U.S. Dep Agric.
no. 14

MANUAL

OF

INDUSTRIAL NUTRITION

Bot 1257

FOOD DISTRIBUTION ADMINISTRATION
Nutrition and Food Conservation Branch

AUG 16 '44

U.S. War food administration. Office of distribution

MANUAL

OF

INDUSTRIAL NUTRITION

FOOD DISTRIBUTION ADMINISTRATION
Nutrition and Food Conservation Branch

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1943

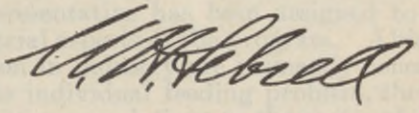
This is the first in a series of pamphlets which will be prepared and distributed by the Nutrition in Industry Division, Nutrition and Food Conservation Branch, Food Distribution Administration, Washington, D. C. Requests for advice and material may be directed to one of the 7 regional offices of the Food Distribution Administration, or to the Washington office.

CONTENTS

FOREWORD

The development of mechanized warfare has made great numbers of industrial workers as essential to the conduct of war as the armed services. The size and effectiveness of the armies which a modern nation can mobilize depends greatly upon the productive capacity of the nation's war industries (which include agriculture and transportation). The more efficient our industry and the more productive our individual worker proves to be, the more men can be taken into our armed forces; the greater the quantities of essential supplies that may be sent to our allies; the smaller need be the dislocation of the civilian standard of living and the sooner will victory result. The problem of manpower, then, has two major components—one of supply and the other of conservation.

Workers in essential industries must be kept, insofar as possible, at the peak of working efficiency. The human being is a complex organism, being influenced by a large variety of environmental factors, so that the direction of his activities is not a simple affair. However, it is fundamental that the individual must be kept in good health if a high standard of working efficiency is to be maintained for any period of time, regardless of the direction in which his energies are to be expended. The maintenance of health involves many factors such as adequate housing, recreation, sleep, sanitation, disease and accident control measures, and nutrition. We can afford to neglect none of these. Least of all, perhaps, can we afford to overlook the importance of the factor of nutrition.



Associate Chief,
Nutrition and Food Conservation Branch,
Food Distribution Administration.

THE NATIONAL NUTRITION PROGRAM FOR INDUSTRY

The creation of a Nutrition Policy and Planning Committee, August 1940, with representation from the chief Federal agencies concerned with nutrition, marks the beginning of the present government-inspired campaign to improve and maintain the nutritional status of the American people. On September 3, 1941, the Office of Defense Health and Welfare Services was established, by Executive order, within the Office for Emergency Management of the Executive Office of the President. The development and direction of a national nutrition program then became the responsibility of the Nutrition Division of this office.

As of March 1943 the Nutrition Division of the Office of Defense Health and Welfare Services was incorporated within the Nutrition and Food Conservation Branch of the Food Distribution Administration by Executive Order. The Food Distribution Administration has nutrition representatives in each of its 7 regional offices. These representatives function as consultants to the State and local nutrition committees in their regions.

The committees, in turn, constitute the operating agency for the prosecution of the nutrition program in the workers' homes and communities.

The Nutrition in Industry Division of the Nutrition and Food Conservation Branch is primarily concerned with promoting proper eating conditions and the serving of nutritious foods within the industrial plant, and in obtaining the active cooperation of labor groups in the promotion of better eating habits among workers. It functions mainly through the regional nutrition representatives and the State and local nutrition committees. A representative has been assigned to each region to assist with the industrial aspects of the program. Although the representatives for nutrition in industry are primarily concerned with the in-plant phases of the individual feeding problem, they are expected to make reports and recommendations to the regional offices on the community and home phases as well. The regional offices are responsible for seeing that such reports are brought to the attention of the State and local nutrition committees and their subcommittees.

The industrial representatives act in an advisory capacity to the nutrition committees and their subcommittees on methods of procedure on in-plant feeding problems. They are expected to make whatever direct plant contacts they deem desirable, provided that the requests for contact have come from the industries concerned and the visits to the communities have been cleared through the respective regional representatives and State nutrition committees. As the in-plant feeding problem properly belongs in the field of industrial hygiene, the State industrial hygiene officers are kept informed of the progress of nutrition programs within industrial plants in their States.

They are also informed of all contemplated visits to plants; and, where they desire it, the in-plant phase of the industrial nutrition work may be implemented through their offices. All findings and recommendations on in-plant feeding problems made, as the result of such contacts, are made in writing to the plant executives. Copies are not furnished the State and local nutrition committees except with express consent of the responsible plant executives. A copy of each report is filed in the regional office and another is sent to the Washington office.

The regional representative for Nutrition in Industry can be of assistance to industrial plants in many ways, including:

1. Advice to plant executives on methods for improving in-plant feeding conditions and on the most effective use of available equipment, based upon confidential plant surveys.
2. Advice on setting up effective nutrition education programs for the plant employees.
3. Providing information on the source and nature of nutrition posters, pamphlets, flyers, news releases, programs, etc.
4. Suggestions as to cafeteria and canteen menus which provide for the employees' nutritional needs and are compatible with food shortages and the rationing program.
5. Advise the plant executives as to organizations, individuals, and community groups which are in a position to assist in nutrition programs for the workers.
6. Help bring about closer working relationships between plant management and the nutrition committees.

The industrial representative can also be of assistance to the regional office in the organization of subcommittees, on Nutrition in Industry, of the nutrition committees and in the planning and execution of their programs.

All of the State nutrition committees have been advised to form subcommittees on nutrition in industry. The membership of the subcommittees on nutrition in industry quite generally includes representatives from the following groups:

Health departments and their industrial hygiene divisions.
Industry and industrial organizations.
Labor.
Labor departments.
Industrial physicians.
Medical societies.
Food producers and merchants.
Caterers.
Service clubs.
Red Cross.
Utilities.
Newspapers and radio.
Nutrition committees.

Both the regional nutrition representatives and the industrial representatives of the Nutrition and Food Conservation Branch are ex officio members of the nutrition committees and their subcommittees on nutrition in industry.

The activities of the subcommittees on Nutrition in Industry might include:

1. Assisting the nutrition committee in planning a publicity program through newspapers, magazines, plant publications, and radio.

(*a*) The initial publicity should emphasize the cooperation of the community with the National Nutrition Program, properly emphasizing the industrial phase.

(*b*) Subsequent publicity should emphasize local participation; e. g., quotations from members of the subcommittee and from leading citizens; pictures and stories of cooperating housewives, plants, restaurants and boarding-house keepers; daily suggestions on lunch box menus, etc.; and publicizing of pledges of cooperation by plants or restaurants.

2. The local nutrition committee and the subcommittee on nutrition in industry should be organized to arrange for:

(*a*) A lunch-box program.

(*b*) Neighborhood nutrition meetings and forums for war workers' wives, mothers, boarding-house keepers, etc.

(*c*) Interviews with restaurant owners and managers to secure their cooperation in the industrial program.

(*d*) Interviews with proprietors and managers of food stores.

(*e*) The distribution of suitable posters and fliers and pledges of cooperation.

(*f*) A demonstration of an ideal emergency factory canteen which may be set up in cooperation with the local Red Cross or a local utility.

3. The Subcommittee on Nutrition in Industry may desire to determine which industrial concerns wish aid from the subcommittee in setting up their own nutrition programs. Such information might be obtained from the local utility company, the local health department, the local Chamber of Commerce, the Manufacturers' Association, or from the regional office of the Food Distribution Administration, which may have been in correspondence with some of the plants in the community or with their central offices.

(*a*) These plants should be contacted first, waiting for the pressure of the community campaign to result in requests for aid from other industries.

4. The Subcommittee can arrange conferences with the Manufacturers' Association, the Chamber of Commerce, industrial physicians, safety engineers, and organizations such as Rotarians, Kiwanis, Lions Club, and the Medical Society.

5. Both the Nutrition Committee and its subcommittee should undertake to review all industrial nutrition programs prepared by private organizations for use in the community. They should give careful consideration to means by which they can actively cooperate with those programs which show promise of effectiveness. The success of the National Nutrition Program depends to a considerable degree upon the use made of private resources.

In addition to the organization set up for the National Nutrition Program, the Nutrition in Industry Division of the Nutrition and Food Conservation Branch has an arrangement with the Industrial Hygiene Division of the United States Public Health Service and the Ordnance Branch of the United States Army whereby an inspection of food selection and meal preparation, feeding conditions, and requirements is included in industrial hygiene surveys of Army ordnance plants. A commissioned officer of the United States Public Health Service, assigned to the Nutrition in Industry Division, accompanies the Industrial Hygiene teams to make these nutrition surveys. Although they

516786°—43——2

are conducted entirely independent of the regional offices, the regional nutritionists are kept informed of visits to ordnance plants within their regions.

Reports prepared on nutrition conditions in Army ordnance plants are transmitted through the Industrial Hygiene Division of the United States Public Health Service to the Army Ordnance headquarters in Chicago as integrant parts of the regular industrial hygiene reports, after they have been reviewed by the Technical Adviser on Nutrition in Industry.

The arrangements made between the Nutrition in Industry Division and the Industrial Hygiene Division of the United States Public Health Service do not preclude agreements between an individual ordnance plant and a regional representative of the Food Distribution Administration, or a nutrition committee, for nutrition work within that ordnance plant.

At present, navy yards and shipyards under control of the Maritime Commission are contacted only upon requests by individual yards. Such requests are handled through the regional offices.

Many industrial feeding problems arise from or are aggravated by difficulties in transportation, inadequate housing, poor sanitation, and inadequate community marketing and eating facilities. Meeting these problems involves cooperation of other governmental bodies in addition to the Food Distribution Administration. The regional nutrition representatives are responsible for bringing to the attention of the regional offices of interested governmental agencies such conditions as adversely affect the nutritional status of the worker.

The prestige and cooperation of existing labor organizations is desirable to make the nutrition message more acceptable to the workers. A National Labor Advisory Committee has been set up representing unions within the Congress of Industrial Organzations, the American Federation of Labor, their respective auxiliaries and the Railroad Brotherhood. The Nutrition in Industry Division is in constant touch with each representative regarding any matter within affiliated organizations.

Both the national Congress of Industrial Organizations and the American Federation of Labor have sent messages to all their State and city organizations urging them to cooperate with the nutrition committees. Each labor group sets up its own Labor Nutrition Committee, the chairman of which may function as a member of the city nutrition committee.

News and feature articles are provided regularly to the labor press. The American Federation of Labor has a feature service supplying about 450 union papers. The first 24 weekly articles, presenting nutrition problems through social and historical incidents, aroused so much interest that the American Federation of Labor has had them printed in pamphlet form for free distribution.

A special section, Labor and Food for War Work, set up in the WPB Labor Press Service, reaches 800 labor press editors weekly with material on nutrition in industry.

The Nutrition in Industry Division has close relations with the Association of Industrial Editors of employee publications. Twelve hundred industrial magazine editors and many other industrial

plants are supplied a variety of items each month to be used in employee publications, and on bulletin boards. The News Service sends, in addition, weekly releases to editors of women's pages of newspapers. All releases are sent in response to written requests and are distributed by the Office of War Information. Biweekly releases to victory letters, to Victory and such Government publications as Consumers' Guide, Department of Agriculture; and Domestic Commerce, Department of Commerce are also provided. Also available is a dramatized radio program on "Nutrition in Industry."

A part of the National Nutrition Program consists of cooperating with food, restaurant, utility and similar industries which offer educational programs to industrial plants. The Nutrition and Food Conservation Branch is willing to review the material included in all such programs.

Through the Nation-wide organization set-up for the National Nutrition Program, it is possible for any industrial plant or community, no matter how large or small, to obtain advice on procedures to protect the health of industrial workers through good nutrition.

BASIC CONSIDERATIONS FOR AN "IN-PLANT" NUTRITION PROGRAM

The major causes of malnutrition in the United States can be classified into four groups: Poor food habits, failures in provision, economic factors, and metabolic stress. The Committee on Nutrition of Industrial Workers of the National Research Council has pointed out that conditions of unusual metabolic stress "such as illness, increased working hours, extremes of temperatures to which workers are frequently exposed, speed-up of work, insufficient rest, etc., which increase energy consumption, produce a proportionate increase in the body's nutritional requirements. There is the additional consideration that illness and other conditions of metabolic stress are often accompanied by a deterioration in the quantity and quality of the individual's food intake. The effects upon the individual of nutritional deficiencies acquired during such periods may be long standing and far reaching."

Obviously, efforts to improve the nutritional status of workers should be directed simultaneously along three lines: Education, provision and economy.

Education.

1. Form a nutrition committee within the plant, representing employees and management. Where safety, grievance, or employee health and welfare committees already exist, they can furnish the nucleus of the nutrition committees. This committee can be given the responsibility for the organization and execution of the nutrition program.
2. An "opening rally" might be arranged to launch the nutrition program, with a professional speaker to give a short talk on nutrition. Motion pictures on nutrition might be shown.
3. The plant's cafeteria or canteen system, through serving foods of good nutritional value in an attractive fashion, can be an extremely important educational influence.
4. Classes and demonstrations on nutrition can be conducted by the plant physician or dietitian, or through arrangements with the local nutrition committee or other community groups.
5. A dietitian, or an industrial nurse trained in nutrition, employed in the medical department and under the supervision of the plant physician, can be made available to the employees for dietary advice.
6. Nutrition information can be made a regular feature of plant publications.
7. Flyers can be used suggesting daily menus, describing food groups and alternates for rationed foods, or listing foods of good nutritional quality which are in season or on the market at reasonable prices. Such flyers can be kept timely and can be used as guides by the worker's family.

8. Pamphlets on nutrition can be distributed to the workers and their families.

9. Posters emphasizing the importance of good nutrition or creating an interest in good food habits can be placed about the plant, especially in the lunch rooms and where employees must pass or wait in line. Material which can be changed from time to time or which provokes a personal interest in the program is especially effective. The plant management might sponsor a poster contest among employees' children, or among the school children in the community.

10. Where periodic physical examinations are held, the addition of a few questions on diet to the medical history will serve to stimulate employee interest in nutrition, will have an educational effect and will enable the medical department to define the existing nutrition problem. The dietary history might take the following form:

Do you get at least 1 pint of milk daily?_____
If not, how much do you get?_____
Do you eat at least 4 eggs every week?_____
Do you eat either orange, orange juice, tomato, tomato juice, grapefruit, or grapefruit juice daily?_____
Do you get at least 1 serving of another fruit, either canned, dried, or fresh daily?_____
Do you eat at least 1 serving of another vegetable besides potato each day?_____
Do you eat either a green leafy vegetable or a yellow vegetable each day?_____
Do you eat raw cabbage or salad greens daily?_____
Do you eat at least 1 serving of lean meat, fish, poultry or cheese each day?_____
How often do you eat any kind of liver?_____
How many servings of dark whole grain breads and cereals do you get each day?_____
How many servings of enriched white bread and fortified cereals do you get each day?_____
Do you regularly use butter or margarine on your bread?_____
If you use margarine, is it fortified with vitamin A?_____
In the space below, fill in 3 actual meals eaten, naming the *kind* of food as whole wheat bread, or white, etc.

Breakfast	Lunch	Dinner

Provision and economy.

1. The plant food facilities should be surveyed and evaluated. If it is impossible or impractical to have a plant cafeteria, mobile or stationary canteens or box-lunches should be considered.

2. Each meal served within the plant should be designed to furnish at least one-third of the worker's daily dietary requirements. Employing a well-trained dietitian to manage the cafeteria would serve at the same time to increase the nutritional value of the meals and decrease the overhead. Small plants in a community might jointly employ one nutritionist to supervise the quality of the meals served and the marketing for each of them. In other instances, small plants may call upon the local nutrition committees for advice.

3. Ideally all cafeterias, canteens, refreshment stands, etc., should be under plant management and run on a nonprofit, nonloss basis. A cafeteria should not be a means of obtaining funds for employee functions or benefits or for any purpose other than improving the food service and the quality of the meals. It is probable that in some instances a concessionaire may be better equipped to efficiently operate the cafeteria than the plant management. The plant management, however, should never divorce itself from responsibility for the quality of the meals served and the cost of the meals to the employees.

4. Intelligent marketing serves to keep down costs. Such marketing requires an understanding of the nutritional values of different foods, in addition to a knowledge of where and when to buy.

5. Foods of relatively low nutritional value, e. g., candy, sugar, soft drinks, and highly milled nonenriched cereal products, should be replaced, insofar as feasible, by foods of greater nutritional value.

6. The Food and Nutrition Board of the National Research Council has recommended the enrichment of white bread and flour, the fortification of margarine with vitamin A, and the general use of iodized table salt. On January 18, 1943, a Government order, making it mandatory to enrich all white bread, went into effect. Plant management should make certain that all such products, served within the plant, are enriched or fortified as recommended by the Food and Nutrition Board.

SOME SPECIAL CONSIDERATIONS IN INDUSTRIAL NUTRITION

Length of mid-shift meal periods.—Various surveys have shown that the time taken by workers for the actual consumption of their lunches ranges from 10 to 15 minutes. Those workers who eat substantial lunches quite generally take 15 minutes. The length of the mid-shift meal period should in every instance provide for a minimum time of 15 minutes for the actual consumption of food. Varying additional allowances should be made for the time needed for toilet preparations; changing clothes; going to and from the cafeteria, lunch room or canteen and for the time spent by the employee in the food-service line. In large plants, the over-all length of the mid-shift meal period can be kept to a minimum by a decentralization of eating facilities, through the use of mobile kitchens and canteens, stationary canteens, strategically located lunch rooms, etc.

In the great majority of cases, 30 minutes can be accepted as the minimum to which it would be desirable to reduce the length of the mid-shift meal period. Longer periods frequently may be found necessary.

Employees should be discouraged from working through their lunch periods, without eating. This practice tends to impair health and decrease efficiency, if continued over any length of time.

"Between meal" rest periods and refreshments.—Ten-minute rest periods, with an apportunity to obtain refreshments, are recommended during the middle of the first and second half of each shift, as a means of combating fatigue, decreasing accidents and lost time, and sustaining production.

The foods offered during the rest periods must be such that would permit of ready service and ingestion, with a minimum amount of preliminary preparation on the part of the worker. They should make a definite contribution to the worker's diet. Milk, citrus fruit juices, tomato juice, fruits, and sandwiches, made with enriched or whole grain breads and substantial fillings, are satisfactory foods for "between meal" lunches.

Sugar as an "energy food".—No special case can be made for sugar as a source of energy, quick or otherwise, for the industrial worker. Mixed foods are more desirable than pure carbohydrates because of their more prolonged effect and the contribution of essential food factors which they make to the worker's diet.

Problems arising from shift work.—Workers on the evening and night shifts are particularly apt to suffer from malnutrition. Their living and eating conditions are generally worse than those of day shift workers. Plant cafeterias and canteens should be open to serve substantial meals to all shifts at all meal periods. If the plant provides no eating facilities, it may be possible to arrange with a neigh-

borhood restaurant of satisfactory standards to provide 24-hour meal service.

Frequent shift changes disrupt home life and living and eating routines. Shifts should not be rotated more often than every 2 or 3 months.

Special considerations for women workers.—Dietary surveys of industrial workers generally agree in finding that the eating habits of the women employees are worse than those of the men. Plants employing large numbers of women should be particularly careful to make adequate provision for their nutritional requirements. An active nutrition education program is also indicated.

In general, women workers who also have domestic duties should not be employed on the night shift.

As the loss of regular sleep is more serious for young people who have not reached their full growth, young girls should not be placed on the night shift.

Nutrition as a factor in the prevention of heat reactions.—Ill effects in men working under conditions of high temperature are least often seen among those who are in good physicial condition, who are acclimatized to work in the heat, who eat a good diet, who replace their water loss hour by hour and their salt loss day by day.

Water should be available at all times. Salt must be taken in adequate amounts each day. Preferably, however, it should not be taken during the work period, but should be taken with meals and during rest periods, and especially after the conclusion of the day's work.

The water soluble vitamins thiamin and ascorbic acid may be lost in the sweat but the possible severity of such losses has not as yet been determined, and no recommendations are possible.

Heat stroke is a critical emergency, the only effective treatment for which is to lower the body temperature by means of ice baths, ice enemas and, when possible, cool drinks. It is not improved by giving salt, unless the patient has cramps.

Heat exhaustion is a somewhat less critical emergency, best treated by lying quietly in a cool place. Cool drinks are given as desired by the patient.

Heat cramps are incapacitating and painful but not dangerous to life for many hours, if at all. The only effective treatment is replacement of sodium chloride and water which have been lost by the body. Glucose, either alone or in addition to saline solutions, is of no therapeutic or prophylactic value.

Nutrition as a factor in the prevention of reactions to toxic substances.—Foulger (Foulger, J. H., Medical Clinics of North America, 26: 1145, 1942) has studied the effects of the administration of 100 mg. daily of vitamin C to individuals working in the presence of trinitrotoluol and has found indications of a beneficial effect. He has also found an increase in the proportion of conjugated to free beta-naphthylamine excreted in the urine following the administration of vitamin C and vitamin B_1 to human subjects. Confirmatory studies are at present not available. It is recommended that the plant physician consider the administration of vitamins, to prevent toxic reactions in the chemical industries, to be in the experimental stage.

Many plant physicians are in a position to conduct well-controlled studies and add materially to the scanty fund of knowledge on this subject.

The mass of evidence indicates that vitamin C is not an effective prophylactic agent for lead poisoning and has little merit as a therapeutic agent in this condition. (Evans, Norwood, Kehoe, and Machle: Journal American Medical Association, 121:501 (February 13) 1943).

The value of milk in the prophylaxis of lead poisoning is generally accepted but there is no justification for its reputation as an effective prophylactic for toxic reactions in the manufacture and handling of trinitrotoluol, dinitrotoluol, nitroglycerine, etc.

Prevention of the common cold.—Neither vitamin A nor any other single vitamin has been proven to materially decrease the incidence of the common cold among significantly large groups of the American population.

Polyvitamin preparations in industry.—Good nutrition must be based upon a good diet of natural foodstuffs. It is not possible to assure industrial workers, indiscriminately, that they can obtain optimum nutritional health through the ingestion of a certain number of vitamin capsules regularly. Under certain conditions it may not be advisable to depend upon the available supply of "natural foodstuffs" for all of the essential food factors.

Where there exists an excessive loss of salts or vitamins from the body, where energy output and therefore metabolic requirements for these substances are extraordinarily high or where therapeutic amounts are indicated, the need for the administration of particular vitamins or salts in quantities greater than can be obtained in available foods may be present. Such needs should be defined by the plant physician.

Again, where the available supply of foodstuffs cannot be depended upon to satisfy even the average requirements for certain essential food factors, either because of deficiencies in supply or due to irremediable losses in the storage, transportation, or preparation of foodstuffs, indications for the use of food concentrates or synthetic vitamins may be present. Such conditions should be defined by a qualified dietitian or by the plant physician.

In the prophylaxis of vitamin deficiency diseases, foods naturally rich in vitamins, such as yeast, liver, certain fish liver oils, and wheat germ, are to be considered preferable to the synthetic vitamins. Wherever possible such foods should also be incorporated in the therapy of nutritional diseases along with sufficient amounts of the indicated synthetic vitamins.

SUGGESTIONS ON "IN-PLANT" FEEDING

A pamphlet of master menus for all types of in-plant feeding facilities will shortly be made available by the Nutrition and Food Conservation Branch, Food Distribution Administration. The purpose of this chapter is merely to present a few suggestions indicating types of meals that are nutritionally satisfactory and practical for mass feeding services.

Each meal served within the plant should supply the worker with at least one-third of his daily dietary requirements.

A la carte menus are wasteful of food, serve to increase the cost of food to the employees and increase the serving time. They do not encourage the employee to select a nutritionally complete lunch. Workers will complain more if their meals lack sufficient variety from day to day than they will over a limited choice at any one meal.

The mid-shift meal service should offer the worker a limited choice of nutritionally satisfactory lunches, with as much variety, from day to day, as possible.

A cold lunch can be as nutritionally adequate as a hot lunch.

Special lunches, emphasizing the use of alternate foods, can be offered at slightly lower than prevailing prices to increase their acceptability. At least one such lunch should be offered at every mid-shift meal period.

Foods used as alternates for rationed items should be true alternates, and not substitutes. For example, cheese, fish, poultry, the variety meats, and certain dried beans and legumes can be considered truly to be alternates; whereas spaghetti and macaroni cannot be so considered.

Milk and other protective foods might be offered at or below cost to encourage their consumption in preference to nonprotective foods such as pastry, soft drinks, etc.

All white bread and white flour used should be of the enriched variety.

All margarine should be fortified with vitamin A.

Table salt should be iodized.

The following are a few examples of menus which are nutritionally satisfactory and acceptable to industrial workers.

COLD LUNCHES

One feeding which would fulfill one-third day's food requirement, National Research Council standards, for a moderately active man:

MENU No. 1

Ham Sandwich [1]—1.
American Cheese and Lettuce Sandwich [2]—1.
Milk—8 oz.
Orange Juice—4 oz.

MENU No. 2

Cheese Sandwich [2]—1.
Chopped Dried Beef and Egg Sandwich [2]—1.
Milk—8 oz.
Grapefruit Juice—4 oz.

MENU No. 3

Chopped Egg, Spinach and Cottage Cheese Sandwich [2]—1.
Sliced Tomato and Lettuce Sandwich [2]—1.
Milk—8 oz.
Dried Prunes—8–10.

MENU No. 4

Chopped Liver Sandwich—1.
Peanut Butter Sandwich—1.
Milk—8 oz.
Tomato Juice—6 oz.

MENU No. 5

Ham and Egg Sandiches [2]—2.
Milk—8 oz.
Tomato Juice—6 oz.

MENU No. 6

Sardine and Onion Sandwich—1.
Cheese Sandwich—1.
Milk—8 oz.
Tomato Juice—6 oz.
Roasted Peanuts—3 tablespoons.

The following foods, when added to each of the above menus as a supplementary feeding, will furnish one-half of the day's food requirement, National Research Council standards, for a moderately active man:

Milk—8 oz.
Bread—2 slices (enriched).
Egg—1, or the sandwich filling in the menu.
Butter or Fortified Margarine—2 teaspoons.
Tomato Juice—6 oz.

The full menus as suggested, given twice daily, would supply two-thirds day's food requirements, National Research Council standards, for a moderately active man.

SUGGESTIONS FOR HOT LUNCHES

MENU No. 1

Cream Soup, or Tomato or Grapefruit Juice
Baked Ham, Sweet Potato, Cole Slaw
or—Barbecued Chicken, Steamed Brown Rice, Boiled Carrots
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Butterscotch Pudding
Coffee, Tea, or Milk

MENU No. 2

Tomato or Grapefruit Juice
Chinese Omelet, Tomato Sauce, Green or Yellow Vegetable
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Custard or Custard Pie
Coffee, Tea, or Milk

---

[1] Enriched white bread or whole wheat bread and butter or fortified margarine is used in making all sandwiches.
[2] Mayonnaise or other salad dressing can be used as desired.

MENU No. 3

Orange, Tomato or Grapefruit Juice
Pot Roast of Beef, Baked Potato, Peas
or—Stuffed Green Peppers, Scalloped Tomatoes
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Peach Cobbler
Milk

MENU No. 4

Grapefruit Juice
Braised Pork Chop, Creamed Potatoes, Green Beans
or—Lamb Stew with Vegetables
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Tapioca Cream Pudding
Coffee, Tea, or Milk

MENU No. 5

Cream of Tomato Soup
Boiled Tongue, Au Gratin Potato, Spinach
or—Meat Loaf, Parsley Potato, Cole Slaw, or Molded Fruit Salad
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Whole Raw Fruit
Coffee, Tea, or Milk

MENU No. 6

Tomato Juice
Baked Trout, Baked Potato, Carrots and Peas
or—Beef and Kidney Pie with Vegetables
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Bread Pudding
Milk

MENU No. 7

Cream of Potato Soup
Chili Con Carne, Boiled Potato, Cole Slaw
or—Frankfurters, Sauerkraut, Potato Salad
Whole Wheat or Enriched Bread and Butter or Fortified Margarine
Fruit Pudding
Coffee, Tea, or Milk

THE CONSERVATION OF ESSENTIAL FOOD FACTORS IN THE PREPARATION OF FOODS FOR HUMAN CONSUMPTION

Some losses in food value occur in practically all foods following harvesting. Further losses occur in the storage, processing, cooking and serving of foods. In relation to some factors, the losses may be enormous in the preparation of foods for mass feeding. Much of this loss is unnecessary and can be avoided by observing the few simple rules given below:

FRUIT AND VEGETABLE COOKERY

To conserve vitamins and minerals:

1. **Preparation.**—Use fresh vegetables and fruits as soon as possible after delivery. Handle very carefully for bruising causes rapid losses of vitamins. Keep vegetables and fruits crisp and cool until time to cook them. Shred or chop vegetables and fruits just before they are to be served or cooked.

2. ***Cooking.***—Add vegetables or fruits to rapidly boiling water. Cook quickly and in as little water as possible. Do not add soda to vegetables or fruits to preserve their color because it destroys the vitamins. Cook until just done with some of the original crispness left. Do not stir or expose to air and light anymore than absolutely necessary. Do not let vegetables or fruits stand in water. Standing destroys vitamins. Use vegetable cooking water in gravies, soups or sauces. Bring precooked canned fruits and vegetables quickly to a boil but do not continue boiling. Add frozen vegetables and fruits directly to boiling water. Do not defrost preliminary to cooking.

3. ***Serving.***—Serve vegetables and fruits as soon as possible after they are cooked or prepared for service.

MEAT COOKERY

Short methods of cooking such as sauteing or broiling are less destructive of vitamins than slower methods. Roasting at a low temperature is less destructive than at a high temperature. As with other foods, meats should be served as soon as possible after cooking. Standing in a warmer or on a steam table is accompanied by vitamin losses.

IS THERE A NUTRITION PROBLEM IN THE UNITED STATES?

Prior to the onset of the present war, many millions of American people were not eating the minimum amounts of all the essential food factors needed to keep them in good health. For example, a dietary survey of 1.169 school children in Worchester County, Md. (Willard: American Journal of Public Health, 32:996, 1942), revealed that only 41 percent of the children had two or more cups of milk daily; only 19 percent had adequate vegetables other than potato; only 20 percent of the diets were adequate in fruits; 41 percent in cereal or whole grain; but 97 percent of the children received sufficient meat. All five factors were adequate in only 7.6 percent of the diets; 23 percent were "totally deficient" in one factor; 35 percent in two; 27 percent in three; and 7.5 percent in four.

This section of the Eastern Shore area of Maryland is favored with diversified crops and ample food resources. "There is no reason why there should be a nutrition problem except that many of the 14,000 white and 7,000 colored inhabitants are poor and ignorant, and have large families." In some areas of the Nation, such as the "money crop" section of the South, insufficient food crops and resources have been extremely important causes of malnutrition, but, throughout the Nation, the prime responsible factors have been poverty and ignorance—factors which do not always go hand in hand.

An indication of the role played by food habits, ignorance, and superstition is given by the observations of Stiebeling and Phipard (U. S. Department of Agriculture, Circular No. 507, 1939). These investigators studied the diets of families of employed wage earners in cities, during the period December 1934–February 1937. They found that only 1 percent of white families with a per capita food expenditure of $1.25 to $1.87 per week obtained a good diet, with 82 percent receiving diets definitely poor in one or more nutrients. Nine percent of white families spending between $2.50 to $3.12 per capita per week for food received good and 53 percent poor diets. With food expenditures of $3.75 to $4.37 per person per week, it should not have been difficult to purchase a good diet in 1935. Yet, only 23 percent of such families actually had good diets while 26 percent had poor diets. Obviously the quality of the food selected by families is not merely a matter of the per capita expenditure for food. At every expenditure level above a certain minimum, some families succeed in obtaining good or fair diets while others fare poorly.

Milam (Nutrition Reviews, 1: 72, 1943) found dietary deficiency in ascorbic acid, vitamin A, thiamin, riboflavin, calcium, iron, and protein to be prevalent in a North Carolina community of about 400 inhabitants.

In a dietary survey of 1,103 aircraft workers in southern California, Wiehl (Milbank Memorial Fund Quarterly, 20: 329, 1942), found

that 56 percent of the diets were poor as regards the consumption of green or yellow vegetables; 49 percent were deficient in citrus fruit or tomatoes; 33 percent were poor in milk; 23 percent in eggs, while only 1 percent consumed meat as infrequently as twice a week. Only 2 percent of the diets contained satisfactory amounts of each of the five food groups, while 87 percent were definitely below the amounts recommended by the Food and Nutrition Board of the National Research Council. For most of the men, an increased consumption of milk and of citrus fruits, tomatoes, and certain green vegetables would correct the major deficiencies of riboflavin, calcium, and ascorbic acid and raise the intake of most other nutrients. It is of interest that 85 percent of the diets furnished the recommended amounts or more of protein.

The young men had somewhat better diets than the older men. Men under 25 years of age drank more milk and ate more citrus fruit than those 25 years or older, but had a similar consumption of green and yellow vegetables and eggs.

The report of the Committee on Nutrition of Industrial Workers of the National Research Council (National Research Council, Reprint and Circular Series No. 110 (April) 1942), cites a number of surveys of lunches obtained by workers in plant cafeterias which agree in finding that not more than one-half of the industrial workers observed selected good lunches from the cafeteria line, even when a good choice was possible.

Practically all dietary studies of women workers agree that women employees generally consume poorer diets than men employees. This is rapidly becoming a factor of major importance as the number of women in industry increases. Dr. John H. Foulger (address before the Engineering Society of Detroit, January 15, 1943) has cited the instances of an English plant manager, in a chemical industry, who found that an apparent sex difference in the incidence of gastric complaints, with a much higher incidence among the women employees, disappeared following the improvement of the diets of the women.

If dietary studies can be taken as an indication of nutritional status, an appreciable incidence of malnutrition existed among all classes of the population and in all sections of the country prior to our entrance into the war in December 1941.

Obviously, there is need for an intensive educational program. However, an educational program, geared to reach only the worker and his family, cannot be effective. Good foods, properly prepared and served, must be made available to the worker and he must be given the opportunity and time to take advantage of them.

There is evidence that many of the usual practices associated with the mass preparation and service of foods result in serious losses in food value. Assays of the vitamin B_1, riboflavin and vitamin C content of two meals taken off the counter at the regular meal period in a large industrial cafeteria (Goodhart, R.: J. A. M. A., 121: 93 (January 9) 1943) revealed that, in these instances, no reliance could be placed on the foods cooked in the cafeteria kitchen for supplies of vitamin B_1 or vitamin C. Eighty-seven percent of the vitamin B_1 content of one meal was "provided by the meat, potato and beans, a condition associated with 92 percent loss of thiamin in the preparation of the meal. The meat, potatoes, and carrots provided 40 percent

of the thiamin content of the second meal, which showed a loss of 52 percent of the total thiamin content in preparation." There was an 82 percent loss of vitamin C in the first meal which contained no citrus fruit or tomato juice or salad. The final vitamin C content of the second meal was practically all accounted for by the tomato juice present.

Dr. Robert S. Harris of Massachusetts Institute of Technology reported at the fall (1942) meeting of the American Dietetic Association, that whether food is obtained from an expensive restaurant, cafeteria, or lower class restaurant may bear no relation to its nutritive quality, since the vitamin destruction may be equally severe in the foods served in each place. Vegetables prepared in one of the restaurants at the institute showed considerable losses of vitamins B_1 and C in cooking. When allowed to remain on the steam table after cooking, they showed a much greater loss. In some cases the total losses exceeded 95 percent of the original vitamin content.

Vitamins B_1 and C play essential roles in human nutrition. Williams, et al. (Williams, R. D., Mason, H. L., Smith, B. F., and Wilder, R. M., Archives Int. Med. 69: 721, 1942) found that adults maintained on thiamin deficient diets developed fatigue, lassitude, and loss of appetite; the more active the individual, the sooner did severe symptoms develop. Depressed mental states, muscle soreness, and backaches also developed and the capacity for muscular work also progressively decreased. Restoration of vitamin B_1 to the diet sooner or later brought an end to these signs and symptoms. It was also shown by these workers that a diet containing sufficient vitamin B_1 to prevent the development of obvious deficiency disease is not necessarily adequate for the best nutritional state, as larger amounts increased the alertness and attentiveness of experimental subjects and led to increased working capacity.

Similarly, the work of Johnson, et al. (Johnson, R. E., Darling, R. C., Forbes, W. H., Brouha, L., Egana, E., and Graybiel, A., Jour. of Nutrition, 24: 585, 1942) emphasizes the need for an adequate daily intake of the vitamin B complex if physical fitness is to be maintained. These workers subjected men, on a diet deficient in parts of the vitamin B complex, to hard daily physical work. At the end of 1 week all subjects exhibited symptoms of muscle and joint pains, lack of well being, poor appetite, and constipation. The subjects improved when vitamin B_1 was added to the diet, while the addition of dried brewers yeast was followed by the disappearance of all symptoms and a more rapid and complete recovery of the usual level of fitness.

If a great proportion of the population did not obtain proper diets when food supplies were relatively plentiful, it is hardly reasonable to expect them to do so in the presence of food shortages, rationing and rising prices, unless the wartime civilian food program is properly geared with an effective Nation-wide nutrition program.

SOURCES OF INFORMATION AND MATERIAL

The following list of posters, pamphlets, films and radio materials is presented as a suggestion and are available as indicated by references. It is not intended as a complete list of nutrition educational material.

POSTERS

Government:

Nutrition and Food Conservation Branch, Food Distribution Administration, Washington, D. C:
- *U. S. Needs Us Strong—symbol.
- *U. S. Needs Us Strong—food rules.

U. S. Public Health Service, Industrial Hygiene Division, Bethseda, Md.:
- * "Big Joe" series of 9, 9 x 12.

Bureau of Home Economics, U. S. Department of Agriculture, Washington, D. C.:
- xFlight Food Waste in the House—series of 10, 14 x 20, 25 cents set.
- xNutrition Charts, set of 11, 15 x 23, 50 cents per set. (Order from Superintendent of Documents, U. S. Government Printing Office, Do not send stamps.)

Other sources:

#Servel, Inc., Evansville, Ind.:
- xNutrition in Industry program, "Eat to Beat the Devil," 18 x 28, (Form SPN-298).
- xVictory Lunch Promotion Poster, 21½ x 17½ (Form SPN-302 A, B, C, D,).
- xEducational Food Promotion Series, 4, 21½ x 17½ (Form SPN-302 A, B, C, D).
- xJumbo Food Rules Chart, 40 x 30 (Form SPN-293).
- xVictory Lunch Blackboard Display, 16½ x 26 (Form SPN-303B).

Westinghouse Electric & Manufacturing Co., Mansfield, Ohio:
- xHealth for Victory, set of 2, 17 x 22.

National Dairy Council, 111 N. Canal St., Chicago, Ill.:
- *Professional Teaching Aids.

Evaporated Milk Association, 307 N. Michigan Ave., Chicago, Ill.:
- *For the Calcium You Need, 25 x 38.

#National Livestock & Meat Board, 407 S. Dearborn St., Chicago, Ill.:
- xEat the Right Food Daily, series of 12, 36 x 12.
- xFood Value Charts, 36 x 12.

Institute of Life Insurance, 60 East 42d Street, New York:
- *"Just by Keeping Well You Can Help Win the War," 13 x 20.

Quaker Oats Nutrition Department, Chicago, Ill.:
- *Oatmeal, 18 x 24.

Standard Brands, 595 Madison Avenue, New York:
- *Enriched Bread, 22 x 21.

General Mills, Chamber of Commerce Building, Minneapolis, Minn.:
- *Enriched Bread, 18 x 12.

Boyd-Knell, Standard Milling Co., 500 N. Sacramento Blvd., Chicago, Ill.:
- *Enriched Bread, 18 x 12.

#National Association of Food Chains, 726 Jackson Place, Washington, D. C.:
- *Theme Poster, food rules, 20 x 30.
- *Bread and Cereals, 22 x 15.

Philadelphia Child Health Society, 311 S. Juniper St., Philadelphia, Pa.:
- xVegetables for Victory, 8 charts in color, 50 cents per set.

---

*Available for free distribution.
xObtainable by purchase only.
#Reviewed by Nutrition Division, Office of Defense Health and Welfare Services.

PAMPHLETS

Government:

Nutrition and Food Conservation Branch, Food Distribution Administration:
- †Handbook for Food Demonstrations in Wartime.
- †Eat the Right Food to Help Keep You Fit.
- †Providing Leadership in Nutrition Education Through Refresher Courses.
- †The Food We Live By.
- †When You Eat Out.
- †Nutrition Week.
- †Food Fads, Facts and Fancies, by Dr. Helen S. Mitchell.
- †Food Rules, pocket-size flyer.

Office of Information, U. S. Department of Agriculture:
- ‡Are We Well Fed? Hazel Stiebeling, Miscellaneous Publications No. 430, 15 cents.
- ‡Green Vegetables in Low-Cost Meals, $1 per 100.
- ‡Meat for Thrifty Meals, Farmers' Bulletin No. 1908, 10 cents.
- ‡Milk for the Family, Farmers' Bulletin No. 1705, 5 cents.
- ‡99 Ways to Share the Meat, $1 per 100.
- ‡Potatoes in Low-Cost Meals, $1 per 100.
- ‡Poultry Cooking, Farmers' Bulletin No. 1988, 10 cents.
- ‡Root Vegetables in Low-Cost Meals, $1 per 100.
- ‡Soybeans for the Table, Leaflet No. 166, 5 cents.
- ‡Vitamins From Farm to You, $2 per 100.
- ‡Community Food Preservation Centers, Miscellaneous Publications, 10 cents.
- ‡Home Canning of Fruits, Vegetables and Meats, Farmers' Bulletin 1762, 10 cents.
- ‡Home Storage of Vegetables, Farmers' Bulletin 879, 5 cents.
- ‡Human Nutrition—Reprint from "Food and Life" U. S. D. A. Year Book, 40 cents.

Bureau of Plant Industry, U. S. Department of Agriculture:
- Victory Gardens, Miscellaneous Publications 483, 5 cents.

Children's Bureau, U. S. Department of Labor:
- ‡Food for Young Children in Group Care—Bureau Publication 285, 10 cents.
- ‡The Road to Good Nutrition, Lydia J. Roberts—Bureau Publication 270, 15 cents.

U. S. Office of Education, Federal Security Agency:
- †School Services for Children of Working Mothers (School Children and the War Series, Leaflet No. 1).
- †Food Time—A Good Time at School (Aid to Day Care Committees—School Children and the War Series Leaflet No. 4).

U. S. Public Heath Service, Federal Security Agency:
- ‡What Every Person Should Know About Milk, Supplement to Public Health Reports No. 150, 5 cents.
- ‡Industrial Health Activities by State Agencies, Public Health Reports, 5 cents.
- †Workers' Health Service.

Food Distribution Administration, Washington, D. C., and regional offices:
- †Consumer's Guide.

From other sources:

National Research Council, 2101 Constitution Ave., Washington, D. C.:
- *The Food and Nutrition of Industrial Workers in Wartime.
- *Recommended Dietary Allowances.
- *The Nation's Protein Supply.

---

*Available for free distribution.
†Copies distributed free upon request to agency at Washington, D. C.
‡Obtainable by purchase, if more than one copy is desired. Obtain from Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. (Do not send stamps.)
xObtainable by purchase only.

Servel, Inc., Evansville, Ind.:
xSeries, Home Volunteer's Nutrition Guide and Meal Planner.
x"Eat to Beat the Devil," booklet.
xNutrition in Industry Plan.
Westinghouse Electric & Manufacturing Co., Mansfield, Ohio:
xHealth for Victory—A Nutrition Program for Industry at War.
xABC's of Eating for Health.
xHealth for Victory Club Monthly Meal Planning Guide.
Public Health Committee of the Paper Cup & Container Institute, 1790 Broadway, New York, N. Y.:
*Revolution in Bridgeport.
General Electric Company, Bridgeport, Conn.:
*Pack a Lunch That Packs a Punch.
*How to Get the Most Out of the Food You Buy.
Union Label Trades American Federation of Labor, 901 Massachusetts Ave., Washington, D. C.:
*Nutrition and Labor, Superstitions and Science in Our Daily Food, by Dr. Mark Graubard.
The American National Red Cross, Washington, D. C.:
xFood and Nutrition, nutrition course, 25 cents.
*American Red Cross in the Movement for Better Nutrition.
*Budget Recipes, No. ARC 762.
National Industrial Conference Board, Inc., 247 Park Ave., New York, N. Y.:
xIndustrial Lunchrooms.
Metropolitan Life Insurance Company, Policyholders' Service Bureau, New York, N. Y.:
*Luncheon for Employees.
Institute of Life Insurance, 60 East 42d St., New York, N. Y.:
*5 Simple Health Rules.
Yale University Press:
xDiet and Physical Efficiency, by Haggard and Greenberg.
Cornell University, Ithaca, N. Y.:
xMeals for Many, Bulletin for Homemakers, No. 477.
Princeton University, Princeton, N. J., Industrial Relations Section, Department of Economics:
xOptimum Hours of Work in War Production.
Stephen Daye Press, Brattleboro, Vt.:
xEat to Win, by Ernestine Perry.
H. J. Heinz Co., Research Department, Pittsburgh, Pa.:
*If He Works by Night.
*Nutritional charts for medical and other specialists.
National Dairy Council, 111 N. Canal St., Chicago, Ill.:
xLunchtime on the Home Front.
xA Guide to Good Eating.
National Association of Manufacturers, 14 W. 49th St., New York, N. Y.:
xFood, Work and War, by Dr. Victor G. Heiser, Medical Consultant.
xIndustrial Health Practices.
Council on Foods and Nutrition, American Medical Association, New York, N. Y.:
xSome Nutritional Aspects of Sugar, Candy, and Sweetened Carbonated Beverages.
American Dietetic Association, 185 N. Wabash Ave., Chicago, Ill.:
*List of publications and reprints.
xBibliography of normal nutrition.
xBibliographies on varied dietary subjects.
Public Affairs Committee, 30 Rockefeller Plaza, New York, N. Y.:
xVitamins for Health, Borsook & Huse, No. 69.
Swift & Co., Department A., Chicago, Ill.:
*Eat Right to Work and Win.
xA Handbook of Meat Cookery.
Prudential Insurance Co. of America, Newark, N. J., and local offices:
*Food After Forty, by Mary Schwartz Rose.
*Food to Eat.

*Available for free distribution.
xObtainable by purchase only.

Armour & Co., Chicago, Ill.:
*Food for Freedom.
American Institute of Baking, 10 Rockefeller Plaza, New York, N. Y.:
*Enriched Bread.
Evaporated Milk Association, 307 N. Michigan Ave., Chicago, Ill.:
*Feeding a Family at Low Cost.
Florida Citrus Commission, Lakeland, Fla.
*Keeping Fit in Wartime.
California Fruit Growers Exchange, Educational Department, Los Angeles, Calif.:
*Bulletins on relative values of food.
National Peanut Council, Inc., 812 Citizens and S. National Bank Building, Atlanta, Ga.:
*Peanuts and Their Food Values and Interesting Recipes.
Lily-Tulip Cup Corporation, 122 E. 42d St., New York, N. Y.:
xNutrition for You.
xVitamingo.
State Health Departments.
State Extension Services.
Food Distribution Administration Regional Offices.
Nutrition Committees, Defense Councils.

FILMS

Food—Weapon of Conquest, 2 reels, 16 mm., 35 mm., sound. (Importance of food in warfare.)
Produced by Canadian Film Board, released in United States by United Artists, New York.
Fun in Food, 1 reel, 16 mm., sound, color. (Elementary information on food illustrated through allegories.)
Produced and distributed by Films, Inc., 330 W. 42d St., New York.
Health for Defense, 1 reel, 16 mm., 35 mm., sound, color. (The role of food in good health.)
Office for Emergency Management, Washington, D. C.
⊙Hidden Hunger, 2 reels, 35 mm., sound. (Symbolic presentation of importance of food production and good selection.)
Distributed by Hidden Hunger, 401 Graybar Building, New York.
⊙Home of the Free, 1 reel, 16 mm., silent, color. (Good food selection in home and Army. Milk and dairy products stressed.)
Produced and distributed by St. Louis Dairy Council, 4030 Chouteau Ave., St. Louis, Mo.
⊙Modest Miracle, 1 reel, 16 mm., 35 mm., sound. (Dramatization of discovery and importance of the "morale" vitamin B_1.)
Produced and distributed by Standard Brands, Inc., 595 Madison Ave., New York.
The Negro Farmer, 3 reels, 16 mm., sound. (Suitable for Negro groups in suburban areas.)
Produced and distributed by Tuskeegee Extension Service, Tuskegee Institute, Tuskegee, Ala.
⊙Proof of the Pudding, 1 reel, 16 mm., 35 mm., technicolor. (Presentation of some general suggestions of food needs for family.)
Produced and distributed by the Metropolitan Life Insurance Co., New York.
V Men, 16 mm., 2 reels. (Role of vitamins, laboratory experiment showing losses of vitamins in cooking, and demonstration of proper preparation of vegetables.)
Produced and distributed by Westinghouse Electric & Manufacturing Co., Mansfield, Ohio.
Vim, Vigor & Vitamins. (Sources of vitamins in foods for a day's menu.)
Produced and distributed by Finer Films, 7936 Santa Monica Building, Los Angeles, Calif.
War Film List. (Including nutrition films.)
Office of War Information, Bureau of Motion Pictures, Washington, D. C.

---

*Available for free distribution.
xObtainable by purchase only.
⊙Reviewed and approved by the Nutrition Division, Office of Defense Health and Welfare Services, Washington, D. C.

British films available in United States of America:

⊙Eating at Work, 1 reel, 16 mm., 35 mm., sound. (Industrial nutrition.)

⊙Dig for Victory, 1 reel, 16 mm., 35 mm., sound. (Victory gardens.)

⊙Dinner at School, 1 reel, 16 mm., 35 mm., sound. (Children of wartime working mothers.)

Men in Danger, 1 reel, 16 mm., 35 mm., sound. (Industrial health and accident prevention.)

Miss T, 1 reel, 16 mm., 35 mm., sound. (Correct diets from childhood to wartime industry job.)

Mrs. T and Her Cabbage Patch, 1 reel, 16 mm., 35 mm., sound. (Victory gardens.)

No Accidents, 1 reel, 16 mm., 35 mm., sound. (Prevention of man-hour losses.)

Wartime Factory, 1 reel, 16 mm., 35 mm., sound. (Importance of health of worker.)

British films may be secured for small service charge plus transportation, or may be purchased from the following depositories:

Central Depository—British Information Service, Film Division, 30 Rockefeller Plaza, New York, N. Y.

Regional Depositories—British Information Services, Film Division, 1336 New York Ave., Washington, D. C.

The Film Officer, British Information Services, 360 N. Michigan Ave., Chicago, Ill.

The Film Officer, British Information Services, 260 California St., San Francisco, Calif.

The Film Officer, British Consulate, 448 S. Hill St., Los Angeles, Calif.

NUTRITION NEWS SERVICE

Nutrition in Industry Division, National Nutrition News Service, Food Distribution Administration, Washington, D. C.:

*Monthly releases for industrial plant magazines. (Sent upon request.)

War Production Board Labor Press, Office of War Information, Washington, D. C.:

*Weekly releases for labor press. (Nutrition News included.)

RADIO

Nutrition in Industry Division, Food Distribution Administration, Washington, D. C.:

*"Nutrition in Industry," 15-minute script, dramatization and interview. (Prepared in cooperation with Columbia Broadcasting Co.)

*"Food for Freedom" 25-minute script. (Prepared in cooperation with Office of War Information and Blue Network.)

*"Listen America" series of scripts, dramatization of lives of "Hunger Fighters" and other nutrition programs. (Prepared in cooperation with Women's National Emergency Committee and National Broadcasting Co.)

Food Distribution Administration, Radio Division, Washington, D. C., and regional offices:

*"Food and the War" series, scripts. (Prepared in cooperation with Columbia Broadcasting Co.)

*"Consumer Time" series, scripts. (Prepared in cooperation with National Broadcasting Co.)

*"Food is a Weapon" script or transcription, 14½ minutes.

*"A School Lunch for Every Child" script or transcription, 13 minutes.

---

*Available for free distribution.
xObtainable by purchase only.
⊙ Reviewed and approved by the Nutrition Division, Office of Defense Health and Welfare Services, Washington, D.

ARMY MEDICAL LIBRARY WASHINGTON, D. C. U. S. A.

ADDRESSES OF REGIONAL OFFICES OF THE FOOD DISTRIBUTION ADMINISTRATION

Northeast Region

150 Broadway,
New York, New York

(Includes: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia)

Great Lakes Region

5 South Wabash Avenue,
Chicago, Illinois

(Includes: Wisconsin, Michigan, Illinois, Indiana, Ohio)

Southern Region

Western Union Building,
Atlanta, Georgia

(Includes: Kentucky, Virginia, Tennessee, North Carolina, South Carolina, Mississippi, Alabama, Georgia, Florida)

Southwest Region

425 Wilson Building,
Dallas, Texas

(Includes: Oklahoma, Texas, Arkansas, Louisiana)

Midwest Region

The Old Colony Building,
Des Moines, Iowa

(Includes: North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri)

Rocky Mountain Region

1536 Welton Street,
Denver, Colorado

(Includes: Montana, Idaho, Wyoming, Utah, Colorado, New Mexico)

Pacific Region

821 Market Street,
San Francisco, California

(Includes: California, Nevada, Oregon, Arizona, Washington)

○