetables and salads. Another serious problem of industrial nutrition is the inadequacy of the cooking and serving facilities in factories and in homes of the workers. It is necessary to attack the problem of nutrition in industry through several different channels; namely, the factory, the workers' home, the restaurant owner, the concessionaire, the boarding house keeper, and even the grocery store where the housewives buy food for the families.

It is not only extremely important to teach the workers which foods are most vital in the maintenance of good health

and efficiency, but these foods must be made available in industrial plants throughout Georgia. The following are suggestions which may be helpful to plants and factories in raising the nutritional standards of their employees:

1. Employ a well-trained, experienced nutritionist to work as a member of the medical department under the direct supervision of the plant physician.
2. Operate the plant or factory cafeteria on a non-loss and non-profit basis.
3. Allow at least 30 minutes for the lunch period. This is ample time if the facilities are such as to allow the serving of twenty persons per minute.
4. Stagger lunch hours. This will not only relieve the congestion in the cafeteria, but will be conducive to greater use of the cafeteria by the workers.
5. Always include milk in the menus.
6. Serve foods that build muscle, such as meat, liver, cheese, fish, eggs, peanut butter, peas, beans, and lentils to the workers. Butter or vitaminized oleomargarine should be served. Serve turnip greens, collards, string beans, carrots, and sweet potatoes, as well as, salad of fruits and raw or cooked vegetables. Also include in the menu bread made from whole wheat or enriched flour.
7. Make lunch carts and counters accessible throughout the plants for workers who bring their lunches from home. Sell low cost foods to supplement the lunch boxes. This supplementary food may include milk, juices of fruits, hot soups and tasty sandwiches.
8. Allow workers a five or ten minute period in mid-morning and mid-afternoon for a "pick-up" snack. At night, distribute such a snack to the workers at corresponding times. These between meal periods have been shown to reduce fatigue, decrease accidents, produce better work, lessen absenteeism, improve morale and increase production. These "pick-up" snacks may include milk, fruit juices, tomato juice, peanuts, sandwiches, raw and dried fruits.
9. Interest workers in eating foods that keep them strong and healthy through the use of posters, pamphlets, classes and demonstrations on nutrition. Distribute pay-envelope slips listing food stuffs of high nutritive value which are in season and on the market at reasonable prices.
10. Encourage home gardening and canning.

B6

ENRICHED FLOUR AND BREAD

The appearance of "enriched" flour and "enriched" bread on the markets of our Georgia cities and towns is one answer to the need for improvement of the average American diet.

Studies of family diets in all income groups, by the Department of Agriculture, show that one-third of our people are getting food inadequate to maintain good health. Less than one-fourth of us are getting a "good diet," as measured by the standards of good nutrition. At the National Nutrition Conference for Defense, held in Washington, D. C., May 26-28, 1941, it was pointed out that one-half of our body fuel (the calories we eat) is in the form of bread and sugar. Add to this the refined fats, and two-thirds of our energy intake is in the form of calories which are poor in vitamins and minerals.

The whole wheat grains from which flour is made contain a generous supply of some of the vitamins and minerals our bodies need. But the people have not been getting these essential vitamins and minerals. We may well ask why. Because, in the past, the minerals and vitamins in the whole wheat grains were lost in the milling process. When the soft, white, refined flour reached the housewife, a large part of its valuable food content had been left behind in the mill.

Now, however, the millers and bakers are attempting to put back into white flour some of these known minerals and vitamins which were removed in refining. Hence, the term, "enriched flour."

"Enriched flour," therefore, is simply plain white flour to which definite amounts of these vitamins and minerals have been added. In order to bear on its label, "enriched flour," flour must meet carefully worked out specifications. Read the label on the flour you buy to be sure you are receiving this "enriched" brand.

"Enriched" flour differs from ordinary white flour only in vitamin and mineral content. It must have a certain amount of thiamin hydrochloride (Vitamin B₁), nicotinic acid (pellagra-preventive factor), and iron. Two other ingredients that may be found in the "enriched" flour are calcium and riboflavin (Vitamin B₂). Standards for enriched flour have not been established officially by the government, although the standards have been proposed in hearings of the Food and Drug Administration. They have also been considered by the members of the Committee on Foods and Nutrition of the National Research Council, many of whom testified in hearings before the Food and Drug Administration.

Many questions concerning "enriched" flour have been asked, chiefly as to how it compares with the flour we have been used to. In taste, the new flour cannot be distinguished from plain white flour. This new flour has the same keeping qualities as the old and does not require special care in that respect.

If you use "enriched" flour in recipes that call for white plain flour you do not have to change your recipe. The new flour is used in exactly the same way as the old. Do not use any soda, as soda tends to destroy the vitamins.

You may ask if whole wheat flour is being enriched. No, because whole wheat flour, made from good, sound wheat, already exceeds the minimum standards for at least two of the three required substances that are being included in the "enriched" flour.

Do not be misled into believing that you can receive your daily requirement of thiamin, nicotinic acid and iron by eating "enriched" bread alone. "Enriched" flour and "enriched" bread are FOODS, not MEDICINE. If you eat 6 medium-sized slices, or 6 average family-size biscuits, a day made from "enriched" flour you will receive your quota of these food essentials which you should normally get from flour products. This amount of bread, combined with other wholesome foods such as:

- 1 quart of milk, if a child, and 1 pint of milk, if an adult;
- 1 green or yellow vegetable;
- 1 uncooked vegetable;
- 1 potato, white or sweet;
- 2 servings of fruit, 1 raw and 1 cooked;
- 3 servings (2 tablespoonfuls) butter;
- 1 egg;

1 serving of meat, cheese, fish or poultry will insure an adequate diet, which will meet the body's need for minerals and vitamins.

This "enriched" flour must not be regarded as a defense measure but as a standard for American white flour. "Enriched" flour contains vitamins and minerals which are essential to all income groups.

GEORGIA DEPARTMENT OF PUBLIC HEALTH
Atlanta, Georgia

.B6



**FOOD
FOR ENERGY**

Help Guard your Country by Guarding your own Health



"The **LOSS** of **TIME** due to
SICKNESS
means a broad grin on the faces of
Hitler, Hirohito, and Mussolini--
A grin which must be wiped off soon!"



If you do not get **ENOUGH** food for your needed **ENERGY**
you are apt to become very underweight
and underweight may be detrimental to your health!

UNDERWEIGHT MAY BE A SYMPTOM OF DISEASE



OVERWEIGHT, too, may be DANGEROUS!

**MANY OF THE DISABILITIES
OF MIDDLE AGE
ARE DUE TO OVERWEIGHT**

Office of the Secretary of War
Civilian Medical Unit
Health Message No. 5
April 9, 1943

Learn To Count Your Calories







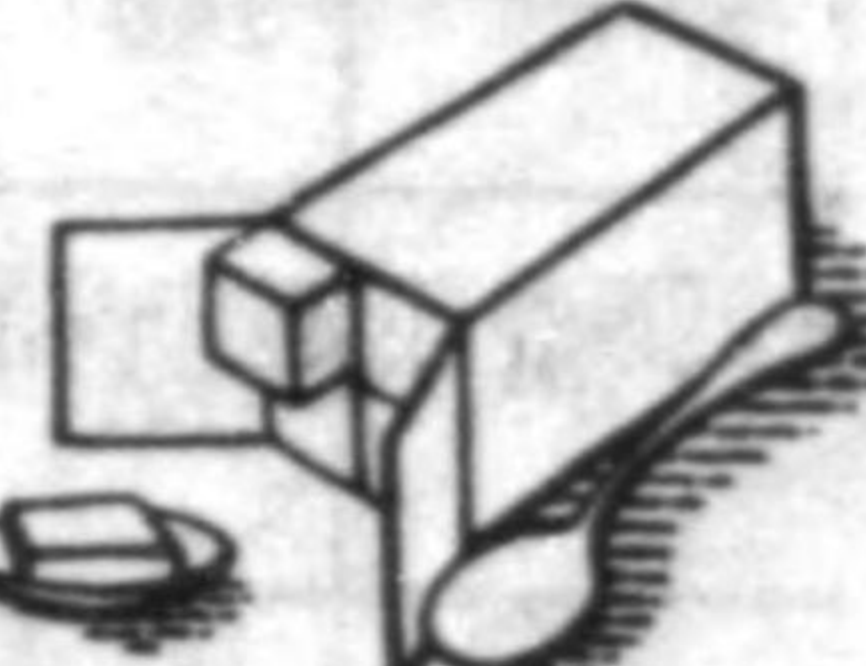



A CALORIE is a FOOD UNIT

Each individual needs a certain number of calories according to age, weight, height, and occupation.

CALORIES REQUIRED

MEN		WOMEN	
Man weighing 150#	Calories	Woman weighing 125#	Calories
Moderately active	3000	Moderately active	2500
Very active	400 to 4500	Very active	3000
Sedentary	2500	Sedentary	2000 to 2400

CALORIES IN TYPICAL FOODS

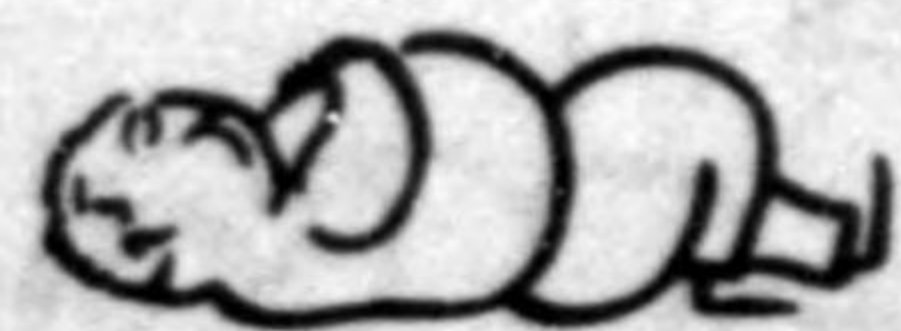
 1/2 Grapefruit 50	 1 Egg 75	 2/3 Cup Cereal 100	 1 Cup Black Coffee
 1 Slice Bread 50	 1 Piece Pie 405	 2 Slices Bacon 40	 1 Tablespoon Butter 100
 1/2 Cup Spinach 25	 2/3 Cup Carrots 45	 1 Medium Potato 100	 Salad of Vegetables 45
 1/2 Pint Milk 170	 1-1/8" Cube Cheese 100	 1 Small Slice Beef 100	 Small Cup of Ice Cream 287



The more **STRENUOUS** the work or play the more **CALORIES** needed.



LACK of calories makes one **SKINNY** and **WEAK**



Too **MANY** calories make one **FAT** and **LAZY**



POUNDS ACCORDING TO AGE AND HEIGHT

MEN					WOMEN				
Height	25 to 29	30 to 34	35 to 39	40 to 44	Height	20 to 24	25 to 29	30 to 34	35 to 39
5' 4"	134	137	140	142	5' 3"	123	125	128	132
5' 5"	138	141	144	146	5' 4"	126	129	132	136
5' 6"	142	145	148	150	5' 5"	129	132	136	140
5' 7"	146	149	152	154	5' 6"	133	136	140	144
5' 8"	150	154	157	159	5' 7"	137	140	144	148
5' 9"	154	158	162	164	5' 8"	141	144	148	152
5' 10"	158	163	167	169	5' 9"	145	148	152	156
5' 11"	163	168	172	175	5' 10"	149	152	155	159
6' 0"	169	174	178	181	5' 11"	153	155	158	162
6' 1"	175	180	184	187	6' 0"	157	159	162	165

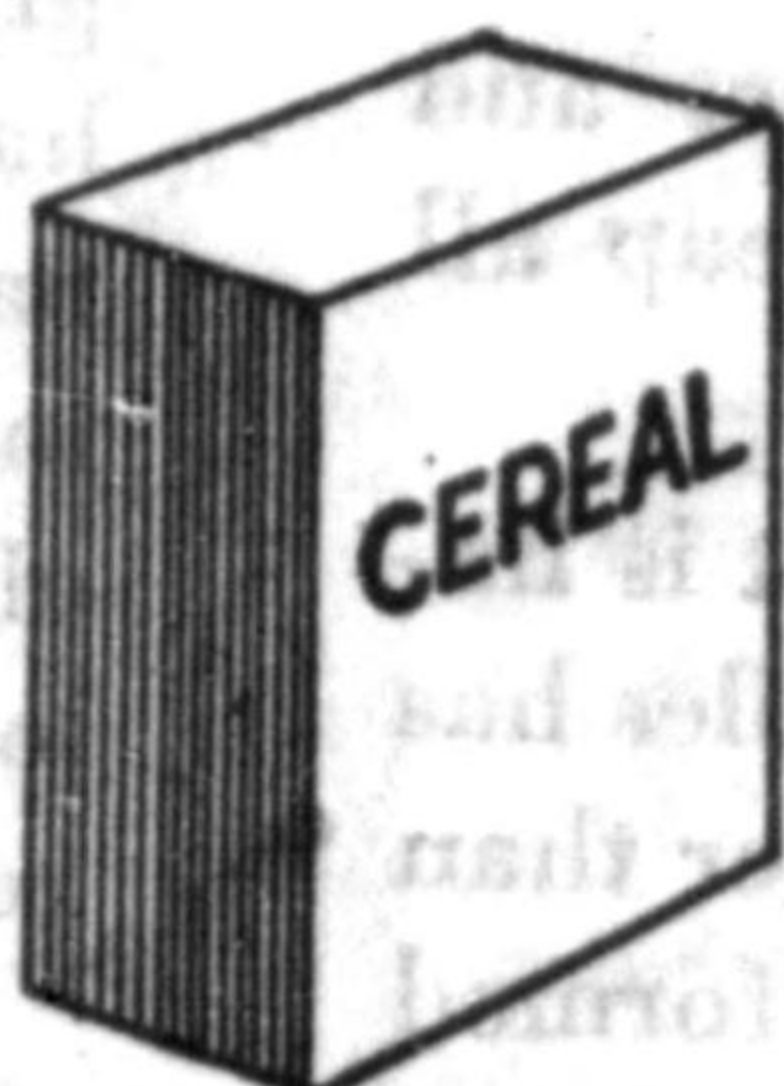
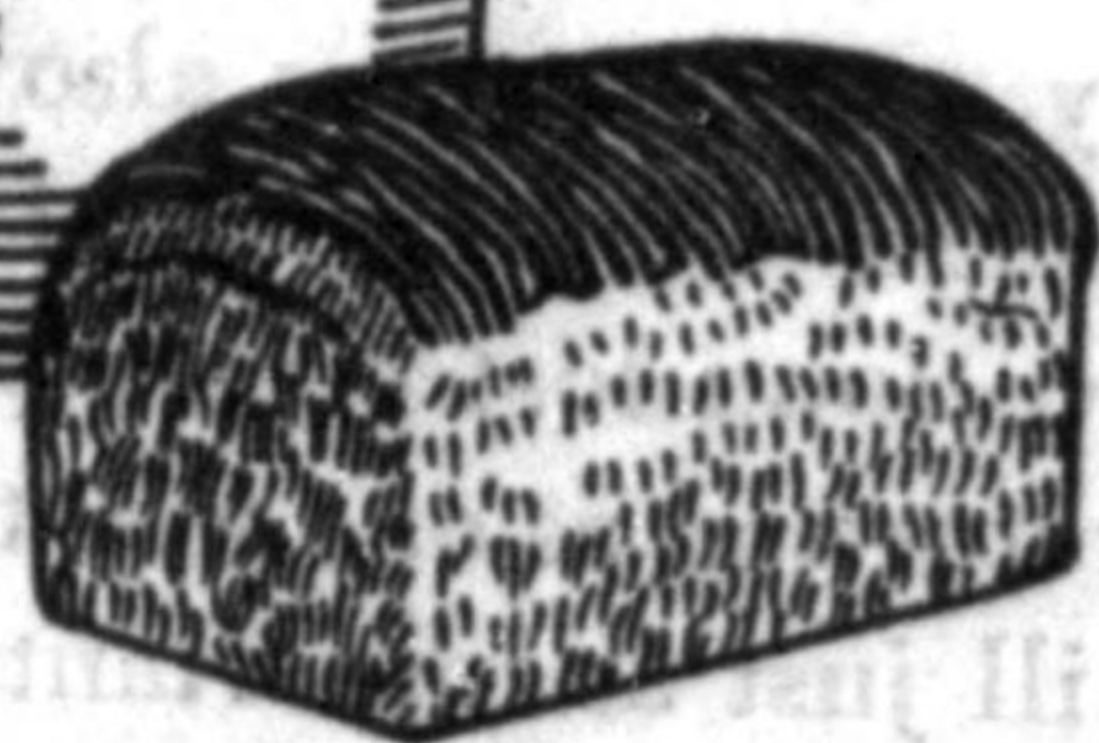
F. C. Smith
 Approved F. C. SMITH
 Medical Director.

Bessie Bogges
 BESSIE E. BOGGES
 Health Education Specialist.

B6

FOODS -

*Enriched
Restored
Fortified*



Following is a description of a low-starch food—
flour, bread, cereals, oleomargarine, salt, and milk—
to which nutritional essentials have been added or
restored.

U. S. DEPARTMENT OF AGRICULTURE AIS-39

FOODS -

*Enriched
Restored
Fortified*

Out of the discoveries of science has grown a great respect for food as nature produces it.

If we have plenty of sunshine and the soil and water are not deficient in essential elements, it is easily possible to secure from natural foods everything that our bodies need. At present, however, this is not so easy as it used to be because cooking, sterilizing, preserving, refining—all take their toll of food values. But at the same time, each operation has brought remarkable benefits—adding to the palatability, reducing communicable disease, and making a variety of foods abundant and cheap all through the year.

There are many signs that our national diet is improving. The use of milk, fruits, and vegetables has steadily increased. Many children grow bigger than their parents and have more beautifully formed bodies. In spite of these good signs, Nation-wide surveys in 1934-36 by the Bureau of Human Nutrition and Home Economics revealed that one-third of our population was poorly fed. Too many young

men were found unfit for military service in part because of poor nutrition. Many people still do not know how to select a good diet, others cannot afford it or are not interested.

To make a stronger nation, many Federal groups devoted to the health and welfare of people cooperated to take some action for the benefit of everyone. State, county, and city organizations also joined in the movement. Through the efforts of all these groups, foods that have long lost certain values are having some of these returned as one way to improve national diet. It is still just as important as ever to improve food selection and to teach better methods of food preparation, but since this will take a rather long period of education, the program of enriched, restored, fortified foods has been undertaken.

Following is a description of a few staple foods—flour, bread, cereals, oleomargarine, salt, and milk—to which nutritional essentials have been added or returned.



ENRICHED WHITE BREAD AND FLOUR

A movement to improve white flour and bread had started even before the United States entered the war. Then in January 1943, War Food Order No. 1 required the enrichment of all baker's white bread by the addition of three vitamins—thiamine, riboflavin, and niacin, and one mineral—iron. Later, an amendment required the enrichment of white rolls and buns.

Bread Plays Important Diet Role

Few people realize how important is that most ordinary, inexpensive, everyday food—bread. They remember that bread and grains are important for their energy value, and the fact is they do contribute more calories to our national diet than any other one type of food.

But, in addition, grain foods in 1944 offered almost as much protein as we gained from meat, poultry, game, and fish combined, though, of course, if eaten to the exclusion of eggs, milk, meats, and green vegetables, the grain protein is of poorer quality for building human bodies. Grain foods in 1944 also supplied over one-fourth of the iron, thiamine, and niacin, as well as one-sixth of the riboflavin, of our total food supply, as shown in the chart on page 4.

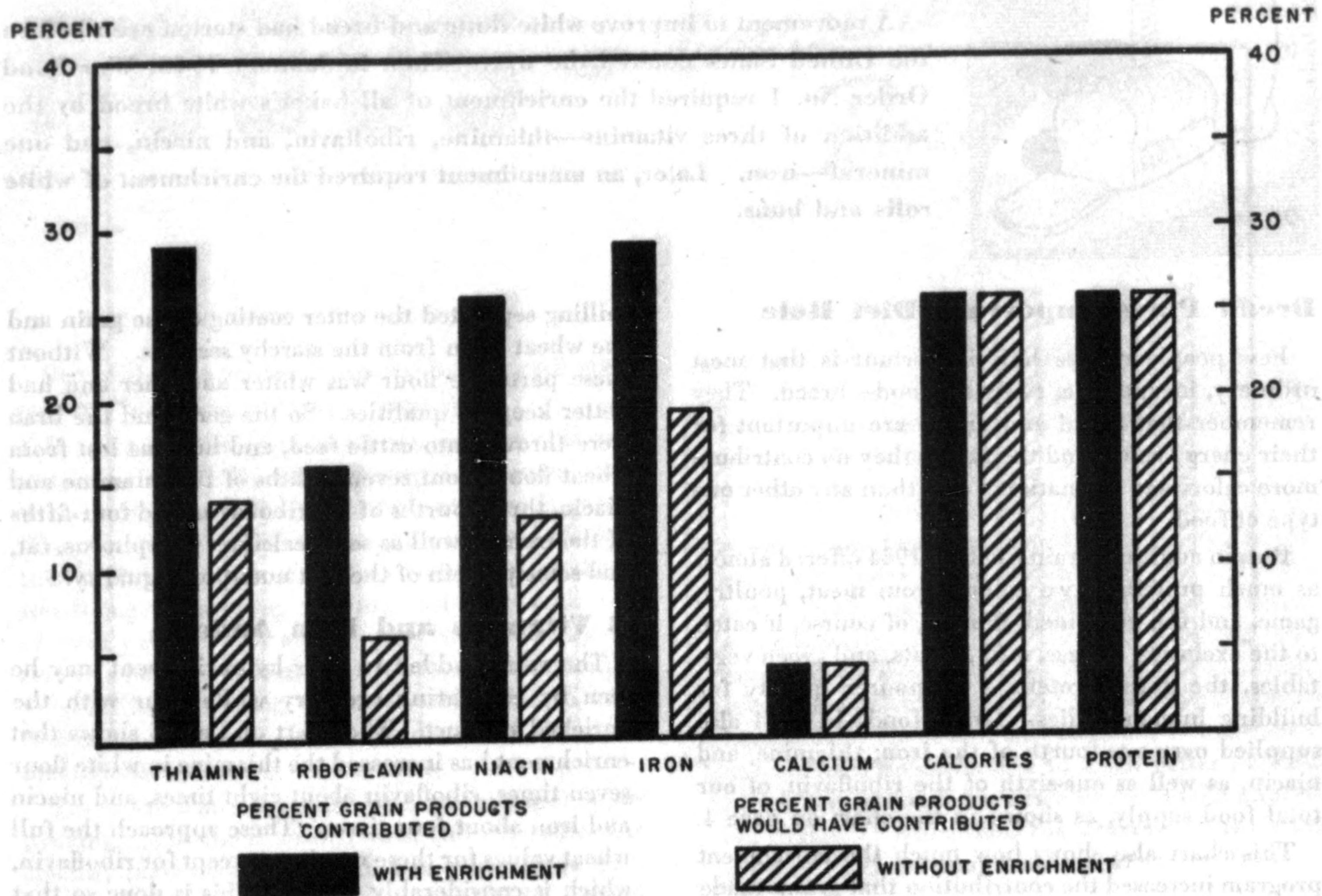
This chart also shows how much the enrichment program increased the contribution that grains made in these vitamins and iron. In this way, part of the values are regained that have been lost in milling ever since 60 years ago, when millers began to tear the wheat apart between corrugated steel rolls. This

milling separated the outer coating of the grain and the wheat germ from the starchy sections. Without these parts the flour was whiter and finer and had better keeping qualities. So the germ and the bran were thrown into cattle feed, and humans lost from wheat flour about seven-eighths of the thiamine and niacin, three-fourths of the riboflavin, and four-fifths of the iron, as well as some calcium, phosphorus, fat, and some protein of the best nutritional quality.

B Vitamins and Iron Added

The values added to flour by enrichment may be seen by comparing ordinary white flour with the enriched product. The chart on page 5 shows that enrichment has increased the thiamine in white flour seven times, riboflavin about eight times, and niacin and iron about four times. These approach the full wheat values for these nutrients except for riboflavin, which is considerably higher. This is done so that bread will provide a significant addition of riboflavin to the daily diet. There is still not as much protein in enriched white flour as in whole-wheat flour, nor is its nutritional quality as good.

NUTRIENTS CONTRIBUTED BY FLOUR AND GRAIN TO CIVILIAN FOOD SUPPLY IN 1944



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HOW ENRICHED WHITE FLOUR COMPARES WITH UNENRICHED WHITE AND WHOLE-WHEAT FLOURS IN NUTRIENTS PER POUND

	UNENRICHED WHITE (about 70% extraction)	ENRICHED WHITE Minimum · Maximum	WHOLE-WHEAT (100% extraction)
THIAMINE (mg.)	0.3	2. - 2.5	2.5
RIBOFLAVIN (mg.)	.15	1.2 - 1.5	.56
NIACIN (mg.)	3.5	16. - 20.	25.3
IRON (mg.)	3	13. - 16.5	17.3
CALCIUM (mg.)	86	* 86	173
PROTEIN (gm.)	49	49	59

* Enriched flour may contain 500 to 625 milligrams of calcium per pound, as well as 250 to 1,000 U. S. P. units of vitamin D, as optional ingredients. At present these are not ordinarily used. Enriched self-rising flour, in addition to the other ingredients, contains not less than 500 and not more than 1,500 milligrams of calcium per pound.

The Bureau of Human Nutrition and Home Economics estimates that in 1945 enrichment will raise the amount of thiamine in the American food supply one-fourth; niacin, one-fifth; iron, one-sixth; and riboflavin, one-eighth. What is the significance of these increased nutrients?

B Vitamins Guard Health

The B vitamins are needed for many essential jobs. Without *thiamine*, the disease beriberi occurs. This name in the Singhalese language means *weakness* or *I cannot*, which is descriptive of the symptoms.

Without enough *thiamine* the use of fuel foods is hindered, people lose appetite, tire easily, and have difficulties with digestion, elimination, heart, and nerves.

A shortage of *riboflavin* stunts the growth of young animals. In humans it results in sores at the corners of the mouth, a condition called cheilosis. Eruptions may occur on other parts of the face, and the eyes may be affected.

The third B vitamin, *niacin*, is an essential factor in preventing pellagra, which affects many people, especially in the South.

Iron Needed by the Blood

Too little iron in the diet gives a tendency toward dietary anemia, a condition in which the blood loses some of its red color and its ability to carry oxygen. This may make children and adults more susceptible to infection and give feelings of weakness and depression. However, the use of enriched bread and flour makes it probable that supplies of iron in the normal diet will usually be adequate.

How the Program Developed

Nutrition experts, millers, and bakers have cooperated to make the enrichment program work. Here are the highlights of its progress.

In May 1941, President Roosevelt called a National Nutrition Conference for Defense. At that time the Administrator of the Federal Security Agency announced the effective date of a standard for enriched flour under the Food, Drug, and Cosmetic Act. No standard for bread was stated, but it was generally agreed by all parties concerned (the Food and Nutrition Board of the National Research Council, the Food and Drug Administration, the American Bakers' Association, and the Millers' National Federation) that bread made from enriched flour could be called "enriched." Bread could also be enriched by adding iron and synthetic vitamins with or without milk; by the use of enriched yeast; or by a combination of these methods.

At first enrichment was voluntary on the part of the millers and bakers, and by the end of the first

year about one-third of the white bread was enriched. By the end of the second year about three-fourths of all family flour and baker's white bread was enriched.

In January 1943 War Food Order No. 1 required enrichment of all baker's white bread, either through the use of enriched flour or by the addition of enrichment ingredients to the dough. Italian, French, Vienna, and salt-rising breads were included.

In October 1943 an order required higher levels of iron, thiamine, and niacin and made the inclusion of riboflavin mandatory. Previously the supply of riboflavin had not been adequate so that the effective date of its use had been postponed.

In May 1944 further War Food Administration orders extended the enrichment to all kinds of white rolls and buns made from breadlike dough that are not coated or filled.

Products that were not covered by the enrichment order are: Sweet rolls that are filled or iced; raisin bread; wheat and rye breads made with varying amounts of white flour; bread and rolls baked by hotels, restaurants, and institutions for use on the premises.

At present (1945) the Federal orders are for enrichment of white bread and rolls, while enrichment of white flour is still voluntary except in those States that have passed legislation. Although about three-fourths of the white flour for families is enriched, some families doing their own baking with the plain flour are not obtaining benefits of the enriched products.

Enrichment Becoming State Law

There is no assurance that the enrichment of flour and bread will be continued on a national scale after the war order for mandatory enrichment expires except in those States where laws have been passed. The following 19 States have passed laws providing for enrichment of all white flour and white bread sold within their borders: Alabama, Arkansas, Georgia, Indiana, Kentucky, Louisiana, Maine, Mississippi, New Jersey, New York, North Carolina, New Hampshire, North Dakota, South Carolina, South Dakota, Texas, Washington, West Virginia, and Wyoming. Puerto Rico and Hawaii also have enrichment laws.

The National Research Council is interested in seeing that the benefits of enrichment are available

to all people. Its staff is prepared to give scientific information to any group interested in enrichment.¹ Since many States desire to introduce legislation to assure enrichment, the Council of State Governments has distributed a suggested bill to all the States.

Four years' trial seems to indicate that enrichment of flour and bread is an effective, practical, and economical way to raise the level of thiamine, riboflavin, niacin, and iron for everyone. Ingredients to enrich all the flour and bread sold in the country would not cost more than 18 cents per person annually at 1945 prices.

¹ NATIONAL RESEARCH COUNCIL. THE FACTS ABOUT ENRICHMENT OF FLOUR AND BREAD. 15 pp. Washington, 1944; supp., 1945.

HOW ENRICHED WHITE BREAD COMPARES WITH UNENRICHED WHITE AND WHOLE-WHEAT BREADS IN NUTRIENTS PER POUND

Nutrient	Unenriched White*	Enriched White	100% Whole Wheat
THIAMINE (mg.)	0.3	1.1 - 1.8	1.3
RIBOFLAVIN (mg.)	.5	.7 - 1.6	.7
NIACIN (mg.)	3	10 - 15	16
IRON (mg.)	3.9	8 - 12.5	11.8
CALCIUM (mg.)	254	** 254	272
PROTEIN (gm.)	39	39	43

* Unenriched white refers to bread made from flour of approximately 70-percent extraction.
 ** Enriched bread may contain 300 to 800 milligrams of calcium per pound, as well as 150 to 750 U. S. P. units of vitamin D, as optional ingredients.



OTHER FORTIFIED OR RESTORED CEREALS

Most nutritionists are in favor of limiting enrichment to only a few staples. They also believe that the amounts of nutrients added should not be out of proportion to the nutrients obtained in good natural diets. Following are some other grain foods that are now or may soon be enriched.

Corn Meal and Grits

Lowest in cost of all cereal products, corn meal and grits are staple foods of the South. Many people eat more than half of their cereal foods as corn. Corn, and especially degerminated corn products, are low in the B vitamins, particularly in niacin, needed to prevent pellagra.

Although the death rate from pellagra has decreased, 1,303 deaths were reported from pellagra in 1943. The number of pellagra cases estimated for that year by the U. S. Public Health Service was 43,400. The enrichment of corn products seems to be one way of helping to eradicate this deficiency disease. Five Southern States already have laws requiring that degerminated corn products be enriched (Alabama, Georgia, Mississippi, North Carolina, and South Carolina). State extension and public health organizations are actively helping to make the program of improving degerminated corn products successful.

The enrichment of whole corn products, particu-

larly with niacin and riboflavin, is being encouraged because they are the staple foods of many who depend most on corn. Since most of the corn meal supply of the rural South is produced by over 15,000 small scattered mills, it would be very difficult to enforce enrichment legislation for whole corn meal. Until legislation is possible, nutrition committees and public health workers are encouraging small local millers to do the enriching voluntarily.

In South Carolina, the State experiment station has developed an enrichment mixture which may be added to corn at the mill. They have also designed a small feeder that can be attached to any type of corn mill. More than 180 mills (1946) in the State are cooperating and enriching their whole corn meal.

At present there is a lack of uniformity in the State laws for corn meal enrichment, but efforts are being made to establish a standard. Three of the five States enrich degerminated corn meal with the same amounts of the three B vitamins and iron that are added to white flour.

Macaroni and Spaghetti

Second to bread in furnishing calories to the people of Italian descent are macaroni and spaghetti. The manufacturers of macaroni and other "alimentary pastes" requested the Administrator of the Federal Security Agency to call a hearing to consider enrichment standards. This was held, but no decision has yet been reached. These alimentary pastes could be made with corn germ or wheat germ, or by adding enriching ingredients to the dough. A standard has been made for macaroni products containing soy flour.

Rice

Rice loses important values in refining. Brown rice and undermilled rice contain more of the original protein, calcium, B vitamins, and iron than white rice.

In India for many years it has been customary to parboil rice before removing the bran. Treated in this way, the rice retained more of its original nutrients.

A modern commercial "converted" rice is made by steaming rice under pressure and drying it before milling. This spreads the vitamins of the bran and germ into the kernel. While the converted rice has

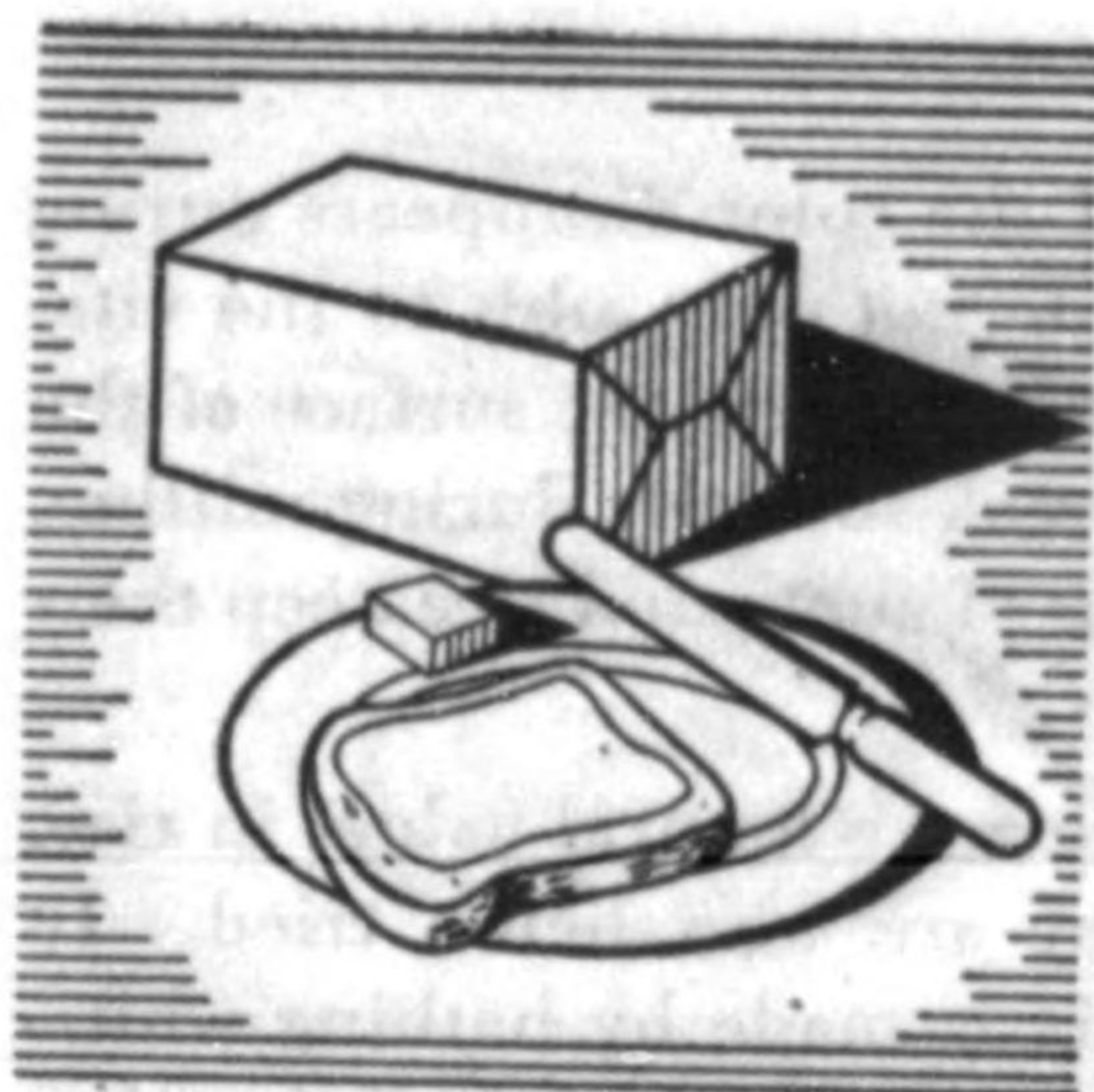
a creamy color, most of the color disappears during cooking. The conversion not only adds to the vitamin and mineral values but glazes the surface of the grains so they do not break so easily during milling. When cooked, the grains of converted rice keep their shape and are not sticky.

As opposed to retaining the natural values in rice, methods of enrichment are also being tried. In these, a fortified premix is made by bathing white-rice kernels with a concentrated solution of vitamins. These kernels are then coated with a film-forming substance or a thin membrane that prevents the loss of the vitamins when the rice is washed. This fortified premix is then blended with the plain white rice to enrich it all.

Breakfast Cereals

Whole grains make most desirable breakfast cereals. However, when the loss of important nutrients is unavoidable in breakfast cereals, the Food and Nutrition Board of the National Research Council expresses itself as favorable to fortification or restoration.

Processed cereals may be restored to whole grain levels by the addition of thiamine, niacin, and iron. Enrichment of breakfast cereals is being done voluntarily by the manufacturers.



FORTIFIED OLEOMARGARINE

About 99 percent of the oleomargarine now sold is fortified with a minimum of 9,000 United States Pharmacopoeia (U. S. P.) units of vitamin A to the pound. Some manufacturers have recently raised the level to 15,000 U. S. P. units per pound.

Why We Need Fat

Fats and oils are needed for good health. Without fat in their foods supplying certain fatty acids, animals fail in health, stop growing, lose hair, are unable to reproduce, and finally die. Humans, too, need fat, though not so much is known except that without some fat they develop a scaliness of the skin and their blood composition changes.

We know, too, that fat has a higher energy value by weight than any other foodstuff and makes our meals taste better and feel more satisfying. Because fat foods are digested slowly, they remain longer in the stomach than other foods and give "staying" power to a meal.

Certain table fats are also important in the diet because they carry vitamin A.

Why We Need Vitamin A

Experiments have shown that vitamin A is required by animals for growth and for reproduction. It is needed for normal skin and good eyesight.

With too little vitamin A, the mucous membrane of the nose, throat, lungs, and many organs of the body are affected so that they are more subject to infection. We obtain most of our vitamin A in the form of carotene from fruits and vegetables, especially the green and yellow varieties. Milk products, liver, and table fat are also important sources of vitamin A.

What happens when the vitamin A in food is low may be illustrated by examples during the first World War. Shifted from usual dairy products to skim milk and unfortified margarine, many children in war zones were threatened with blindness. When whole milk was prescribed along with liberal doses of cod-liver oil to provide vitamin A, the eye troubles rapidly disappeared if destruction of the cornea had not gone too far.

How Much Fat Do We Need?

About 68 pounds of fat per person per year was recommended as a reasonable allowance by a special committee on fats of the National Research Council in 1942. About 40 pounds could be the "invisible"

fat in such foods as meat, eggs, nuts, and milk. About 28 pounds are "visible" fat such as butter, margarine, lard, salt pork, and other fats and oils. This amounts to about a half pound of fat, purchased as fat, per person per week. Average consumption in this country has been more than twice this quantity.

For many years each person has used an average of about 18 pounds of table fat per year, with margarine comprising 1 to 3 pounds of this. In 1944 the total amount of table fat used averaged about 15 pounds, with margarine comprising about 4 pounds. Some people use no margarine, but for those who use it as their only table fat, it should carry vitamin A.

What is Oleomargarine?

Even before the Food and Drug Administration adopted a standard for oleomargarine, the Supreme Court recognized a certain brand to be "a nutritious and pure article of food, with a well-established place in the dietary."

Margarine was first made in 1869 in response to an offer of a prize by Napoleon III for a nutritious, economical, and appetizing fat for table use. As it is made by 41 manufacturing plants in the United States, margarine contains a mixture of animal fats and vegetable oils or one or the other—fats that have been used as food for centuries. These are partially hydrogenated and blended to give the right spreading consistency. They are refined, melted, mixed, and churned with pasteurized milk, ripened to give a pleasing lactic acid flavor. Small amounts of other emulsifying agents and salt are added, and sometimes

sodium benzoate as a preservative. Then the margarine is chilled.

Margarine must contain at least 80 percent fat. In 1943 nine-tenths of the fat consisted of vegetable oils—about 50 percent cottonseed, and about 40 percent soybean. All of the table fats are equally digestible—that is, one is as easily and completely digested as another. Since margarine is now composed chiefly of vegetable fat and contains very little or none of the oleo oil obtained from animal fats, "margarine" is the name that is becoming common, though "oleomargarine" must be printed on labels.

In common practice, at least 9,000 U. S. P. units of vitamin A per pound are added to the margarines that are fortified. In 1942 about 85 percent of the margarine was fortified, in 1943 over 90 percent was fortified, and now more than 99 percent is fortified. A few companies are beginning (1945) to add 15,000 units of vitamin A per pound, and there is evidence that the entire industry will soon adopt this level.

The production of margarine increased from about 300 million pounds in 1939 to over 600 million pounds in 1943.

To help safeguard the health of families of low income by increasing the vitamin A in their diets, the following six States have passed laws requiring the fortification of margarine: Tennessee, South Carolina, Louisiana, Alabama, Texas, and Mississippi. In every State, especially those where consumption of dairy products is low, nutrition committees and public health groups are working to assure families the benefits of this wholesome, economical table fat.



IODIZED SALT

One of the first staple foods to be treated on a large scale for improving public health was refined table salt. Since about 1924 it has been possible to buy table salt containing small amounts of iodine (1 part sodium or potassium iodide to 5,000 parts salt).

Why We Use Salt

Table salt, sodium chloride, is indispensable for humans and animals. It offers elements that assist in the production of digestive juices and in the secretion and excretion of liquid materials, thus keeping the water content of our blood and tissues balanced. In fact, sodium chloride is a part of every living cell and is concerned in almost every body process.

We tend to use more salt than we actually need. A heavy salt eater may consume five times as much salt as one who uses it lightly. However, profuse perspiration carries out so much salt from the body that extra salt is needed to replace it. People working in the sun or in hot factories, furnace rooms, or mines will avoid fatigue, dizziness, even "heat cramps" by taking extra salt with drinking water.

Why We Need Iodine

Large areas of the earth's surface do not furnish enough iodine in the foods or the water for animals and humans. This deficiency shows itself in many

ways through its effect on the thyroid gland. Most frequent is the enlargement or hypertrophy of the thyroid, one form of goiter. This seems to be due to the effort of the thyroid to get the last traces of iodine from the blood. Goiter may also arise from causes other than lack of iodine.

A constant, small iodine supply is needed to insure the healthy functioning of the thyroid, one of the most important regulators in the whole body. The thyroid governs the rate at which our bodies use food materials, especially energy foods, and helps to keep a balanced interrelation among other glands.

When there is not enough iodine, so that the thyroid is not functioning properly, many changes occur in the body. Usually basal metabolism is markedly decreased, causing a lower body temperature and difficulty in keeping warm. In the young, both mental and physical growth, including sex development, are stunted; in adults, mental efficiency is impaired, skin and hair are dry, and face swollen. There is a loss of resistance to infections. Among animals the young may be born hairless and dead.