

OPERATIONAL RATIONS

**OF THE
DEPARTMENT OF DEFENSE**



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**US ARMY
SOLDIER SYSTEMS COMMAND
NATICK RESEARCH, DEVELOPMENT
& ENGINEERING CENTER
NATICK, MA 01760-5000**

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INTRODUCTION

Modern operational requirements demand state of the art combat service support systems that provide for the needs of the warfighter in extremely intense and highly mobile combat situations as well as other contingency operations. The US Army Soldier Systems Command, Natick, Research, Development and Engineering Center, Sustainability Directorate (SusD) contributes to the overall quality of life of the individual combatant by serving as the commodity laboratory responsible for research, development, engineering, and technical support of combat rations subsistence, food service equipment/systems, unit and organizational equipment, softwall shelters and tactical rigid wall shelters. This pamphlet highlights the accomplishments that SusD achieved under the Department of Defense Food Research, Development, and Engineering Program in support of the warfighter. SusD's responsibilities in this particular commodity area cover the entire life cycle of both items and systems - food, food packaging, and food service equipment.

The operational rations discussed in this pamphlet include only product improvements to fielded general purpose operational rations, special purpose operational subsistence, and survival subsistence. Specific information provided for each ration includes purpose, characteristics, nutritional data, requisition information, and preparation requirements.



STANDARD B RATION

PURPOSE

The Standard B Ration is used by the Armed Forces to sustain groups during operations that allow organized food service facilities with the exception of refrigeration. It is also used in situations that do not permit resupply of perishable foods.

CHARACTERISTICS

There are approximately 100 semiperishable foods used in the 10-day menu. The ration provides breakfast, lunch, and dinner menus. The components are mostly canned and dehydrated foods, packaged in bulk containers of various sizes and types. Canned alternatives for dehydrated foods and alternate package sizes are specified in this ration. The shelf life varies depending on the item. The food is susceptible to damage by various conditions, such as freezing, heating, insects/rodents, humidity, puncture, breakage, etc.

WEIGHT/RATION*	CUBE/RATION*
3.834 pounds(gross)	0.1226 cubic feet(gross)
3.198 pounds(net)	

*Includes all regular menu components, bread ingredients, condiments, and seasonings

NUTRITIONAL DATA

The ration provides approximately 4300 kilocalories per day (13% protein, 33% fat, and 54% carbohydrate).

REQUISITION INFORMATION

Each individual component has a National Stock Number (NSN). Also, each meal has been unitized with its own NSN. Requisitions are made according to the supply procedure for each Military Service.

PREPARATION REQUIREMENTS

The food is prepared by trained food service personnel. It takes 2 to 3 hours for two cooks to prepare a meal for 100 persons; additional personnel are needed for serving and sanitation. An average of 75 gallons of water per day is required to prepare food (excluding bread) and beverages for 100 persons.

COMMENTS

Menus, recipes and supply data are published in the supply bulletin: SB 10-495 NAVSUP INST 10110.6A MCO P10110.25C for the Army, Navy and Marine Corps. The Air Force provides the information through its automated worldwide menu program. Alternate menu items are listed to meet specific Service needs. To increase the acceptability of this ration, perishable foods, e.g., fresh fruits and salads, should be included whenever possible. Since the fielding of the Unitized Group Ration ((UGR)(see page 8), the Army has chosen to use the Cook Prepared, B version of the UGR in lieu of the Standard B Ration.



Standard B Ration for 100 Persons, one meal

STANDARD B RATION MENU

	BREAKFAST	LUNCH	DINNER
DAY 1	Grapefruit Sections Hot Oatmeal w/Milk Creamed Ground Beef Bread/Margarine	Chicken Noodle Soup w/Crackers Luncheon Meat Sandwich Catsup/Mustard/Dill Pickles Baked Beans Apple Crisp	Beef and Gravy Mashed Potatoes Buttered Peas Biscuits/Margarine Pears/Peanut Butter Cookies
DAY 2	Orange Juice Cheese Omelet Catsup Bacon Bread/Margarine	Tomato Veg Noodle Soup w/Crackers Grilled Hamburgers w/Fried Onions Catsup/Mustard/Dill Pickles Hash Brown Potatoes Buttered Corn Chocolate Pudding	Creole Chicken Steamed Rice Buttered Green Beans Cabbage & Green Pepper Salad Pineapple/Oatmeal Cookies
DAY 3	Grapefruit and Orange Juice Hominy Grits Griddle Cakes w/Hot Maple Syrup Bacon Bread/Margarine	Chili Macaroni Buttered Peas Peach & Cottage Cheese Salad Corn Bread Fruit Cocktail Pudding Sugar Cookies	Beef Noodle Soup w/Crackers Scalloped Ham and Potatoes Vegetable Medley Devils Food Cake w/Vanilla Icing
DAY 4	Orange Juice Hot Oatmeal w/Milk Creamed Ground Beef Bread/Margarine	Tomato Veg Noodle Soup w/Crackers Baked Luncheon Meat w/Pineapple Sauce Potatoes Au Gratin Buttered Green Beans Dill Pickles Applesauce Butterscotch Brownies	Beef&Gravy w/Vegetables Mashed Potatoes Corn Relish Biscuits Cranberry Crunch
DAY 5	Tomato Juice Hot Hominy Grits Scrambled Eggs Western Style Catsup Bread/Margarine	Chicken Noodle Soup w/Crackers Chiliburgers Hash Brown Potatoes Cabbage & Green Pepper Salad Vanilla Pudding Chocolate Cookies	Shrimp Creole Steamed Rice Buttered Carrots and Peas Apple Crisp
DAY 6	Grapefruit and Orange Juice Roast Beef Hash Catsup Cheese Omelet Bread/Margarine	Chicken Pot Pie Cranberry Sauce Mashed Potatoes Buttered Corn Yellow Cake w/Chocolate Icing	Onion Soup w/Crackers Baked Ham Macaroni and Tomatoes Buttered Green Beans Cherry Cobbler
DAY 7	Orange Juice Hot Oatmeal w/Milk Scrambled Eggs Catsup Grilled Luncheon Meat Quick Coffee Cake/Margarine	Beef Noodle Soup w/Crackers Barbecued Beef Buttered Peas Cabbage & Carrot Salad Applesauce Chocolate Brownies w/Chocolate Icing	Breaded Pork Chops and Cream Gravy Applesauce Mashed Potatoes Buttered Succotash Pineapple/Raisin Oatmeal Cookies
DAY 8	Grapefruit Sections Hot Hominy Grits French Toast w/Hot Maple Syrup Bacon Bread/Margarine	Beefsteak and Gravy Mashed Potatoes Stewed Tomatoes Dill Pickles Peach Cobbler	Chicken Noodle Soup w/Crackers Chili Con Carne Steamed Rice Buttered Green Beans Corn Bread Pears/Chocolate Cookies
DAY 9	Grapefruit and Orange Juice Hot Oatmeal Scrambled Eggs w/Bacon Catsup Bread/Margarine	Beef Patties Jardiniere Mashed Potatoes Buttered Corn Pineapple & Cottage Cheese Salad Marble Cake w/Chocolate Icing	Tomato Veg Noodle Soup w/Crackers Fried Fish Squares/Catsup Macaroni and Cheese Buttered Peas Fruit Cocktail/Sugar Cookies
DAY 10	Orange Juice Hot Hominy Grits Roast Beef Hash Catsup Bread/Margarine	Baked Chicken and Rice Cranberry Sauce Buttered Green Beans Biscuits Peaches Chocolate Brownies w/Chocolate Icing	Onion Soup w/Crackers Pork Chops in Tomato Sauce Mashed Potatoes Bavarian Cabbage Dill Pickles Cherry Crunch

Breakfast menus include Jelly, Peanut Butter, Coffee, and Cocoa.

Lunch/Dinner menus include Bread, Margarine, Coffee, Tea, and Beverage Base.

STANDARD MEDICAL B RATION (Med B or MB)

PURPOSE

The Standard Medical B Ration is used by the Armed Forces to sustain patients in field medical treatment facilities when semiperishable food is required due to a lack of refrigeration or the inability to resupply perishable foods. When hot meals are served to the staff, the regular diet is used.

CHARACTERISTICS

The ration is based on the Standard B Ration, which has been adjusted to meet hospital requirements. A 10-day menu, including nourishments, has been planned for the following diets: Regular, High Calorie and High Protein, Dental Liquid, Full Liquid, and Clear Liquid. There are approximately 30 additional components required to meet patients needs. The shelf life of the ration and its susceptibility to damage is the same as the Standard B Ration.

WEIGHT/RATION*		CUBE/RATION*	
PATIENT	STAFF	PATIENT	STAFF
4.280 pounds(gross)	4.279 pounds(gross)	0.131 cubic feet(gross)	0.139 cubic feet(gross)
3.174 pounds(net)	3.560 pounds(net)		

*Includes all regular menu components, bread ingredients, condiments, and seasonings

NUTRITIONAL DATA

	Kcal	Pro (g)	Fat (g)	CHO (g)
Regular Diet	3951	134	145	545
High Calorie-High Protein Nourishments	2575	80	102	354
Dental Liquid Diet	4336	205	117	632
Full Liquid Diet	3970	154	68	705
Clear Liquid Diet	986	12	2	237

REQUISITION INFORMATION

National Stock Numbers have been established for each item. Requisitions are made according to the supply procedure for each Service. For planning purposes, it is expected that 77% of the total patient strength will consume the regular diet. The remaining 23% will require one of the liquid diets.

PREPARATION REQUIREMENTS

The food is prepared by hospital food service specialists. Additional personnel are needed for serving and sanitation. An average of 122 gallons of water per day is required to prepare food and beverages for 100 patients. In addition to food service facilities, ward transport equipment is needed.

COMMENTS

Subsistence and personnel constraints, plus differing quad-service operational procedures and philosophy, have necessitated deviation from the typical dietary practices used in fixed facilities. Diet types and Medical B Ration food components have been approved by the Quad-Service Clinical Review Committee. Menus, recipes, and supply data are published in a single supply bulletin for all the Services (SB 10-495-1/NAVMED P-5129/MCO P10110.26A/AFMAN 41-121). The Ration Supplement, Hospital and the Standard "B" Hospital Ration were forerunners of this ration. The medical supplement to the Unitized Group Ration (see page 8) is currently being developed and will preclude the Standard Medical B Ration.

STANDARD MEDICAL B RATION

DAY 1 MENU

	REGULAR	DENTAL LIQUID	FULL LIQUID	CLEAR LIQUID
	Grapefruit Sections	Grapefruit Juice	Grapefruit Juice	Grapefruit Juice ⁷
	Hot Oatmeal w/Milk	Thin Oatmeal	Thin Oatmeal	
B	Raisins			
R	Creamed Ground Beef	Orange Eggnog	Orange Eggnog	Beef Broth
E	Grilled Potato Cakes ¹			
A	Bread ²		Strawberry Gelatin	Strawberry Gelatin
K	Margarine ³			
F	Peanut Butter ³			
A	Grape Jelly ³			
S	Milk	Milk	Milk	
T	Coffee	Coffee	Coffee	Coffee
	Tea	Tea	Tea	Tea
	Decaffeinated Coffee	Decaffeinated Coffee	Decaffeinated Coffee	Decaffeinated Coffee
	Cocoa	Cocoa	Cocoa	
	Nondairy Creamer	Nondairy Creamer	Nondairy Creamer	
	Sugar-Salt-Pepper	Sugar-Salt-Pepper	Sugar-Salt	Sugar-Salt
1000 Hours	Nourishment/Late Meals ⁴			
	Apple Cinnamon Milkshake ^{5, 6}	Apple Cinnamon Milkshake	Apple Cinnamon Milkshake	Tea w/Sugar
	Crackers ⁵	Grape Beverage	Grape Beverage	Grape Beverage
	Peanut Butter-Grape Jelly ⁵			
	Chicken Noodle Soup w/Crackers	Thin Cream of Chicken Noodle Soup	Thin Cream of Chicken Noodle Soup	Strained Chicken Noodle Soup
	Luncheon Meat w/Mustard Glaze	Thin Pork	Coffee Eggnog	
L	Baked Beans	Thin Baked Beans		
U	Garden Cottage Cheese Salad	Thin Potatoes		
N	Dill Pickles			
C	Bread ²			
H	Margarine ³	Thin Fruit Cocktail	Thin Fruit Cocktail	Orange Gelatin
	Apple Crisp	Thin Vanilla Pudding	Thin Vanilla Pudding	Coffee
	Coffee	Coffee	Coffee	Tea
	Tea	Tea	Tea	Decaffeinated Coffee
	Decaffeinated Coffee	Decaffeinated Coffee	Decaffeinated Coffee	Cherry Beverage
	Cherry Beverage	Cherry Beverage	Cherry Beverage	
	Nondairy Creamer	Nondairy Creamer	Nondairy Creamer	
	Sugar-Salt-Pepper	Sugar-Salt-Pepper	Sugar-Salt	Sugar-Salt
1400 Hours	Nourishment/Late Meals ⁴			
	Chocolate Milkshake ^{5, 6}	Chocolate Milkshake	Chocolate Milkshake	Tea w/Sugar
	Crackers ⁵	Grape Beverage	Grape Beverage	Grape Beverage
	Peanut Butter-Blackberry Jelly ⁵			
	Beef and Gravy	Thin Cream of Cheese Soup	Thin Cream of Cheese Soup	Tomato Broth
	Mashed Potatoes	Thin Beef	Vanilla Eggnog	
D	Buttered Peas	Thin Potatoes		
I	Biscuits	Thin Peas		
N	Margarine			
N	Peach Jam			
E	Pears	Thin Pears	Thin Pears	
R	Peanut Butter Bars	Thin Baked Custard	Thin Baked Custard	Lemon Gelatin
	Milk	Milk	Milk	
	Coffee	Coffee	Coffee	Coffee
	Tea	Tea	Tea	Tea
	Decaffeinated Coffee	Decaffeinated Coffee	Decaffeinated Coffee	Decaffeinated Coffee
	Lemonade Beverage	Lemonade Beverage	Lemonade Beverage	Lemonade Beverage
	Nondairy Creamer	Nondairy Creamer	Nondairy Creamer	
	Sugar-Salt-Pepper	Sugar-Salt-Pepper	Sugar-Salt	Sugar-Salt
2000 Hours	Nourishment/Late Meals ⁴			
	Strawberry Milkshake ^{5, 6}	Strawberry Milkshake	Strawberry Milkshake	Tea w/Sugar
	Crackers ⁵	Grape Beverage	Grape Beverage	Grape Beverage
	Peanut Butter-Peach Jam ⁵			

¹ Delete when bread is available

² Add when available

³ Bread/sandwich accompaniment

⁴ Late Meals: Crackers (eight 2-inch squares), peanut butter, jelly and milkshake will be served to patients on Regular Diets. The appropriate nourishments will be served to patients on Liquids Diets.

⁵ Nourishment for High Calorie-High Protein Diets

⁶ Nourishment for Dental Soft Diets

⁷ Strain canned juice

T RATION (Tray Packs)

PURPOSE

The T Ration is designed to sustain groups of military personnel in highly mobile field situations with high quality, nutritionally adequate, heat and serve meals. This ration is an integral part of the Army Field Feeding System.

CHARACTERISTICS

The components in the 10-day menu are thermally processed, pre-prepared, shelf-stable foods, packaged in hermetically sealed, half-size steam table metal containers. The ration provides breakfast and lunch/dinner menus. The container serves as the package, heating pan, and serving tray. Each menu has been unitized in 18 man modules. Instant beverages, nondairy creamers, hot sauce, and disposables (cups, five-compartment trays, utensils) are included in each module. A pallet load consists of 24 identical meal modules. The shelf life is a minimum of 3 years at 80°F (27°C). A unitized Cold Weather T Ration Supplemental Module is available. This supplemental module contains styrofoam clamshell trays and hot cups with lids, MRE pouch bread, candy, oatmeal cookie bars, soup, extra hot beverages and nondairy creamers.

AVERAGE NET WEIGHT/MODULE	CUBE/MODULE
33 pounds (breakfast)	1.66 cubic feet
45 pounds (dinner)	

NUTRITIONAL DATA

The breakfast menus, including milk and bread supplements, provide an average of 1420 kilocalories (15% protein, 29% fat, and 56% carbohydrate) and the lunch/dinner menus, including milk and bread supplements, provide an average of 1420 kilocalories (17% protein, 30% fat, and 53% carbohydrate). The Cold Weather Supplement contains an additional 1020 kilocalories.

REQUISITION INFORMATION

Each individual tray pack item, meal module, and the cold weather supplemental module have a National Stock Number. For situations that do not require unitized meals, individual cases of specific menu items (4 cans/case) can be ordered.

PREPARATION REQUIREMENTS

The Tray Packs are prepared for serving by food service personnel. They can be heated, unopened, in boiling water for 15-50 minutes, depending on the product, or opened and heated in an oven to an internal temperature of 165°F (74°C). A special hand-held or table mounted can opener is required.

COMMENTS

To reduce food waste and weight of the module, an 18-person module has replaced the original 36-person module. Since the T Ration is pre-prepared, its use allows reduction in food preparation time by 50-80%, water usage by 40%, and fuel by 20% when compared to A or B rations. Revisions are continuous under the Fielded Group Ration Improvement Program. The Subsistence Review Committee (SRC) and the Joint Service Operational Ration Forum (JSORF) meet annually to approve changes. Based on field test data, the SRC/JSORF introduced 14 new items in the FY95/96 menu. The Unitized Group Ration (UGR) on page 8, incorporates selected highly acceptable tray pack items from the T Ration. The Army plans to phase out the 18 man module by FY98, however, the Marine Corp is expected to continue its use.



Shipping Container and Components, Tray Pack-18 Person

T RATION
MENU (FY97)

	NSN	BREAKFAST	NSN	LUNCH/DINNER
DAY 1	8970-01-320-4849	Scrambled Eggs, Western Style(FD)* Potatoes w/Bacon Pieces Peaches Oatmeal, Instant, Assorted Orange Juice, Instant	8970-01-320-4859	Chicken Breast w/Gravy Glazed Sweet Potatoes Corn Yellow Cake w/Chocolate Crumb Topping* Lemon Beverage Powder
DAY 2	8970-01-320-4850	Creamed Ground Beef Potatoes w/ Bacon Pieces Oatmeal, Instant, Assorted Coffee Cake w/Cinnamon Crumb Topping* Grape Juice, Instant	8970-01-320-4860	Lasagna Green Beans Chocolate Pudding Grape Beverage Powder
DAY 3	8970-01-320-4851	Scrambled Eggs, Plain(FD)* Salsa Ham Slices Apple Dessert Coffee Cake w/Cinnamon Crumb Topping* Orange Juice, Instant	8970-01-320-4861	Meatballs w/Gravy* White Rice Mixed Vegetables Chocolate Cake w/Vanilla Crumb Topping* Grape Beverage Powder
DAY 4	8970-01-320-4852	Scrambled Eggs, Bacon & Cheese(FD)* Pork Sausage Links Pears Spice Cake w/Vanilla Crumb Topping* Grape Juice, Instant	8970-01-320-4862	Boneless BBQ Pork Ribs* Hamburger Bun Red Beans & Rice* Peas and Carrots Yellow Cake w/Chocolate Crumb Topping* Cherry Beverage Powder
DAY 5	8970-01-320-4853	Corned Beef Hash Coffee Cake w/Cinnamon Crumb Topping* Apple Dessert Oatmeal, Instant, Assorted Orange Juice, Instant	8970-01-320-4863	Beef Strips w/Peppers Oriental Style Rice* Carrots, Sliced Marble Cake w/Toffee Crumb Topping* Lemon-Lime Beverage Powder
DAY 6	8970-01-320-4854	Scrambled Eggs, Plain(FD)* Salsa Pork Sausage Links Peaches Spice Cake w/Vanilla Crumb Topping* Grape Juice, Instant	8970-01-320-4864	Chicken Chow Mein* Oriental Style Rice* Corn Chocolate Cake w/Vanilla Crumb Topping* Lemon-Lime Beverage Powder
DAY 7	8970-01-320-4855	Scrambled Eggs, Western Style(FD)* Ham Slices Fruit Cocktail Coffee Cake w/ Cinnamon Crumb Topping* Oatmeal, Instant, Assorted Orange Juice, Instant	8970-01-320-4865	Hamburger Hamburger Bun Pork & Beans Peaches Cheese Spread Orange Beverage Powder
DAY 8	8970-01-320-4856	Creamed Ground Beef Potatoes w/Bacon Pieces Spice Cake w/Vanilla Crumb Topping* Oatmeal, Instant, Assorted Grape Juice, Instant	8970-01-320-6254	Spaghetti w/Meatballs Green Beans Marble Cake w/Toffee Crumb Topping* Cherry Beverage Powder
DAY 9	8970-01-320-4857	Scrambled Eggs, Bacon & Cheese(FD)* Ham Slices Apple Dessert Coffee Cake w/ Cinnamon Crumb Topping* Orange Juice, Instant	8970-01-320-4866	Turkey Slices w/Gravy Potatoes in Butter Sauce Mixed Vegetables Yellow Cake w/Chocolate Crumb Topping* Lemon-Lime Beverage Powder
DAY 10	8970-01-320-4858	Corned Beef Hash Pork Sausage Links Oatmeal, Instant, Assorted Coffee Cake w/Cinnamon Crumb Topping* Grape Juice, Instant	8970-01-320-4867	Beef Stew White Rice Peas Marble Cake w/Toffee Crumb Topping* Grape Beverage Powder

Breakfast menus include Bread, Milk, Coffee, Cocoa, Peanut Butter, and Jelly.
Lunch/Dinner menus include Milk, Coffee, Peanut Butter, and Jelly.

* New Menu Item

UNITIZED GROUP RATION (UGR)

PURPOSE

The UGR is designed to simplify and streamline the process of providing high quality group meals in the field by integrating components of the Cook Prepared and Heat & Serve Rations with quick-prepared and/or ready-to-use commercial products. It will be used to sustain groups of military personnel during operations that allow organized food service facilities. It is an integral part of the Army Field Feeding System-Future (AFFS-F).

CHARACTERISTICS

This ration has 5 breakfast and 10 lunch/dinner menus. There are three options available, a Cook Prepared-Perishable, Cook Prepared-Shelf Stable and a Heat & Serve (H&S) comprised of selected Tray Pack and other ready to use commercial items, thus providing 15 breakfast and 30 lunch/dinner menu options. With the exception of the bread, milk, and cold cereal, and the perishable items which complement the Cook Prepared-Perishable option, each menu, including disposable trays/cups/flatware and trash bags, is unitized into three boxes, which provide 50 meals. One tier contains six boxes and provides 100 meals; one pallet (four tiers) provides 400 meals. The shelf life is 18 months at 80°F (27°C).

NUTRITIONAL DATA

Each meal, including mandatory enhancements, provides an average of 1450 kilocalories (14% protein, 32% fat, and 54% carbohydrate). Breakfast enhancements include bread, milk and cold cereal and the lunch/dinner enhancements include bread, milk, peanut butter and jelly.

REQUISITION INFORMATION

The ration was fielded in FY95. Initially, the ration was unitized to feed 100 meals (UGRI). Based on feedback from the field, UGR II (available March 1997) has been downsized to 50 meals per module. Each menu option (45) has been assigned an NSN. The first six digits of the NSN for each menu are 8970-01-. The following chart lists the last seven digits. (Example - The NSN for UGR Cook-Prepared, Perishable Breakfast Menu 1 is 8970-01-432-9953).

BREAKFAST MENUS				LUNCH/DINNER MENUS							
	<u>CP-P</u>	<u>CP-SS</u>	<u>H&S</u>		<u>CP-P</u>	<u>CP-SS</u>	<u>H&S</u>		<u>CP-P</u>	<u>CP-SS</u>	<u>H&S</u>
Menu 1	432-9953	433-5346	433-0561	Menu 1	433-5012	432-9947	432-9943	Menu 6	433-5041	432-9991	432-9988
Menu 2	432-9969	432-9990	433-0562	Menu 2	433-4993	433-0564	432-9951	Menu 7	433-5034	433-0002	432-9999
Menu 3	432-9977	433-0007	433-0563	Menu 3	433-5008	432-9957	432-9959	Menu 8	433-5378	433-0010	433-0008
Menu 4	433-2462	433-0013	433-0565	Menu 4	433-5035	432-9967	432-9963	Menu 9	433-5351	433-0569	433-0018
Menu 5	433-4988	433-0022	433-0023	Menu 5	433-5038	432-9983	432-9976	Menu 10	433-5344	433-0560	432-9946

PREPARATION REQUIREMENTS

The food is prepared by trained food service personnel using organized food service facilities.

COMMENTS

The UGR was evaluated as part of four Army Field Feeding System-Future field trials conducted by Army Center of Excellence, Subsistence (ACES), U.S. Army Quartermaster Center & School (USAQMC&S), during FY93. Feedback has indicated that the processes of ordering, issuing and preparing meals have been simplified. Confirmatory field tests were conducted with the Marine Corps and the Army in 1QFY95 to evaluate menu design and the "right size/right component" concept. Revisions are customer driven and continuous under the Fielded Group Ration Improvement Program. Medical UGR requirements are being evaluated. Perishable foods, e.g., fresh fruits and salads, should be used whenever possible to supplement the UGR meals.



Packing Configuration, UGR

UNITIZED GROUP RATION (UGRII)

MENUS (FY97)

	BREAKFAST	+ ENTREE OPTIONS	LUNCH/DINNER	+ ENTREE OPTIONS
Menu 1	Grape Juice Peaches Coffee Cake w/Topping Catsup	A Corned Beef Hash Eggs to order or B Roast Beef Hash Scrambled Eggs or T Corned Beef Hash Scram Eggs w/Salsa	Chicken Noodle Soup Green Beans Spice Cake w/Topping Applesauce Lemonade	A Creole Macaroni or B Creole Macaroni or T Lasagna
Menu 2	Orange Juice Instant Oatmeal Catsup	A Grilled Luncheon Meat Eggs to order, Hash Browns or B Grilled Luncheon Meat Scrambled Eggs, Hash Browns or T Ham Slices Scram Eggs w/Bacon & Cheese Potatoes in Sauce	Mashed Potatoes Carrots Yellow Cake w/Topping Fruit Cocktail Sugar Free Ice Tea Cranberry Sauce	A Roast Turkey w/Gravy & Stuffing or B Chicken w/Bread Stuffing & Gravy or T Chicken Breasts in Gravy & Stuffing
Menu 3	Orge/Grfrt Juice Hominy Grits Waffles, Blueberry Maple Syrup	A Bacon or B Bacon or T Sausage Links in Brine	Vegetable Soup Corn Devil's Fudge Cake w/Topping Apple Dessert Orange Drink	A Grilled Pork Chops w/Gravy AuGratin Potatoes or B Grilled Pork Chops w/Gravy AuGratin Potatoes or T BBQ Pork Ribs, Red Beans w/Rice& Bacon, Hamburger Bun
Menu 4	Grape Juice Instant Oatmeal Catsup	A Creamed Ground Beef Eggs to order, Biscuits Hash Browns or B Creamed Ground Beef Scrambled Eggs, Hash Browns or T Creamed Ground Beef Western Omelet, Potatoes w/Bacon	Baked Beans Hamburg Bun 3 Bean Salad Vanilla Pudding Peaches Sugar Free Lemonade Catsup/Relish/Mustard	A Hamburgers or B Grilled Hamburgers or T Hamburg Patty
Menu 5	Orange Juice Cream of Wheat Waffles Maple Syrup	A Grilled Sausage Patty or B Grilled Luncheon Meat or T Sausage Links in Brine	Minestrone Soup Peas Marble Cake w/Topping Pears Grape Drink	A Baked Chicken w/Gravy & Rice Pilaf or B Chicken Ala King & Rice Pilaf or T Chicken Chow Mein & Oriental Rice, Soy Sauce
Menu 6			Chicken Noodle Soup Green Beans Spice Cake w/Topping Applesauce Pink Lemonade	A Spaghetti w/Meatsauce or B Spaghetti w/Meatsauce or T Spaghetti w/Meatballs
Menu 7			Carrots Yellow Cake w/Topping Fruit Cocktail Sugar Free Ice Tea	A Grilled Steak & Brown Gravy Mashed Potatoes or B Beefsteak w/Onion Gravy Mashed Potatoes or T Beef & Green Peppers, White Rice
Menu 8			Corn Chocolate Pudding Peaches Sugar Free Lemonade	A Baked Ham, Macaroni & Cheese or B Luncheon Meat w/Pineapple, Macaroni & Cheese or T Ham Slices in Spice Sauce, Baked Beans
Menu 9			Minestrone Soup Peas Marble Cake w/Topping Pears Cherry Drink	A BBQ Beef, Hamburger Bun, Scalloped Potatoes or B BBQ Beef, Mashed Potatoes or T Turkey Slices, Sweet Potatoes, Stuffing, Cranberry Sauce
Menu 10			Vegetable Soup White Rice Corn Chocolate Cake w/Topping Cherry Dessert Orange Drink	A Chili Con Carne or B Chili Con Carne or T Chili Con Carne

Mandatory Issue: Cold Cereal (breakfast), Bread and Milk

Breakfast menus include: Hot Sauce, Margarine, Jelly, Coffee, Cocoa, Tea, Creamer, and Sugar.

Lunch/Dinner menus include: Hot Sauce, Peanut Butter, Jelly, Margarine, Coffee, Creamer, and Sugar.

MEAL, READY-to-EAT, INDIVIDUAL (MRE)

PURPOSE

The Meal, Ready-to-Eat is used by the Services to sustain individuals during operations that preclude organized food service facilities, but where resupply is established or planned.

CHARACTERISTICS

Each meal contains an entree/starch, crackers, a spread (cheese, peanut butter, or jelly), a dessert/snack, beverages, an accessory packet, a plastic spoon and a flameless ration heater (FRH). The flexibly packaged foods are heat processed in retortable pouches. The components are lightweight, compact, and easily opened. The shelf life is a minimum of 3 years at 80°F (27°C), 6 months at 100°F (38°C). Through MRE XV (1995), there are 12 meals per shipping container, one of each menu. The number of menus will be expanded to 16 for MRE XVI (1996), 20 for MRE XVII (1997), 24 for MRE XVIII (1998).

WEIGHT	CUBE
20.6 pounds/case (gross)	0.880 cubic feet/case
1.5 pounds/meal	0.052 cubic feet/meal

NUTRITIONAL DATA

Each meal provides an average of 1300 kilocalories (13% protein, 36% fat, and 51% carbohydrate). When supplemented with pouch bread, an additional 200 kilocalories are provided (12% protein, 33% fat, and 55% carbohydrate).

REQUISITION INFORMATION

The ration was type-classified in 1975 and first procured in FY81 (MRE I).

MILITARY SPECIFICATION	NATIONAL STOCK NUMBER	MEALS PER CASE
MIL-M-44074	8970-00-149-1094	12

PREPARATION REQUIREMENTS

The food is prepared by the individual consumer. The water requirement is approximately 23 ounces to rehydrate all beverages. Beginning with the 1993 procurement, FRH's are included in each menu bag.

COMMENTS

As part of DOD's focus on Total Quality Management, the MRE (components and packaging/packing) goes through continuous product improvement under the Fielded Individual Ration Improvement Program. The Subsistence Review Committee and Joint Service Operational Rations Forum meet annually to approve all changes. Approximately, 63 percent of components in MRE XVIII are commercially available. Since 1993 (MREXIII), 63 new items have been approved for the MRE, 70 percent of which are nondevelopmental commercial items.



Shipping Container, Menu 7 Meal Bag and Components

Meal, Ready-To-Eat Improvements

IN

MRE XIII/XIV (1993 & 1994 Production)

OUT

Smoky franks
Pork chow mein
Pound cakes (five types)
Chow mein noodles (NDI)*
Potato sticks (NDI)
Fruit-wet pack (peaches, pears)
Sugar free beverage-in 6 menus (NDI)
Heat stable chocolate bar (NDI)
Flameless Ration Heaters in each menu bag

Meatballs w/tomato sauce
Chicken ala king
Nut cakes
Beverage base/sugar (6 menus)

IN

MRE XV (1995 Production)

OUT

Grilled chicken (NDI)
Chili macaroni
Fruit-wet pack (pineapple, mixed)
Chewy fudge brownie
Lemon tea-in 6 menus (NDI)
Tavern nuts (NDI)

Corned beef hash
Omelet w/ham
Fruit-freeze dried
Choc. covered brownie
Coffee (6 menus)

IN

MRE XVI (16 Menus) (1996 Production)

OUT

Grilled beef steak
Chicken parmesan (NDI)
Pasta primavera (Vegetarian) (NDI)
Cheese tortellini (Vegetarian) (NDI)
Mexican rice
White rice, butter flavored
Jalapeño cheese spread (NDI)
New easy-open meal bag with graphics
Two-sided nutritional insert

Potato au gratin

IN

MRE XVII (20 Menus) (1997 Production)

OUT

Jamaican pork chop/noodles (NDI)
Beef w/ mushroom gravy
Beef ravioli (NDI)
Turkey breast w/potatoes (NDI)
Chicken w/noodles (NDI)
Fig bars (NDI)
Snacks-corn chips, cheese curls, pretzels (NDI)
Fruit flavored hard candy (individually wrapped in foil) (NDI)
Fruit flavored disc candy (NDI)
Peanut bar (NDI)
Apple cider beverage (NDI)
Beef jerky (NDI)
Strawberry jam (NDI)

Escalloped potato w/ham

IN

MRE XVIII (24 Menus) (1998 Production)

OUT

Beef teriyaki
Spicy oriental chicken (NDI)
Chicken strips in salsa
Meat loaf with brown gravy (NDI)
Black bean and rice burrito (Vegetarian) (NDI)
Pasta w/vegetables in Alfredo sauce (Vegetarian) (NDI)
Buttered noodles
Granola bars-chocolate chip, honey nut (NDI)
Fruit filled bars (NDI)
Cinnamon apples (NDI)
Apple cinnamon toaster pastry (NDI)
Snack mix (NDI)
Shortbread cookies (NDI)
Chewy chocolate bar (NDI)
Vegetable cracker (NDI)
Tea bag (NDI)

Pork w/rice in BBQ sauce
Tuna w/noodles

* NDI - Non-Developmental Item

MEAL, READY-to-EAT, INDIVIDUAL MENUS (MRE XV)

MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6	MENU 7	MENU 8	MENU 9	MENU 10	MENU 11	MENU 12
Pork w/Rice in BBQ Sauce	Chili Mac	Chicken Stew	Grilled Chicken	Spaghetti w/Meat Sauce	Franks (Beef)	Beef Stew	Ham Slice	Pork Chow Mein	Tuna w/Noodles	Chicken w/Rice	Escalloped Ham w/Potatoes
Applesauce	Fruit ¹	Fruit ³	Potato Au Gratin		Fruit ¹		Potato Au Gratin	Chow Mein Noodles	Fruit ²		Applesauce
Tavern Nuts	Oatmeal Cookie Bar	Pound Cake	Pound Cake	Oatmeal Cookie Bar	Potato Sticks	Cookie, Chocolate Covered	Pound Cake	Cookie, Chocolate Covered	Pound Cake	Fudge Brownie	Fudge Brownie
Peanut Butter	Jelly	Jelly	Peanut Butter	Jelly	Peanut Butter	Cheese Spread	Cheese Spread	Peanut Butter	Cheese Spread	Cheese Spread	Cheese Spread
		Cocoa	Cocoa	Cocoa Candy ³	Cocoa Candy ³	Cocoa Candy ³	Cocoa	Candy ³	Candy ³	Candy ³	Cocoa
Beverage Base	Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base	Beverage Base	Beverage Base	Beverage Base	Sugar Free Beverage Base
Packet A	Packet B	Packet A	Packet B	Packet A	Packet A	Packet A	Packet A	Packet A	Packet A	Packet A	Packet A

Each menu contains Crackers, Hot Sauce, Flameless Ration Heater and Spoon.

Accessory Packet A: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet B: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette, Candy (Vanilla Caramels, or Tootsie Rolls)

Accessory Packet C: Lemon Tea w/Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet D: Lemon Tea w/Sugar, Apple Cider, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

¹Freeze-Dried Fruit: Peaches, Pears, Fruit Mix, or Strawberries

²Thermostabilized Fruit: Peaches, Pears, Pineapple or Mixed Fruit

³Charms or Heat Stable M&M's



**MEAL, READY-to-EAT, INDIVIDUAL
MENUS (MRE XVI)**

MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6	MENU 7	MENU 8
Beef Steak	Tuna w/Noodles	Chicken Stew	Ham Slice	Spaghetti w/Meat Sauce	Smoky Franks	Beef Stew	Chicken w/Rice
Mexican Rice	Fruit ¹	Fruit ²	White Rice		Fruit ²		
Tavern Nuts	Pound Cake	Pound Cake	Pound Cake	Oatmeal Cookie Bar	Potato Sticks	Cookie, Chocolate Covered	Fudge Brownie
Peanut Butter	Cheese Spread	Jelly	Cheese Spread	Peanut Butter	Peanut Butter	Peanut Butter	Jalapeno Cheese Spread
		Cocoa	Cocoa	Candy ³ Cocoa	Candy ³	Candy ³ Cocoa	Candy ³
Beverage Base	Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base		Beverage Base	Beverage Base	Sugar Free Beverage Base
Packet B	Packet A	Packet C	Packet C	Packet C	Packet C	Packet C	Packet A
MENU 9	MENU 10	MENU 11	MENU 12	MENU 13	MENU 14	MENU 15	MENU 16
Pork Chow Mein	Chili Mac	Pasta w/Vegetables (Vegetarian)	Cheese Tortellini (Vegetarian)	Pork w/Rice	Chicken Parmesan	Grilled Chicken	Escalloped Potato w/Ham
Chow Mein Noodles	Fruit ¹	Fruit ²	Applesauce	Applesauce	White Rice	Mexican Rice	Applesauce
Choc Covered Cookie	Oatmeal Cookie Bar	Granola Bar	Granola Bar	Tavern Nuts	Pound Cake	Pound Cake	Fudge Brownie
Peanut Butter	Jelly	Peanut Butter	Peanut Butter	Peanut Butter	Cheese Spread	Jelly	Cheese Spread
Candy ³	Cocoa	Candy ³	Granola Bar	Candy ³			Candy ³
Beverage Base	Beverage Base		Beverage Base	Beverage Base	Beverage Base	Sugar Free Beverage Base	Sugar Free Beverage Base
Packet A	Packet B	Packet C	Packet C	Packet C	Packet A	Packet A	Packet A

Case A = Menus 1-12; Case B = Menus 5-16

Each menu contains Crackers, Hot Sauce, Flameless Ration Heater, Spoon and new graphically enhanced menu bag with easy open seal.

Accessory Packet A: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet B: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette, Candy (Vanilla Caramels, or Tootsie Rolls)

Accessory Packet C: Lemon Tea w/Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

¹Freeze Dried Fruit: Peaches, Pears, Fruit Mix, or Strawberries

²Thermostabilized Peaches, Pears, Pineapple or Mixed Fruit

³Charms or Heat Stable M&M's

**MEAL, READY-to-EAT, INDIVIDUAL
MENUS (MRE XVII)**

MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6	MENU 7	MENU 8	MENU 9	MENU 10
Beef Steak	Boneless Pork Chop w/Noodles	Chicken Stew	Ham Slice	Chicken w/ Noodles	Smoky Franks	Pork Chow Mein	Chicken w/Rice	Beef Stew	Chili w/Mac
Mexican Rice	Applesauce	Fruit ²	White Rice	Fruit ²	Fruit ²	Chow Mein Noodles			Fruit ²
Tavern Nuts	Pound Cake	Pound Cake	Pound Cake	Fig Bar	Potato Sticks	Cookie, Chocolate Covered	Fudge Brownie	Cookie, Chocolate Covered	Oatmeal Cookie Bar
Peanut Butter	Cheese Spread	Jelly	Cheese Spread	Peanut Butter	Peanut Butter	Peanut Butter	Jalapeno Cheese Spread	Jalapeno Cheese Spread	Jam
		Cocoa	Cocoa	Cocoa	Candy ¹	Candy ¹	Candy ¹	Candy ¹ Cocoa	Cocoa
Beverage Base	Beverage Base				Beverage Base	Beverage Base	Beverage Base		
Packet B	Packet A	Packet C	Packet C	Packet C	Packet A	Packet A	Packet A	Packet C	Packet D
MENU 11	MENU 12	MENU 13	MENU 14	MENU 15	MENU 16	MENU 17	MENU 18	MENU 19	MENU 20
Pasta w/Vegetables (Vegetarian)	Cheese Tortellini (Vegetarian)	Pork w/Rice	Chicken Parmesan	Grilled Chicken	Tuna w/Noodles	Beef Ravioli	Turkey Breast w/Gravy & Potatoes	Beef w/Mushrooms	Spaghetti w/Meat Sauce
Fruit ²	Applesauce	Applesauce	White Rice	Mexican Rice	Fruit ²	Fruit ²		White Rice	
Granola Bar	Granola Bar	Tavern Nuts	Pound Cake	Pound Cake	Pound Cake	Fudge Brownie	Pound Cake	Corn Chips	Cheese Curds
Peanut Butter	Peanut Butter	Jalapeno Cheese Spread	Cheese Spread	Jelly	Peanut Butter	Cheese Spread	Peanut Butter	Peanut Butter	Peanut Butter
Peanut Brittle Bar				Cocoa		Beef Jerky	Candy ¹		Candy ¹ Cocoa
		Beverage Base	Beverage Base	Beverage Base	Beverage Base		Beverage Base	Beverage Base	
Packet D	Packet D	Packet A	Packet A	Packet A	Packet A	Packet C	Packet C	Packet B	Packet C

Each menu contains Crackers, Hot Sauce, Flameless Ration Heater and Spoon.

Accessory Packet A: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet B: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette, Candy (Vanilla Caramels, or Tootsie Rolls)

Accessory Packet C: Lemon Tea w/Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet D: Lemon Tea w/Sugar, Apple Cider, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

¹Jolly Rancher Candy, Heat Stable M&M's, Peanut Munch Bar, or Skittles

²Thermostabilized Peaches, Pears, Pineapple or Mixed Fruit

**MEAL, READY-to-EAT, INDIVIDUAL
MENUS (MRE XVIII)**

MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6	MENU 7	MENU 8	MENU 9	MENU 10	MENU 11	MENU 12
Beef Steak	Boneless Pork Chop w/Noodles	Chicken Stew	Ham Slice	Chicken w/ Noodles	Grilled Chicken	Pork Chow Mein	Chicken w/Rice	Beef Stew	Chili w/Mac	Pasta w/ Vegetables (Vegetarian)	Cheese Tortellini (Vegetarian)
Mexican Rice	Spiced Apples	Pretzels	Buttered Noodles	Fruit ²	Mexican Rice	Chow Mein Noodles				Fruit ²	Applesauce
	Pound Cake	Pound Cake	Pound Cake	Fig Bar	Pound Cake	Cookie, Chocolate Covered	Fudge Brownie	Tavern Nuts	Fig Bar	Granola Bar	Granola Bar
Peanut Butter	Cheese Spread	Jelly	Cheese Spread	Peanut Butter	Jelly	Peanut Butter	Jalapeno Cheese Spread	Jalapeno Cheese Spread	Peanut Butter	Peanut Butter	Peanut Butter
		Cocoa	Cocoa	Cocoa	Cocoa			Cocoa	Cocoa	Peanut Brittle Bar	Candy
Beverage Base	Beverage Base					Beverage Base	Beverage Base				
Packet B	Packet A	Packet C	Packet C	Packet E	Packet D	Packet A	Packet A	Packet B	Packet D	Packet D	Packet D
MENU 13	MENU 14	MENU 15	MENU 16	MENU 17	MENU 18	MENU 19	MENU 20	MENU 21	MENU 22	MENU 23	MENU 24
Thai Chicken	Chicken w/ Cavetelli	Beef Franks	Bean&Rice Burrito (Vegetarian)	Beef Ravioli	Turkey Breast w/Potatoes	Beef w/ Mushrooms	Spaghetti w/Meat Sauce	Beef Teriyaki	Chicken w/Salsa	Meatloaf w/Gravy	Pasta w/ Alfredo Sauce
White Rice	White Rice		Fruit	Cinnamon Apples		White Rice		White Rice		Buttered Noodles	Fruit ²
Snack Mix	Pound Cake	Potato Sticks	Fruit Filled Bar	Fudge Brownie	Pound Cake	Corn Chips	Cheese Curls	Fruit Filled Bars	Shortbread Cookie	Toaster Pastry	Granola
Jalapeno Cheese Spread	Jelly	Peanut Butter	Peanut Butter	Cheese Spread	Cheese Spread	Peanut Butter	Peanut Butter	Jam	Peanut Butter	Cheese Spread	Peanut Butter
Cocoa		Candy ¹	Peanut Brittle	Beef Jerky	Chewy Choc Bar		Candy ¹		Cocoa		Fruit Filled Bar
	Beverage Base	Beverage Base			Beverage Base	Beverage Base	Cocoa	Beverage Base	Beverage Base	Beverage Base	
Packet C	Packet A	Packet A	Packet D	Packet E	Packet D	Packet A	Packet C	Packet B	Packet B	Packet C	Packet C

Case A = Menus 1-12, Case B = Menus 13-25.

Each menu contains Crackers, Hot Sauce, Flameless Ration Heater and Spoon.

Accessory Packet A: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet B: Coffee, Cream Substitute, Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette, Candy (Vanilla Caramels, or Tootsie Rolls)

Accessory Packet C: Lemon Tea w/Sugar, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet D: Lemon Tea w/Sugar, Apple Cider, Salt, Chewing Gum, Matches, Toilet Tissue, Towelette

Accessory Packet E: Tea Bag, Sugar, Creamer, Salt, Gum, Matches, Toilet Tissue, Towelette

¹Jolly Rancher Candy, Heat Stable M&Ms, Peanut Munch Bar, or Skittles

²Thermostabilized Peaches, Pears, Pineapple or Mixed Fruit

RATION, COLD WEATHER (RCW)

PURPOSE

The Ration, Cold Weather is used to sustain an individual during operations occurring under frigid conditions. It was developed to satisfy a Marine Corps requirement, but is also used by the Army units operating in cold climates such as the 6th Infantry Division and 10th Mountain Division.

CHARACTERISTICS

The six menus contain dehydrated, cooked entrees and other low moisture foods. It is lightweight, and many of the components can be eaten either dry or rehydrated. Several drink mixes and soup are included in each menu to encourage water consumption. There are two meal bags per ration which provide food for 24 hours. All packaging is flexible; the outside bag is made of white camouflage material. The shelf life is a minimum of 3 years at 80°F (27°C), 6 months at 100°F (38°C). There are six rations per shipping container, one of each menu.

WEIGHT	CUBE
21.31 pounds /case	0.90 cubic feet/case
2.75 pounds/ration	0.13 cubic feet/ration

NUTRITIONAL DATA

Each menu provides approximately 4500 kilocalories (8% protein, 32% fat, and 60% carbohydrate). It provides sufficient kilocalories to meet energy expenditure during heavy exertion in extreme cold, while limiting sodium and protein content to reduce risk of dehydration in arctic environments. The sodium content is 5 grams per ration.

REQUISITION INFORMATION

This ration was accepted for Marine Corps procurement under ROC No. LOG 216.3.5, in May 1987. It was available for troop issue in July 1989. The Army identified a limited requirement for the RCW as a special purpose item and adopted the Marine Corps ROC in FY88.

MILITARY SPECIFICATION	NATIONAL STOCK NUMBER	RATIONS PER CASE
MIL-R-44277	8970-01-267-5864	6

PREPARATION REQUIREMENTS

The food is prepared by the individual consumer. If all components are hydrated, the water requirement is 90 ounces. Fuel tablets for heating water in the canteen cup are provided separately.

COMMENTS

The design criteria was recommended by the Naval Submarine Medical Research Laboratory and US Army Research Institute of Environmental Medicine. Controlled cold chamber studies with the prototype ration have indicated that lower sodium and protein levels will reduce the daily water requirement and lessen the possibility of dehydration in the user. The Food Packet, Assault (FPA), type classified in March 1986, was the forerunner of the RCW. As a result of a military service request, the RCW is in the process of being redesigned into three individual meals per day in lieu of the current one large meal packaged in two meal bags. This new concept will consist of 12 menus, including more commercial entrees, snacks, cereals, and soups. After appropriate field testing and approval by the Joint Services Operational Rations Forum, the procurement documents will be transferred to DPSC for FY98 procurement.



Shipping Container and Menu 3 Components, RCW

RATION, COLD WEATHER

MENUS

	MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6
	Oatmeal, Strawberry & Cream	Oatmeal, Apple & Cinnamon	Oatmeal, Apple & Cinnamon	Oatmeal, Maple & Brown Sugar	Oatmeal, Strawberry & Cream	Oatmeal, Maple & Brown Sugar
	Nut Raisin Mix					
	Cocoa Beverage Powder (2)					
	Apple Cider Mix					
BAG A	Chicken Noodle Soup					
	Fruit Bars, (Fig or Blueberry)					
	Crackers (2)					
	Spoon	Spoon	Spoon	Spoon	Spoon	Spoon
	Accessory Packet					
	Chicken Stew	Beef Stew	Chili Con Carne	Chicken A La King	Chicken & Rice	Spaghetti w/Meat Sauce
	Granola Bars (2)					
	Oatmeal Cookie Bars (2)					
	Chocolate Covered Cookie or Brownie					
BAG B	Orange Beverage Powder					
	Tootsie Rolls					
	M&M's	M&M's	M&M's	M&M's	M&M's	M&M's
	Lemon Tea (2)					
	Spoon	Spoon	Spoon	Spoon	Spoon	Spoon

Accessory Packet: Coffee, Cream, Sugar, Chewing Gum, Toilet Paper (2), Matches, Closure Device (2)

DENTAL LIQUID RATION

PURPOSE

The Dental Liquid Ration is designed for military personnel who are unable to eat solid foods due to broken jaws or other maxillo-facial injuries.

CHARACTERISTICS

The components in the three-day menu cycle consist of dehydrated food powders. The products, when reconstituted with water, taste like their solid counterparts, but are in a liquid form. Each one is easily sipped through a straw. If desired, less water can be used which will make the powders into a pudding-like consistency. Six dairyshakes have also been developed and are used as between meal nourishments. The products will be available in single-serving packages, or in 10-patient meal modules. The shelf life of each product is a minimum of 3 years at 80°F (27°C).

NUTRITIONAL DATA

Each menu provides an average of 3900 kilocalories (15% protein, 35% fat and, 50% carbohydrate), and meets 80% of the Recommended Dietary Allowances for vitamins and minerals. Each dairyshake provides approximately 465 kilocalories.

REQUISITION INFORMATION

Effective FY95, the ration is available for purchase through the [Federal Hospital Subsistence Guide](#).

PREPARATION REQUIREMENTS

Products are rehydrated with water and mixed in a blender. They can also be rehydrated by whisking them into solution if a blender (or electricity) is not available.

COMMENTS

The components are easy to prepare and require no refrigeration prior to reconstitution. The consistency of the mixture can be varied by adjusting the amount of water added.



Single-Serving Shipping Container and Components

DENTAL LIQUID RATION

MENUS

	DAY 1	DAY 2	DAY 3
Breakfast	Oatmeal w/Maple & Brown Sugar Banana - Strawberry Breakfast Drink Orange Juice Crystals	Hominy Grits & Cheese Green Pepper & Ham Omelet Grapefruit Juice Crystals	Peaches & Cream Farina Ham & Cheese Fondue Grape Juice Crystals
1000 Hours	Vanilla Dairyshake	Orange Dairyshake	Vanilla Dairyshake
Lunch	Ham & Cheese Souffle Pea Casserole Mashed Potatoes Apple Brown Betty	Taco Grande Buttered Squash Delmonico Potatoes Strawberry Shortcake	Spaghetti & Meat w/Sauce Green Bean Casserole Lyonnaise Potatoes Gingerbread
1400 Hours	Strawberry Dairyshake	Eggnog Dairyshake	Strawberry Dairyshake
Dinner	Chili Con Carne Cauliflower & Cheese Escaloped Potatoes & Ham Blueberry Upside-Down Cake	Chicken Barbecue Buttered Corn Baked Beans Chocolate Mocha Cake	Oriental Pork w/Noodles Creamed Corn & Potatoes Fried Rice Cheesecake
2000 Hours	Chocolate Dairyshake	Banana Dairyshake	Chocolate Dairyshake



Day 2 Dinner Menu

FOOD PACKET, LONG RANGE PATROL (LRP)

PURPOSE

The Food Packet, Long Range Patrol, is designed to be an extended life operational ration that will be used to sustain personnel during initial assault, special operations, and long range reconnaissance missions.

CHARACTERISTICS

The eight menus contain dehydrated entrees, cereal bars, cookie and candy components, instant beverages, accessory packets, and plastic spoons. The shelf life is expected to be 10 years at 80°F (27°C). There will be 16 rations per shipping container, 2 of each menu.

WEIGHT	CUBE
20 pounds/case	1.44 cubic feet/case
1 pound/ration	0.04 cubic feet/ration

NUTRITIONAL DATA

Each menu provides an average 1560 kilocalories (15% protein, 35% fat, and 50% carbohydrate). The LRP is a restricted calorie ration that is approved for use at an issue of one packet per man per day for up to ten days. It is nutritionally compatible with the MRE to allow menu mixes under scenarios where additional calories are required.

REQUISITION INFORMATION

This ration packet was Type Classified(Standard A) for Army use in FY68. LRP procurement was interrupted in 1983 but new documentation enables LRP procurement as of FY94.

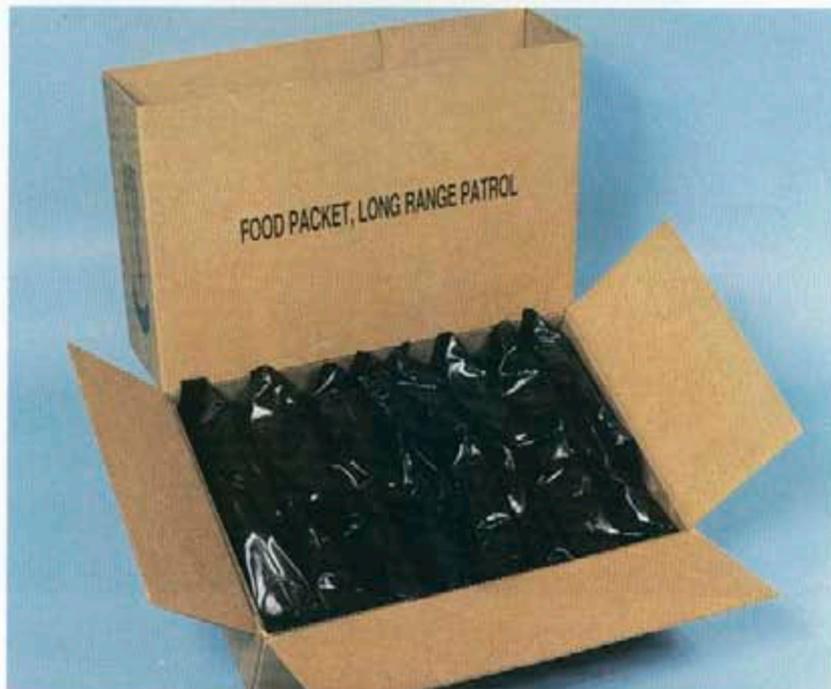
MILITARY SPECIFICATION	NATIONAL STOCK NUMBER	PACKETS PER CASE
MIL-F-43846	8970-00-926-9222	16

PREPARATION REQUIREMENTS

The food is prepared by the individual consumer. The water requirement is 10 to 12 ounces for the entree and 16 ounces for the beverages.

COMMENTS

This ration has taken advantage of current production technology by using components from existing military rations (LRP (pre-1983), FPA, MRE and RCW). The new LRP provides approximately 400 more calories than the original version. An improvement program was completed in FY96 that resulted in the approval of a redesign of the packaging system and an increase to twelve menus. The new packaging system includes a peelable seal menu bag and will allow the LRP to be assembled on the same lines as the MRE, using the same size case. The new packaging system relies on the use of a brick shaped package for the entree that has resulted in increase of LRP packets per pallet of 20 percent (i.e. from 480 packets to 576 packets).



Shipping Container and Meal Bag

FOOD PACKET, LONG RANGE PATROL (Current)

MENUS

MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6	MENU 7	MENU 8
Chicken Stew	Beef Stew	Escaloped Potato & Pork	Chicken Ala King	Chicken & Rice	Spaghetti w/Meat-sauce	Chili Con Carne	Beef & Rice
Cornflake Bar	Granola Bar	Branflake Bar	Branflake Bar	Branflake Bar	Cornflake Bar	Granola Bar	Cornflake Bar
Oatmeal Cookie Bar	Chocolate Covered Cookie	Peanut Butter	Chocolate Covered Cookie	Peanut Butter	Oatmeal Cookie Bar	Fig Bar	Fig Bar
Tootsie Rolls (4)	Caramels	Crackers	Chuckles	Crackers	Tootsie Rolls	Charms	M&M's
Apple Cider Drink	Cocoa Beverage	Apple Cider Drink	Orange Beverage	Lemon Tea (2 pkts)	Beverage Base (MRE)	Orange Beverage	Lemon Tea (2 pkts)
Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet
Spoon	Spoon	Spoon	Spoon	Spoon	Spoon	Spoon	Spoon

Accessory Packet: Coffee, Creamer, Sugar, Gum, Toilet Paper (2), Matches, Salt



Menu 6 Meal Bag and Components

FOOD PACKET, LONG RANGE PATROL II

12 MENUS

MENU 1	MENU 2	MENU 3	MENU 4	MENU 5	MENU 6
Chicken Stew	Beef Stew	Sweet & Sour Pork w/Rice	Turkey Tetrazini	Chicken & Rice	Spaghetti w/Meatsauce
Fruit Filled Cereal Bar	Granola Bar	Chocolate Sports Bar	Granola Bar	Apple Cinnamon Pastry	Chocolate Sports Bar
Oatmeal Cookie Bar	Chocolate Covered Cookie	Jelly	Chocolate Covered Cookie	Peanut Butter	Fig Bar
Peanut Munch Bar	Tootsie Roll (4pk)	Crackers	Caramels	Crackers	Crackers
Apple Cider Drink	Cocoa Beverage	Apple Cider Drink	Cocoa Beverage	Lemon Tea (2 pkts)	Cocoa Beverage
Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet
Spoon	Spoon	Spoon	Spoon	Spoon	Spoon
MENU 7	MENU 8	MENU 9	MENU 10	MENU 11	MENU 12
Chili con Carne	Beef w/Rice	Beef Teriyaki	Lasagna	Beef Stroganoff	Spicy Oriental Chicken
Fruit Filled Cereal Bar	Cornflake Bar	Apple Cinnamon Pastry	Chocolate Sports Bar	Cornflake Bar	Apple Cinnamon Pastry
Crackers	Fig Bar	Fig Bar	Oatmeal Cookie Bar	Peanut Butter	Peanut Butter
Starch Jellies (Chuckles)	M&Ms	Hard Candies	Crackers	Crackers	Crackers
Orange Beverage	Beverage Base (MRE)	Cocoa	Orange Beverage	Lemon Tea (2 pkts)	Apple Cider Drink
Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet	Accessory Packet
Spoon	Spoon	Spoon	Spoon	Spoon	Spoon

Accessory Packet: Coffee, Creamer, Sugar, Gum, Toilet Paper (2), Matches, Salt

FOOD PACKET, SURVIVAL, GENERAL PURPOSE, IMPROVED (GP-I)

PURPOSE

The Food Packet, Survival, General Purpose is used by the Services to sustain an individual in survival situations, including escape and evasion, under all environmental conditions, and when potable water is limited. Requested by the Air Force, it is used to sustain personnel in any survival situation for periods less than 5 consecutive days.

CHARACTERISTICS

The ration contains six compressed bars consisting of two cereal bars, three cookie bars, and one sucrose bar which are sealed in trilaminate pouches and packed in a water resistant, paperboard box. Lemon tea, sugar, and soup and gravy base are also included. The storage requirement for this ration is 5 years at 80°F (27°C) and one month at 140°F (60°C). There are 24 packets per shipping container.

WEIGHT/PACKET	CUBE/PACKET
18.21 pounds/case	0.520 cubic feet/case
0.71 pounds/packet	0.014 cubic feet/packet

NUTRITIONAL DATA

Each packet provides 1447 kilocalories (5% protein, 39% fat, and 56% carbohydrate). It is designed to provide a maximum of 8% of the calories from protein in order to minimize metabolic water requirements.

REQUISITION INFORMATION

The specifications were transitioned to Defense Personnel Support Center (DPSC) in 4QFY93.

MILITARY SPECIFICATION	NATIONAL STOCK NUMBER	PACKETS PER CASE
MIL-F-43231D	8970-00-082-5665	24

PREPARATION REQUIREMENTS

The food is prepared by the individual consumer. Fourteen ounces of water are required to reconstitute the lemon tea, soup and gravy base.

COMMENTS

Current work includes a long-term storage study (5 years). The original Food Packet, Survival, General Purpose was type-classified in 1961, replacing all other survival packets except those designed for space constraints and water limitation (Abandon Ship and Aircraft, Life Raft). Components were 2 Cornflake bars, 1 bar each of Granola and Rice Cornflake, Instant Coffee, Sugar and Soup and Gravy Base packed in a tin-plated can. Limited procurement quantities contributed to the unavailability of the can which led to the packet being improved. The GP-I provides approximately 42% more calories than the original general purpose survival ration with essentially the same weight and volume.

COMPONENTS	UNITS
Cornflake Bar	2
Shortbread Bar	1
Wintergreen Bar	1
Granola Bar	1
Chocolate Chip Bar	1
Soup & Gravy Base	1
Lemon Tea	1
Sugar	1



Shipping Container, Ration Box and Components

FOOD PACKET, SURVIVAL, ABANDON SHIP

PURPOSE

The Food Packet, Survival, Abandon Ship is used by the Navy to sustain personnel who must abandon ship. It is supplied in lifesaving craft aboard ships.

CHARACTERISTICS

The packet contains calorically dense cereal bars. It is designed to fit in the storage areas of lifesaving craft. The components have maximum stability for storage in on-deck craft under all climatic conditions. They meet the five year shelf life criteria stated in U.S. Coast Guard Regulations Governing Emergency Provisions for Lifeboats and Liferafts. There are a minimum of six equally shaped, commercially available, individually wrapped bars per intermediate box. The ration will not exceed a volume of 36.6 cubic inches or weight of 16.4 ounces.

NUTRITIONAL DATA

Each packet provides approximately 2400 kilocalories (54% carbohydrate). It is strictly short-term survival food. The consumption of this ration will help to minimize the negative metabolic effects of acute starvation. The components are compatible with potable water restriction.

REQUISITION INFORMATION

This food packet will be available for troop issue in 1997.

COMMERCIAL ITEM DESCRIPTION	NATIONAL STOCK NUMBER	PACKETS PER CASE
CID-A-A-20247	8970-01-434-3192	128

PREPARATION REQUIREMENTS

There is no preparation necessary except opening packages.

COMMENTS

The ration was designed as a result of experience with ocean disasters which showed that other supplies, such as lifesaving equipment and drinking water, were more critical to survival than food. This new commercial version will be available in 1997. Until then, the older version containing hard candy and chewing gum will be available (National Stock Number 8970-00-299-1395). Earlier versions contained starch jelly bars, candy-coated chewing gum, mint tablets, matches, and a cigarette packet (40 cigarettes); there were 15 food packets and a cigarette packet per intermediate box.



FOOD PACKET, SURVIVAL, AIRCRAFT, LIFE RAFT

PURPOSE

The Food Packet, Survival, Aircraft, Life Raft is used by the Navy to sustain personnel that survive aircraft disasters. The packet, along with other essential equipment, is supplied in the emergency kits carried aboard naval aircraft.

CHARACTERISTICS

The packet contains hard candy, candy-coated chewing gum, and twine. An instruction sheet is included explaining the use of the twine for storing the components after the packet is opened. The components have maximum stability under extreme temperature changes. They must withstand temperatures up to 160°F (70°C).

WEIGHT	CUBE
8.0 pounds/case (gross)	0.24 cubic feet/case
3.5 ounces/packet	12.00 cubic inches/packet

NUTRITIONAL DATA

Each packet provides approximately 300 kilocalories (100% carbohydrate). It is strictly short-term survival food. The consumption of this ration will help to minimize the negative metabolic effects of acute starvation. The components are compatible with potable water restriction.

REQUISITION INFORMATION

MILITARY SPECIFICATION	NATIONAL STOCK NUMBER	PACKETS PER CASE
MIL-F-15381	8970-00-028-9406	36

PREPARATION REQUIREMENTS

No preparation is necessary except opening packages.

COMMENTS

Earlier versions included fruit flavored tablets (fortified with ascorbic acid) and mint tablets, but procurement became impractical due to the small quantities required.



Shipping Container, Food Packets and Components

NATICK PAM 30-25
3rd Edition

The proponent of this Natick RD&E Center Pamphlet is the Sustainability Directorate (SATNC-WRE). Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications) directly to SATNC-WRE.

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