

NUTRITION

10-in-1 Ration a Success

Army substitute for monotonous C and K rations for fighting men in the field contains such delicacies as pork and applesauce and fruit bars.

► THE ARMY's famous and successful ten-in-one ration was developed after experience in the African campaign showed the need for special rations during the period between landing operations and the expansion of the beachheads gained, it is explained in a report released by the Senate subcommittee on war mobilization, known also as the Kilgore committee. Senator Harley M. Kilgore of West Virginia is chairman.

It takes from 30 to 60 days to place in operation the B ration, composed of 125 items and requiring kitchen equipment and a long, well-integrated and complex supply system. As a result, troops in offensive operations had to live one or two months or longer on C or K rations. Although sufficiently nourishing, these became so monotonous that the men frequently could not eat enough of them to get enough food for prolonged top efficiency.

Antiaircraft gun crews, searchlight crews and other troops stationed far from the base camp and messing facilities also had to get along on the monotonous C and K rations. Tanks and other vehicles upon reaching their night bivouac are scattered over such wide distances, as a precaution against bombing, that they could not well be fed from regular messes.

These and similar conditions of modern warfare showed that rations developed before Pearl Harbor were not suitable to all circumstances. The Quartermaster Corps got to work, with an appropriation of \$50,000 plus research aid furnished gratis by cereal manufacturers and meat packers, and in August, 1943, the first ten-in-one rations were produced.

They met with tremendous enthusiasm when issued to troops in the Italian campaign. These men had fought through the Sicilian campaign of approximately 42 days. During 38 of these days, they had existed on C and K rations, because the B ration could not be moved up any sooner. Their response to the ten-in-one ration in the Italian campaign has been equalled by that of troops using it in the European campaign.

The ten-in-one ration is packed in waterproof asphalt, laminated fiber cartons

that will withstand 18 to 24 hours immersion in seawater without any damage to the contents and floats just awash.

Each carton contains rations for 10 men for one day, or for five men for two days, one man for 10 days or any similar combination. There are five separate menus. Latest specifications call for five types of ready-to-eat cereal, 17 different meat items, three different cheese products, five different vegetables, four different types of biscuits and five different beverages.

The biscuits, used instead of bread in combat rations, are highly nourishing and greatly improved in palatability over hardtack.

Outstanding among confections, the Kilgore committee reports, is the fruit bar developed by the Army from the ground up. Nothing in commercial existence even approached this type of product. Because commercial candies would not stand the rigors of high-temperature storage, new types of high-melting chocolate candies and coatings were developed.

The Army had also to initiate the development of new types of canned meats, since few of the commercially available ones were satisfactory for Army use and their variety was extremely limited from an Army viewpoint. As a result there were developed, among others, canned hamburgers, dehydrated corned beef hash, dehydrated meat and rice, pork and corn, improved roast beef, pork and applesauce, ham and raisin sauce, and ham and sweet potatoes.

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ENGINEERING

Transportable Power Plants Being Shipped to Europe

► UNIT transportable electrical power plants, complete with generator, steam turbine, boiler and other necessary parts, are being shipped to Europe to furnish power in bombed-out regions to help the return to normal industrial production, it is announced by William E. Knox of the Westinghouse Electric International Company. The units are of two sizes, one with a capacity of

2,000 kilowatts, the other half as large.

The idea of a compact power-producing unit first was conceived by Mr. Knox for use in China, following a trip to that country in 1939. The Chinese, forced back into the interior by the Japs from their coastal industrial cities, needed a quick means of generating electric power for war production. Westinghouse designed units that could operate on locally abundant low-grade coal and models that were built to burn lignite, oil, wood, and even peat.

The European war created another demand. A semi-portable design was perfected that could be assembled in a minimum of time. To meet the emergency requirements of rehabilitation a design was made that simplifies the arrangement of the major parts and eliminates all dispensable refinements.

Westinghouse unit steam power plants of various types have been purchased for use in Russia, Italy, the Netherlands, French North Africa, China and South America, he said. In the Netherlands they are furnishing power for electrical equipment to pump back into the sea the salt waters let in when the Nazis destroyed the protecting dikes.

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ORDNANCE

Tear-Gas Grenade Has Baseball's Size and Shape

► A NEW BASEBALL grenade, that any young American can throw without training because he already knows how to peg one from center-field to home-plate, has just been adopted by the Army's Chemical Warfare Service. It is charged with a new-type tear-gas, and is intended primarily for use by the Corps of Military Police, in dispersing mobs and quelling incipient riots.

In use, the grenade is grasped in the hand, with thumb or index finger over a projecting plug. The soldier pulls a safety pin, then throws the grenade exactly as he would a baseball. As soon as the missile leaves his hand, the plug is forced out by a spring, and a two-second fuse is set in action.

When the fuse functions, it explodes a very small bursting charge, just sufficient to break the thin plastic casing like an eggshell and scatter the tear-gas contents in the form of an invisibly fine powder spray or aerosol. Action is instantaneous; there is no chance for members of the crowd to run out of range, as sometimes happens with the present slower-fuming tear-gas grenades.

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