QUARTERMASTER CORPS TENTATIVE SPECIFICATION C.Q.D. No. 20E July 30, 1942 Superseding C.Q.D. No. 20D May 26, 1942

MEAT AND CHEESE COMPONENT

U. S. ARMY FIELD RATION K

A. APPLICABLE SPECIFICATIONS.

A-1. The following specifications, of the issue in effect on date of invitation for bids, shall form a part of this specification:

Federal Specification C-C-271, Amendment 4 - Cheese; Process American. Federal Specification HHH-C-81 - Carrots; Fresh.

Tentative U. S. Army Specification No. 22-42, "Supplies, Subsistence, for the United States Army, Conditions Governing the Purchase of."

Tentative Army Specification C.Q.D. No. 27 - "Fruits; Dehydrated."

B. TYPES AND GRADES.

B-1. Types. The meat and cheese components shall be of the following types:

Type I. Corned Pork Loaf with Carrots and Apple Flakes; Canned.

Type II. Veal and Pork Loaf; Canned.

Type III. a. Cheese, Processed American; Canned.

b. Cheese, Processed American, with Bacon; Canned.

Type IV. a. Chopped Pork and Egg Yolks; Canned.

b. Ham and Eggs; Canned.

B-2. Grades. The meat and cheese components shall be of the grades specified herein.

C. MATERIAL AND WORKMANSHIP.

C-1. Shall be prepared under modern sanitary conditions and in accordance with best commercial practice.

D. GENERAL REQUIREMENTS.

- D-1. The meat components shall be prepared only in a plant which is regularly operated under the supervision of the Bureau of Animal Industry, United States Department of Agriculture, and shall be inspected, passed and marked in accordance with regulations governing meat inspection of the United States Department of Agriculture, "U. S. Inspected and Passed by Department of Agriculture," or the proper abbreviation thereof.
- D-2. The meat components shall be handled and delivered under the same sanitary conditions as govern the handling and movements of similar products within and between establishments operated under the supervision of the Bureau of Animal industry, United States Department of Agriculture.

- D-3. All deliver Scanned by the 90th Infantry Division Preservation Group provisions of the Federal Food, Drug and Cosmetic Act and regulations promulgated thereunder.
- D-4. Processing shall be of such time and temperature as will insure thorough cooking and adequate sterilization of the finished product without burning, scorching, or overcooking.
- D-5. Cereal used shall conform to bacterial tolerances for starches, flours, cereals and sugar as published in Subsistence Research Laboratory Technical Bulletin No. 1.
- D-6. The cheese shall be made from milk drawn from cows located in an area designated by the United States Department of Agriculture as a modified tuberculosis-free area, or from cows in herds fully accredited as tuberculosis-free by the United States Department of Agriculture, shall be prepared in accordance with best commercial practice under strictly sanitary conditions, and shall be free from impurities.
- D-7. All cans shall be scored with a key-opening band, so scored as to insure that the cans may be opened readily with a key.

E. DETAIL REQUIREMENTS.

E-l. Type I. Corned Pork Loaf with Carrots and Apple Flakes; Canned. Shall be the product prepared from precooked, corned pork, carrots, dehydrated apples, cereal and stock in the following proportions:

Precooked Corned Pork	100 pounds
Ground Carrots	10 pounds
Dehydrated Apple Flakes	3 pounds
Corn Flour	3.5 pounds
Rice Flour	Q.5 pounds
Stock	10 pounds

- E-la. The precooked corned pork used shall be made from pork trimmings with not more than 20 percent trimmable fat, free from glands, bone particles and gristle. Belly trimmings and bruised and oily pork shall be excluded. Frozen trimmings may be used up to 50 percent of the total meat, provided that the trimmings shall have been in the freezer not to exceed 180 days and are sound, of good color, and show no evidence of deterioration. The pork shall be precooked and cured in accordance with best commercial practice and Bureau of Animal Industry regulations. The corned pork shall be shrunk approximately 37 percent from green weight. Meat shall be ground or chopped sufficiently fine so that it can be filled into the can with an automatic filler.
- E-lb. The stock used shall be obtained from the precooking of pork prior to corning.
- E-lc. The carrots used shall be fresh or fresh-frozen. If fresh-frozen carrots are used, they shall be prepared by a quick-freezing process and be of suitable commercial quality. Carrots shall meet the requirements of Federal Specification HHH-C-81, Carrots; Fresh, except for the restriction as to minimum size. Carrots shall be well-peeled and trimmed free from defects due to insect, mechanical or other injury, damage, or disease. Carrots with woody centers are not acceptable. Carrots shall be properly cleaned and ground through a 3/16 inchiplate.
- E-ld. The dehydrated apples used shall be flaked apples, and shall be used in dry form. The moisture content shall not exceed 5 percent. The flakes shall rehy-

drate readily and, where the 90th Infantry Division Preservation Group acteristics, color and flavor of the fresh fruit. Otherwise, the product shall conform to provisions of Tentative Army Specification C.Q.D. No. 27, dated November 26, 1941, Fruits; Dehydrated.

E-2. Type II. Veal and Pork Loaf; Canned. Shall be made from veal and pork free from bone particles, gristle and bruised tissue. Frozen veal and pork may be used, provided that the meat shall have been in the freezer not to exceed 180 days, shall be sound, of good color, and shows no evidence of deterioration. All veal and pork shall be in prime condition. The veal shall be precooked according to best commercial practice. Cook shrink shall be approximately 24 percent from the raw weight. The pork used shall be raw pork trimmings with not more than 20 percent trimmable fat. Belly trimmings and bruised and oily pork shall be excluded. All meat shall be ground or chopped sufficiently fine so that it can be filled into the can with an automatic filler. Meat shall be cured in accordance with best commercial practice. Product shall conform to the following formula:

Pork Trimmings 20	pounds pounds pounds
Milk, fresh	pounds
Salt 3	pounds
Onions, fresh	pound
Eggs 12	ounces
Sugar	ounces
Nutmeg	ounce
Marjoram	ounce
Nitrite	ounce

The cracker meal used shall be made from soft winter wheat flour mixed with water with the addition of one-half of one percent of salt, baked at 400° - 500° F., and allowed to cool and temper for twenty-four hours before grinding. The cracker meal shall contain not to exceed 9 percent of moisture. In lieu of fresh milk, reconstituted, spray-dried whole milk powder may be used. In lieu of fresh onions, onion powder may be used in the ratio of one part of dehydrated onion powder to ten parts of fresh onions. Either fresh or frozen whole eggs may be used.

E-3. Type III.

a. Cheese, Processed American; Canned. Shall be made from a blend of Cheddar Cheese of the American variety, the weighted average age of which shall be not less than two months. The blend shall contain a minimum of 20 percent of Class "A" and/or Class "B" Cheddar Cheese, as described in Amendment 4 to Federal Specification C-C-271. The flavor after processing shall be clean and characteristic of mild Cheddar Cheese. The body shall be medium soft and resilient. The texture shall be smooth and close. A slight brittleness shall be permissible. The product may be colored or uncolored. If the product is uncolored, it shall be a deep cream; if colored, it shall be from a medium to a deep yellow. The cheese shall be free from mold, shall contain not more than 40 percent of moisture, and in the water-free substance not less than 50 percent of milk fat.

The product shall be processed cheese, prepared by comminuting and mixing one or more lots of cheese into a homogeneous, plastic mass, by the action of heat, with or without the addition of water, and with or without the incorporation of not more than 3 percent of a suitable emulsifying agent.

b. Cheese, Processed American, with Bacon; Canned the cheese used in this product shall conform to the requirements as described in E-3 Type III a above. The bacon used shall be cured and smoked according to good commercial practice in a plant operated under the supervision of the Bureau of Animal Industry, United States Department of Agriculture.

The product shall be prepared from 92-1/2 percent process pasteurized cheese and 7-1/2 percent precooked bacon. The bacon shall be ground through a 1/2 inch plate, fried until reasonably crisp, and shall have excess grease drained off. The bacon ingredient shall be based on the cooked weight. The cheese shall retain its normal color and the bacon shall appear as small distinct particles well distributed through the cheese. The flavor shall be a combination of the cheese and bacon, Products that have strong bacon flavor or discoloration will not be accepted.

E-4. Type IV.

a. Chopped Pork and Egg Yolks; Canned. The pork used shall contain not more than $\overline{35}$ percent trimmable fat, and shall be free from glands, bone particles and gristle. Belly trimmings and bruised and oily pork shall be excluded. Frozen trimmings may be used provided they have been in the freezer not to exceed 180 days and are sound, of good color, and show no evidence of deterioration. The pork shall be ground through a plate with holes 3/16 inch in diameter or chopped in a rotary cutter, or by other means giving equivalent results.

The egg yolks shall contain not less than 43 percent of solids. Frozen yolks may be used provided they are sound, of good color, and show no signs of deterioration.

The components shall be used in the following proportions:

The chopped meat and the egg yolks shall be thoroughly mixed in a mechanical mixer until all pieces of the meat are coated with yolk.

b. Ham and Eggs; Canned. The ham used shall be cured and smoked in conformity with best commercial practice. Smoked hams shall be boned, skinned, and the fat removed to within one-half inch of the lean, and ground through a plate with holes not larger than one-fourth inch, or chopped to give equivalent results.

The eggs used shall be whole eggs, either fresh or frozen. Fresh eggs shall be broken from sound, clean, wholesome shell eggs, under strictly sanitary conditions, in conformity with good commercial egg breaking procedure. Frozen eggs shall be of best commercial grade and shall be sound, sweet and wholesome of prozen eggs shall be defrosted in such manner as to preserve their wholesome qualities.

The eggs and the ground or chopped ham shall be thoroughly mixed, in equal proportions, in a mechanical mixer, until all pieces of ham are coated with egg and the egg whites and yolks become thoroughly mixed. Ground white pepper shall be added at the time of mixing at the rate of one-quarter ounce to each 100 pounds of the ham and egg mixture.

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METHODS OF INSPECScanned by the 90th Infantry Division Preservation Group

- F-1. Unless otherwise specified in the invitation for bids, inspection for compliance with this specification shall be made at the point of origin, during the process of manufacture and packing. Products inspected at origin will be subjected to inspection for condition only at destination. Otherwise, inspections will be made at the point of delivery.
- F-2. Chemical analysis, if required by the purchaser in the examination or testing of samples and deliveries under this specification, shall be made in accordance with methods of the Association of Official Agricultural Chemists, in effect on date of invitation for bids.
- F-3. Awards will be made only after sample of product has been approved by the Subsistence Research Laboratory of the Chicago Quartermaster Depot.
- G. PACKAGING, LABELING, PACKING AND MARKING.

G-1. Packaging.

a. For Meat and Meat and Egg Components. Meat components shall be filled into rectangular or round, inside-lacquered, key-opening cans. Rectangular cans shall be of the following dimensions: Not more than 3-7/8 inches or less than 3-3/4 inches in length, not more than 2-1/8 inches or less than 1-15/16 inches in width, and not more than 1-3/16 inches or less than 1-1/8 inches finished height. Cans shall be filled in accordance with best commercial practice and shall contain not less than 3-1/2 ounces not weight. The inner surface of the cans shall be sprayed with lard before filling.

Round, key-opening cans shall be size 300 x 106. The inner surface of the cans shall be sprayed with lard before filling. Cans shall be filled in accordance with best commercial practice and shall contain not less than 3-3/4 ounces net weight. The filled cans shall be sealed under vacuum and processed in accordance with best commercial practice. In lieu of sealing the meat and egg components under vacuum, the product may be filled into cans at a temperature just under the coagulation point of egg albumen and sealed immediately.

b. For Cheese Components. The product shall be filled into suitable commercial inside-lacquered, parchment-lined, round cans not to exceed size 300 x 106. The cans shall be filled in accordance with best commercial practice. The cans shall contain not less than 4 ounces net.

G-2. Labeling.

a. Meat Components. Each can shall be lithographed with the following:

U. S. Army Field Ration K Name of Product Net Weight Ingredient Statement Inspection Legend

Date of packing (month and year) and the establishment number (Est.) shall be embossed in one end of the can. In addition, labeling shall conform in detail to Amendment 15 to Bureau of Animal Industry Order 211, revised, effective October 1, 1941, and to further amendments, regulations and subsequent decisions pertaining thereto.

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b. Cheese Scapped by the 90th Infantry Division Preservation Grouped on the body or one end of the can the name and description of the product, as follows:

U. S. Army Field Ration K Name of Product Net Weight

The date of packing and a suitable abbreviation of the name of the contractor shall be embossed in the end of the can. For example, such markings for product packed by John Doe & Company in September, 1942, shall appear as: JD 9-42.

- G-3. Packing. Unless otherwise specified, the packages shall be packed in standard commercial containers, so constructed as to insure acceptance by common or other carriers, for safe transportation at the lowest rate, to the point of delivery.
- G-4. Marking. Unless otherwise specified, all cartons shall be stenciled or printed as follows:

Number of Units - Name of Product Date (month and year) of Packing Contract Number Name and Address of Manufacturer

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