US ARMY RDECOM

NATICK PAM 30-25,
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TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

OPERATIONAL RATIONS OF THE DEPARTMENT OF DEFENSE

NATICK PAM 30-25,

9TH EDITION

AUG 2012

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DISTRIBUTION: A (Approved for Public Release, Distribution is Unlimited)

Proponent of this pamphlet is the DoD Combat Feeding Directorate, located at the U.S. Army Natick Soldier Research Development & Engineering Center (NSRDEC). The most recent version of this pamphlet, as well as updated ration information, is available on the DoD Combat Feeding website at hotchow.natick.army.mil.

General comments and suggested improvements are always welcome. Please send or email them to the Combat Feeding Directorate addresses listed on the last page of this pamphlet. Customers interested in ordering rations described in this pamphlet should contact the Operational Rations Division of Defense Logistics Agency-Troop Support (DLA-TS), using the information provided at the back of this pamphlet. DLA-TS-provides National Stock Numbers for all operational rations described in this pamphlet as well as names and telephone numbers for points of contact.

The U.S. Government and the DoD Combat Feeding Directorate make no endorsement of the commercial products contained within this pamphlet. A commercial product or brand is listed or pictured only in cases where a contract has been awarded or where a particular type of ration is dependent on commercial products that meet military performance specifications. Commercial items contained within rations are subject to change and may be substituted based on contractor discretion (according to contract requirements) and commercial availability. The Department of Defense Combat Feeding Directorate will continue to invest in advanced food science and technology in order to provide world-class combat feeding systems to the United States Armed Forces.



Gerald A. Darsch

Director
DoD Combat Feeding Directorate
U.S. Army Natick Soldier RD&E Center

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LIST OF ACRONYMS

AAFES....American Armed Forces Exchange Service
ASPIP ..... Assault Special Purpose Improvement Project
BIB.....Boil-in Bag
CFD ..... Combat Feeding Directorate
CHO ..... Carbohydrate
CONUS ..... Continental United States
CPI..... Continuous Product Improvement
DLA .....Defense Logistics Agency
DoD.....Department of Defense
DRI ..... Daily Reference Intake
FGRIP .....Fielded Group Ration Improvement Project
FIRIP .....Fielded Individual Ration Improvement Project
FRH ..... Flameless Ration Heater
FSR™ ..... First Strike Ration®
GTMO .....Guantanamo Bay
GTW .....Go-to-War Ration
HDR .....Humanitarian Daily Ration
JSORF.....Joint Services Operational Rations Forum
LFWG..... Low Fat, Whole Grain
MARC..... Meal, Alternative Regionally Customized
MCI ..... Meal, Combat, Individual
MDRI ..... Military Dietary Reference Intake
MORE™ ..... Modular Operational Ration Enhancement™
MCW/LRP .....Meal, Cold Weather/ Food Packet, Long Range Patrol
MRE™ ..... Meal, Ready to Eat™
NATO .....North Atlantic Treaty Organization
NSN.....National Stock Number
NSCM .....Navy Standard Core Menu
NSRDEC ..... Natick Soldier Research, Development and Engineering Center
OCONUS ..... Outside Continental United States
ODS .....Operation Desert Storm
OEF ..... Operation Enduring Freedom
OIF.....Operation Iraqi Freedom
OTSG.....Office of the Surgeon General
SOF ..... Special Operations Forces
TFA..... Trans Fatty Acids
TOTM..... Tailored Operational Training Meal
TTI ..... Time Temperature Indicator
UGR ..... United Group Ration™
UGR-A™ ..... Unitized Group Ration A™
UGR-B™ ..... Unitized Group Ration B™
UGR-E™ ..... Unitized Group Ration Express™
UGR-H&S™ .....Unitized Group Ration Heat and Serve™
UHT.....Ultra High Temperature
USAF ..... United States Air Force
USMC ..... United States Marine Corps
USN..... United States Navy
USSOCOM ..... United States Special Operations Command

RATION	NSN	PURPOSE	WEIGHT/ UNIT	VOLUME	NUTRITION
MRE™	8970-00-149-1094	General Purpose	1.5 lbs (.68 kg)/meal	.08 ft^3 (2.27 dm^3)/meal	1300 Cal
FSR™	8970-01-543-3458	Assault	2.5 lbs (1.14 kg)/ration	.11 ft^3 (3.1 dm^3)/ration	2900 Cal
MORE™	Multiple	Nutritional Enhancement	.75 lbs (.34 kg)/pack	Varies	1100 Cal
MCW	8970-01-467-1753	Cold Weather	1 lbs (.45 kg)/meal	.04ft^3 (1.1 dm^3)/meal	1450 Cal
LRP	8970-01-467-1749	Assault	1 lbs (.45 kg)/meal	.04ft^3 (1.1 dm^3)/meal	1450 Cal
UGR-E™	Multiple	Group, Self-Heating	43 lbs (19.5 kg)/module	1.9 ft^3 (53.8 dm^3)/module	1300 Cal
UGR-H&S™	Multiple	Group	124.5 lbs (56.6 kg)/module	5.25 ft^3 (148.7 dm^3)/ module	1450 Cal
UGR-B™	Multiple	Group	124.5 lbs (56.6 kg)/module	5.25 ft^3 (148.7 dm^3)/ module	1300 Cal
UGR-A™	Multiple	Group (Perishable)	100 lbs (45.5 kg)/module	5.25 ft^3 (148.7 dm^3)/ module	1450 Cal
Arctic Supplement	8970-01-470-5075	Nutritional Enhancement	60 lbs (27.3 kg)/module	5 ft^3 (141.6 dm^3)/module	914 Cal
TOTM	Multiple	CONUS Training	1.66 lbs (.76 kg)/meal	.04 ft^3 (1.1 dm^3)/meal	1000 Cal
GTW	N/A	Special Purpose	Varies	Varies	1300 Cal
Survival, General Purpose	8970-00-082-5665	Special Purpose	.71 lbs (.32 kg)/packet	.01 ft^3 (.283 dm^3)/packet	1435 Cal
Survival, Abandon Ship	8970-01-434-3192	Special Purpose	1.25 lbs (.5 kg)/packet	.02 ft^3 (.566 dm^3)/packet	2400 Cal
Survival, Aircraft, Life Raft	8970-01-028-9406	Special Purpose	.22 lbs (.1 kg)/packet	.01 ft^3 (.2 dm^3)/packet	300 Cal
HDR	8970-01-375-0516	Humanitarian Relief	2.5 lbs (1.14 kg)/ration	.102 ft^3 (2.9 dm^3)/ration	2200 Cal
MARC	8970-01-499-7645	Religious Preference	1.7 lbs (.77 kg)/meal	.06 ft^3 (1.7 dm^3)/meal	700 Cal



WARFIGHTER RECOMMENDED, WARFIGHTER TESTED, WARFIGHTER APPROVED™

THE MISSION of the Department of Defense (DoD) Combat Feeding Program is to sustain the Department of Defense's most decisive weapons platform — the individual Warfighter.

VISION: to continue to be the preeminent provider of Joint Service, Coalition, capability driven world-class combat feeding systems…

The contemporary operating environment requires state-of-the-art combat rations to provide for the nutritional needs of the Warfighter in a wide variety of situations, from peacekeeping to high-intensity combat and contingency operations. Under the auspices of the DoD, the U.S. Army Natick Soldier Research Development and Engineering Center (NSRDEC) DoD Combat Feeding Directorate (CFD) and Defense Logistics Agency (DLA) - Troop Support employ a total life cycle approach in developing, testing, evaluating, procuring, fielding, and supporting all military rations. These rations are a vital contribution to the overall quality of life of the individual combatant.

DoD CFD is responsible for the research, development, engineering, integration, and technical support for the entire family of combat rations. The program is driven by Warfighter recommendations and feedback that the CFD obtains from annual field tests of rations. DoD CFD maintains strong partnerships with the commercial sector, other government agencies, and the Office of the Surgeon General (OTSG). In accordance with U.S. Army Regulation 40-25, Nutritional Standards and Education, the OTSG approves all menu changes. The Joint Services Operational Rations Forum (JSORF) meets annually to approve new rations and changes to components within rations. DLA-Troop Support is responsible for developing and implementing a master strategy for the integration of the U.S. food industry into the combat ration program, and the DLA-Troop Support Subsistence Directorate is also responsible for sustaining the logistical infrastructure to supply present and future customers with the highest quality combat rations in a timely manner and at an affordable price.

This book highlights the entire family of fielded combat rations. Rations are categorized into one of four platforms: Individual Rations, Assault Rations, Group Rations, and Special Purpose Rations. Each ration is described by its purpose, major characteristics, nutritional data, and preparation requirements.

The mission of the DoD Combat Feeding Program is to ensure that America's Warfighters are the best fed in the world. By investing in high risk/high payoff science and technology, and utilizing Continuous Product Improvement (CPI), CFD provides Warfighters with revolutionary combat feeding capabilities.



TODAY'S COMBAT RATIONS are truly a coming together of Warfighters' recommendations, military requirements, and leading edge food science and packaging technologies. A real appreciation of the high quality of today's combat rations can certainly be gained by taking a look at the transition of ration development from the early "meat and potato" subsistence of the Civil War through World Wars I and II to the technologically advanced, state-of-the-art advanced ration and packaging systems in the hands of Warfighters today. The initial packaged ration concepts of the 1950s have led directly to today's operational rations, such as the Meal, Ready-to-Eat™ (MRE™), Unitized Group Ration™ (UGR™), First Strike Ration® (FSR™), and UGR-Express™ (UGR-E™).

A look at Military rations through the years…

AMERICAN REVOLUTION

First individual ration consisted of:

- 1-lb (.5 kg) of beef, ¾-lb (.34 kg) of pork, or 1-lb of salted fish per week
- 3-pts (1.4 L) of peas or beans per week
- ½-pt (.24 L) of rice or l-pt (.47 L) of Indian meal per week
- 1-pt of milk per day
- 1-lb of flour per day or hard bread, once per week
- 1-qt (.95 L) of spruce beer or cider per day

CIVIL WAR

An attempt was made at providing fresher meat and more vegetables to Soldiers. "Beef on the Hoof" was available from live cattle that were driven along with Soldiers and slaughtered as needed. "Desiccated vegetables" were cleaned, shredded, mixed, dried, and pressed into hard clumps, but they were often referred to as "desecrated vegetables."

> "We have boiled, baked, fried, stewed, pickled, sweetened, salted it; tried it in puddings cakes and pies; but it sets all modes of cooking in defiance, so the boys break it up and smoke it in their pipes!"
>
> *— 3rd Iowa Cavalry Reg on desiccated vegetables, March 18, 1865*

WORLD WAR ONE

Static fighting positions allowed, for the first time, hot food and drinking water to be delivered to troops in the trenches. A Trench Ration consisted of:

- 50 ½-lb (.23 kg) cans of hard bread
- 10 1-lb cans of corned beef
- 5 1-lb cans of roast beef
- 4 1-lb cans of salmon
- 4 ¼-lb (.11 kg) cans of sardines
- Coffee, salt and sugar

The Reserve Ration provided the same food as the Trench Ration but was hermetically sealed in galvanized tins, which were only opened if no other food was available.

WORLD WAR TWO



By the end of the Second World War, the US Military used 23 different rations for a much varied force with wide-ranging operational requirements. One of the most common rations from this era was the "Ration, Combat Individual" or "C-Rat" which was composed of M units (meat and vegetables) and B units (bread, sugar, and coffee). Troops ate C-Rations for up to 90 days and generally disliked them due to menu monotony and their lack of balanced nutrition. Another ration from World War II was the K-Ration, which was first requested for paratroopers to carry in their pockets. The K-Ration was the most nutritionally balanced of any ration available at the time.

KOREAN WAR

During the Korean War, American Warfighters continued to consume rations developed during World War I, including surplus C-Rations. Additional variety was attempted by including canned fruits, cakes, and bread. This period did, however, see the initial development of more nutritionally advanced rations.

COLD WAR ERA

In 1958, the Meal, Combat, Individual (MCI) replaced the C-Ration. The MCI consisted of 12 menus that provided an average of 1200 calories each and it was designed to meet a new concept of subsistence: "Soldiers should be supplied with nutritionally balanced meals as opposed to a full day supply of food."

VIETNAM CONFLICT

New processing and packaging technologies were employed to develop freeze-dried products that were used in NASA's first manned space flight in 1962 and also to develop a new ration, the Long Range Patrol (LRP), which included such entrées as freeze-dried chicken stew and escalloped potatoes. Other major changes during this time were initial concepts of removing metal containers and cigarettes from rations.

MRE™ DEVELOPMENT

During the Vietnam Era, the Army approved a requirement for a new combat ration — a lightweight individual meal which did not require a rigid metallic can. Development of multi-layered pouches that could withstand the rigors of combat required cooperation between the US Army Natick Laboratories and the American food industry. Thus began the start of the MRE™.

EARLY '80s AND INTO OPERATION DESERT STORM

The **Meal, Ready to Eat™** went into full production in 1980, with the first MREs™ hitting the field in 1983. Warfighter feedback from ODS indicated the need for improved quality and increased variety in the ration. A continuous improvement process was established in 1993, with menus being increased from 12 to 24 and including enhancements such as the Flameless Ration Heater (FRH), vegetarian meals, and commercial items.

DESERT STORM TO PRESENT

While the MRE™ remains the staple individual ration, the asymmetric battlefield our Warfighters have been engaged in brought about the need to develop additional rations in recent years. Two of these rations are the **Unitized Group Ration™ (UGR™)** and the **First Strike Ration® (FSR™)**. Warfighters are currently fighting an unconventional enemy, and the need to augment the standard rations was essential.

The FSR™ was created for conventional forces who were now conducting dismounted patrols for significantly longer periods of time than in the past. One of the main problems Warfighters face on patrols are the heavy, cumbersome rucksacks they must carry to sustain themselves for an uncertain period of time. Rucksacks contain various items such as weapons, ammunition, equipment, clothing, and, of course, food. To reduce the burden created by the weight and volume of the MRE™, the FSR™ was developed. This assault ration allows Warfighters to eat nutritionally balanced meals for 72 hours, and reduces the weight and volume of rations being carried in the rucksack.

MRE™ Development Timeline:

- **1970:** First prototype
- **1972:** Requirement revalidated:
  - — Shelf life: min 3 yrs 80°F
  - — Air-droppable Storage
  - — -60°F to 120°F
  - — Nutritionally complete
- **1975:** Type classified
- **1980:** First procurement











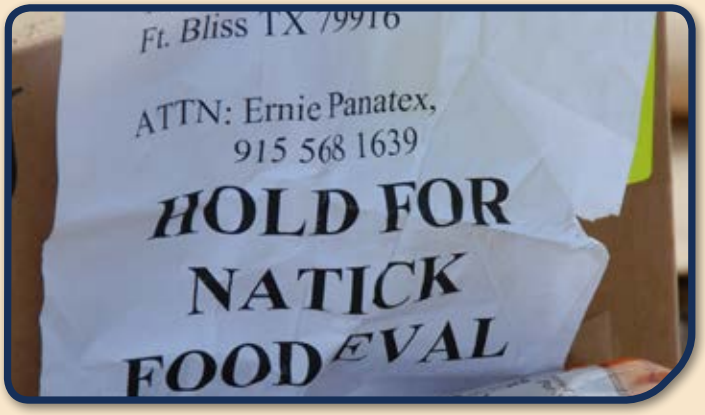


IN ORDER to accomplish the mission of providing the highest quality rations to our Warfighters in the field, it is imperative that the development of new combat rations is fueled by the wants, needs, and ideas of Warfighters themselves. After feedback was received from troops that served in Operation Desert Storm/Shield, DoD CFD acknowledged the need to establish a CPI process that would ensure all operational rations meet the approval of Warfighters, first and foremost. As detailed in this book, new components are continually added and removed from the various menus in the family of combat rations. Any new component that is approved in field tests by Warfighters must also obtain JSORF and U.S. Army OTSG approval before entering procurement for inclusion in rations.

The CPI process is driven by the voice of the customer and meets military developmental and logistical constraints. The process is conducted under three major thrust areas: Fielded Individual Ration Improvement Project (FIRIP), Fielded Group Ration Improvement Project (FGRIP), and Assault Special Purpose Improvement Project (ASPIP). The FIRIP, FGRIP, and ASPIP produce increased variety, quality, user acceptance, consumption, and nutrition across the full spectrum of combat rations. The improvement projects also support optimal cognitive and physical performance in Warfighters. The process serves as a platform for transition of high risk/high payoff and novel science and technology processes, and packaging. The CPI process results in food technologies and packaging that ensure our Warfighters are the best fed in the world.








DRAKE
U.S.ARMY
APPLE MAPLE OATM
INGREDIENTS: WATER, APPLE JUICE CONCENTRATE, OATS, BROWN SUGAR, LEMON JUICE, MAPLE SYRUP, SPICE, AND SALT.









WARFIGHTERS ARE WARRIOR ATHLETES who routinely undertake physical activities beyond the civilian population. For that reason, the nutritional recommendations for Warfighters are significantly different than those for civilians. Military nutritional recommendations are established by AR 40-25—"Nutritional Standards and Education." This publication, also used by the USAF as AFI 44-141 and by the USN as BUMEDINST 10110.6, is published by the Surgeon General of the military services to guide garrison and operational feeding plans.

Nutrition is a key enabler for successful military operations. Properly planned and executed, good feeding practices in the field maintain and enhance operational performance and morale and significantly contribute to mission accomplishment. Military personnel who optimize their nutritional status will better endure the harsh environments encountered in today's battlefield.

Military leaders must ensure that all Warfighters know the importance of nutrition and how to implement sound practices in garrison and in the field.

Combat rations are designed to be used in a variety of environments. It is up to you to make sure that you are consuming the right amount of energy for your environment and your workload. Consuming three MREs™ each day, for example, will provide approximately 3900 calories, but you may not need that many calories in all scenarios. The table below gives general energy recommendations based on workload.

Proper nutrition doesn't simply consist of eating enough calories, so many different factors need to be considered when developing a nutritionally balanced combat ration. Macronutrients and micronutrients perform different functions in the body, and they are necessary to ensure all the complex systems are functioning properly.

ACTIVITY LEVEL	EXAMPLE	ENERGY INTAKE (calories/day)
LIGHT	Garrison Operations	Men: 3000 Women: 2200
MODERATE	Traffic Control Point Guard	Men: 3250 Women: 2300
HEAVY	Dismounted Patrol, Field Assault	Men: 3950 Women: 2700
EXCEPTIONAL	High Altitude/ Extreme Cold Weather Operations	Men: 4600 Women: 3150

MACRONUTRIENTS

Carbohydrates are the main energy source for the brain. Dietary fiber is a carbohydrate, and it ensures proper functioning of the digestive system. Simple carbohydrates are small and can be broken down quickly to provide a fast source of energy. Complex carbohydrates require enzymes to be broken down, so they provide an extended source of energy. Common sources of carbohydrates include grains, rice, pasta, sugar, and vegetables.

Fats tend to get a bad name, but are essential to the human body. While too much saturated fat is unhealthy, a diet rich in monounsaturated and polyunsaturated fats can reduce cholesterol levels and risk of heart disease. They provide a source of energy, and also protect internal organs. Common sources of fat are meat, nuts, cheese, butter, and oils.

Protein is a nutrient that is needed by the human body for growth and maintenance. Amino acids, the building blocks of proteins, are used for building new tissue, including muscle, as well as repairing damaged tissues. Common sources of protein are meat, poultry, eggs, and cheese.

MICRONUTRIENTS

Unlike macronutrients, micronutrients are not a source of energy. Instead, they are responsible for executing a myriad of functions that take place every day inside the human body.

Vitamin A helps eyes adjust to changes in light and keeps the eyes, skin, and mucous membranes moist.

Vitamin B1 converts blood sugar into energy and is essential for nervous system, cardiovascular, and muscular function.

Vitamin B2 works to process macronutrients into energy, and is needed for growth and red cell production. It also promotes healthy skin and good vision.

Vitamin B6 helps brain function and the conversion of protein to energy.

Vitamin B12 works to produce healthy blood cells and keep the central nervous system healthy.

Vitamin C helps strengthen the immune system, heal wounds, prevent cell damage, promote healthy teeth and gums, and absorb iron.

Vitamin D aids in the absorption of calcium, and supports muscle and nerve function.

Niacin works to keep the digestive system functioning properly, and promotes healthy skin and nerves.

Vitamin E is an antioxidant that neutralizes free radicals that can cause diseases, contributes to a healthy circulatory system and assists in the healing of wounds.

Folic acid is needed for the production of healthy new blood cells.

Calcium is important for building healthy bones and keeping bones strong throughout life.

Zinc is an essential mineral with antioxidant properties that also helps speed up the healing process after an injury.

For more information, visit the Human Performance Resource Center on the web at ***humanperformanceresourcecenter.org***

RATION COMPONENT FORTIFICATION

In order to increase their nutritional content, many ration components are fortified. Fortification maximizes the nutrition of ration components by adding or increasing important vitamins and minerals. Warfighters often 'field-strip' their operational rations, removing unwanted components to save weight. However, this risks sacrificing crucial nutrition. Fortification provides you the additional edge to maximize your performance. The x in the table below shows which vitamins and minerals have been added to each component. If you do field-strip your rations, be sure to eat these items.

CFD continues to conduct research to assess the benefits and consequences of incorporating omega 3 fatty acids, antioxidants, phytonutrients, and fiber into rations. To date, we have removed trans fatty acids from 11 components that are packed with individual rations platforms.

COMPONENT	VITAMINS										MINERALS	
	A	B1	B2	B6	B12	C	D	Niacin	E	Folic Acid	Calcium	Zinc
Beverage Bases						×						
Orange Bev. Bases		×	×	×		×	×	×	×		×	
Cocoa Beverage	×	×		×								
Cheese Spread	×	×		×			x				x	
Peanut Butter	×	×		×		x						
Crackers											×	
Pudding							×				×	
Dairy Shake							×				×	
Snack Breads											×	
Fruits						×						
First Strike™ Bar		×	×	×	×	×	×	×	×	×		×

PRODUCT PHOTOS:







PURPOSE

The Meal, Ready to Eat™ is the primary individual ration of the US Armed Forces. The balanced nutrition and low logistical burden of the MRE™ give America's Warfighters the ability to fight and win in any environment.

HISTORY

The MRE™ replaced the C-Ration in the early 1980s. Unlike previous ration concepts, each MRE™ is intended as a single meal. Based on feedback learned from annual field tests, the MRE™ has continuously improved in both form and function.

- Over 261 new ration items have been included since 1993
- A Flameless Ration Heater (FRH) was introduced in 1993, allowing Warfighters to heat their meals without the need for bulky equipment or dangerous field expedients.
- Ergonomic beverage pouches allow Warfighters to mix and consume beverages more easily

CHARACTERISTICS

- **Shelf Life:** Warfighters deserve food that is as appetizing in the field as it is in the factory. The MRE™ maintains its high quality for a guaranteed shelf life of 3 years at 80°F (27°C), or for 6 months at 100°F (38°C).
- **Logistics:** Durable packaging allows the MRE™ to be transported anywhere in the world. MREs™ can be safely airdropped by parachute, free-dropped from 100 feet, and subjected to rough handling and extreme temperature swings.

NUTRITIONAL DATA

The MRE™ satisfies the US Army OTSG strict requirements for nutrition in operational rations. Each MRE™ provides approximately 1300 calories, composed of 169 g of carbohydrates, 41 g of protein, and 50 g of fat for the energy needed to accomplish any mission.

CONTINUOUS IMPROVEMENT

Since 1993, potential improvements to the MRE™ have been tested by the Warfighters in realistic environments. Their input guides the development process and makes the MRE™ the best ration in the world. Nothing is added to the MRE™ without being approved by Warfighters in field testing.

CONTENTS

The MRE™ is issued in a durable tan plastic bag. Inside, each MRE™ provides an entrée, an assortment of sides and bakery items, beverage base powder, and an accessory pack that includes gum, tissue, a moist towelette, and seasoning. In addition, nearly all MREs™ include a FRH.

MENU 1

Chili w/beans, Corn bread, Cheese spread, Crackers, Toaster pastry, Dairy shake, Ground red pepper, Accessory Packet A

MENU 2

Chicken fajita, Refried beans, Fudge brownie, Cheese spread, Tortillas, Irish cream cappuccino, Seasoning blend, Accessory Packet B

MENU 3

Beef ravioli, Toaster pastry, Cookie, Jalapeño cheese spread, Crackers, Caffeine mints, Orange beverage, Hot sauce, Accessory Packet C

MENU 4

Maple pork sausage, Granola w/milk and blueberries, Peanut butter spread, Jam, Crackers, Maple muffin top, Sugar free fortified beverage, Syrup, Accessory Packet A

MENU 5

Chicken w/tomatoes and feta cheese, Cornbread stuffing, Dried fruit, Cheese spread, Vegetable crackers, Candy II, Carbohydrate electrolyte beverage, Accessory Packet A

MENU 6

Grilled beef patty, Cheese spread w/bacon, Cheese-filled crackers, Raisin nut mix, Wheat snack bread (twin pack), Carbohydrate fortified beverage, BBQ sauce, Accessory Packet A

MENU 7

Beef brisket in gravy, Biscuit, Cookie, Cheese spread, Crackers, Candy I, Cocoa, Accessory Packet B

MENU 8

Meatballs w/marinara sauce, Garlic mashed potatoes, Cheese spread, Tortillas, Nuts, First Strike™ bar, Carbohydrate fortified beverage, Butter granules, Accessory Packet C

MENU 9

Beef stew, Peanut butter spread, Jelly, Wheat snack bread, Filled apple turnover, Hazelnut cocoa, Hot sauce, Accessory Packet B

MENU 10

Chili and macaroni, Beef snacks, Instant pudding, Jalapeño cheese spread, Crackers, Candy III, Carbohydrate fortified beverage, Ground red pepper, Accessory Packet A

MENU 11

Vegetable lasagna, Fruit, Pound cake, Peanut butter spread, Wheat snack bread, French vanilla cappuccino, Hot sauce, Accessory Packet B

MENU 12

Spicy penne pasta, Fruit, Chocolate banana muffin top, Wheat snack bread, Peanut butter spread, Hot sauce, Carbohydrate electrolyte beverage, Accessory Packet A

MENU 13

Cheese tortellini, Spiced apples, First Strike™ bar, Chunky peanut butter spread, Crackers, Candy II, Carbohydrate fortified beverage, Seasoning blend, Accessory Packet B

MENU 14

Ratatouille, Baked snack crackers, Pound cake, Peanut butter spread, Crackers, Carbohydrate fortified beverage, Seasoning blend, Accessory Packet A

MENU 15

Southwest beef and black beans, Mexican rice, Cheese-filled pretzels, Cheese spread, Tortillas, Carbohydrate fortified beverage base, Ground red pepper, Accessory Packet A

MENU 16

Pork rib, Potato cheddar soup, Ranger bar, Cheese spread, Wheat snack bread (twin pack), Candy II, Carbohydrate electrolyte beverage, BBQ sauce, Accessory Packet B

MENU 17

Pork sausage w/gravy, Granola w/milk and bananas, Biscuit, Jalapeño cheese spread, Wheat snack bread, Dried fruit, Carbohydrate fortified beverage, Hot sauce, Accessory Packet C

MENU 18

Chicken w/noodles, Raisin nut mix w/pan coated chocolate disks, Peanut butter spread, Wheat snack bread, Jam, Carbohydrate fortified beverage, Hot sauce, Accessory Packet A

MENU 19

Beef roast w/vegetables, Fruit, Pound cake, Chocolate peanut butter spread, Crackers, Cocoa, Accessory Packet A

MENU 20

Spaghetti w/meat sauce, Dried fruit, Cheese spread, Pretzels, Chipotle snack bread, Candy III, Orange beverage, Hot sauce, Accessory Packet A

MENU 21

Lemon pepper tuna, Tortillas, Cookie, Cherry blueberry cobbler, Candy I, Dairy shake, Fat free mayonnaise, Seasoning blend, Accessory Packet B

MENU 22

Sloppy joe filling, Chunky peanut butter spread, Jelly, Wheat snack bread, Cinnamon bun, Candy I, Carbohydrate electrolyte beverage, Hot sauce, Accessory Packet C

MENU 23

Chicken pesto pasta, Cheese spread, Italian bread sticks, Corn nuts, Instant pudding, Carbohydrate electrolyte beverage, Ground red pepper, Accessory Packet A

MENU 24

Buffalo chicken, Santa Fe rice and beans, Patriotic cookie, Smoked turkey nuggets, Jalapeño cheese spread, Tortillas, Mocha cappuccino, Accessory Packet B

- **Accessory Packet A:** Coffee, non-dairy creamer, sugar and matches
- **Accessory Packet B:** Sugar free beverage powder
- **Accessory Packet C:** Coffee, non-Dairy creamer and sugar substitute
- **Candy I:** Toffee
- **Candy II:** Chocolate or peanut butter disks
- **Candy III:** Fruit-flavored or licorice candy
- **NOTE:** All beverages are powder

MENU 1

Chili w/beans, Corn bread, Jalapeño cheese spread, Crackers, Ranger bar, Carbohydrate fortified beverage, Ground red pepper, Accessory Packet A

MENU 2

Chicken fajita, Refried beans, Fudge brownie, Jalapeño cheese spread, Tortillas, Nuts, Irish cream cappuccino, Seasoning blend, Accessory Packet B

MENU 3

Chicken w/noodles, Peanut butter spread, Wheat snack bread, Raisin nut mix w/pan coated chocolate disks, Jelly, Carbohydrate fortified beverage, Hot sauce, Accessory Packet A

MENU 4

Pork sausage w/gravy, Granola w/fruit, Toaster pastry, Cheese spread, Crackers, Carbohydrate fortified beverage, Accessory Packet A

MENU 5

Chicken w/tomatoes and feta cheese, Cornbread stuffing, First Strike™ bar, Cheese spread, Crackers, Dried fruit, Carbohydrate electrolyte beverage, Accessory Packet A

MENU 6

Pot roast w/vegetables, Cherry blueberry cobbler, Cookie, Wheat snack bread, Chocolate peanut butter spread, Cocoa, Accessory Packet C

MENU 7

Beef brisket, Garlic mashed potato, Cookie, Cracker, Cheese spread, Candy I, Carbohydrate electrolyte beverage, Butter granules, Accessory Packet B

MENU 8

Meatballs w/marinara sauce, Au gratin potatoes, First Strike™ bar, Cheese spread, Wheat snack bread (twin pack), Carbohydrate fortified beverage, Accessory Packet C

MENU 9

Beef stew, Raisin nut mix, Peanut butter spread, Multi grain snack bread, Jelly, Pretzels, Hazelnut cocoa, Hot sauce, Accessory Packet B

MENU 10

Chili and macaroni, Pound cake, Bacon cheese spread, Wheat snack bread (twin pack), Carbohydrate electrolyte beverage, Ground red pepper, Candy III, Accessory Packet A

MENU 11

Vegetable lasagna, Wet fruit pack, Cookie, Chunky peanut butter spread, Cracker, Candy I, Hot sauce, French vanilla cappuccino, Accessory Packet B

MENU 12

Spicy penne pasta, Toaster pastry, Peanut butter spread, Wheat snack bread, Pudding, Carbohydrate electrolyte beverage, Hot sauce, Accessory Packet A

MENU 13

Cheese tortellini, Wet fruit pack, First Strike™ bar, Peanut butter spread, Crackers, Candy II, Carbohydrate electrolyte beverage, Seasoning blend, Accessory Packet B

MENU 14

Ratatouille, Pound cake, Peanut butter spread, Tortillas, Dairy shake, Seasoning blend, Accessory Packet A

MENU 15

Mexican style chicken stew, Sante Fe style rice and beans, Cheese-filled pretzels, Jalapeño cheese spread, Crackers, Candy II, Carbohydrate fortified beverage, Ground red pepper, Accessory Packet A

MENU 16

Boneless pork rib, Potato cheddar soup, Beef snacks, Peanut butter spread, Tortillas, Jelly, Caffeine mints, Carbohydrate fortified beverage, BBQ sauce, Accessory Packet B

MENU 17

Maple sausage, Maple muffin top, Cheese spread, Crackers, Raisin nut mix, Sugar free fortified beverage, Table syrup, Accessory Packet C

MENU 18

Beef ravioli in meat sauce, Cheese spread, Wheat snack bread, Corn nuts, Dried fruit, Carbohydrate fortified beverage, Hot sauce, Accessory Packet C

MENU 19

Sloppy joe filling, Wet fruit pack, Filled crackers, Peanut butter spread, Crackers, Jelly, Carbohydrate electrolyte beverage, BBQ sauce, Accessory Packet A

MENU 20

Spaghetti w/meat sauce, Pretzels, Cheese spread, Multi grain snack bread, Candy III, Dried fruit, Orange beverage, Hot sauce, Accessory Packet A

MENU 21

Lemon pepper tuna, Baked snack cracker, Pound cake, Dairy shake, Fat free mayonnaise, Tortilla, Nuts, Seasoning blend, Accessory Packet B

MENU 22

Asian style beef strips w/peppers, Fried rice, Chunky peanut butter spread, jelly, Wheat snack bread, Candy I, Cocoa, Accessory Packet C

MENU 23

Chicken pesto pasta, Filled bakery item, Patriotic cookie, Cheese spread, Italian bread sticks, Carbohydrate electrolyte beverage, Ground red pepper, Accessory Packet A

MENU 24

Southwest beef and black beans, Spiced apples, Chocolate banana muffin top, Jalapeño cheese spread, Tortillas, Smoked turkey nuggets, Mocha cappuccino, Accessory Packet B

- **Accessory Packet A:** Coffee, non-dairy creamer, sugar and matches
- **Accessory Packet B:** Sugar free beverage powder
- **Accessory Packet C:** Coffee, non-Dairy creamer and sugar substitute
- **Candy I:** Toffee
- **Candy II:** Chocolate or peanut butter disks
- **Candy III:** Fruit-flavored or licorice candy
- **NOTE:** All beverages are powder

MENU 1

Chili w/beans, Corn bread, Jalapeño cheese spread, Tortillas, Ranger bar, Carbohydrate fortified beverage, Ground red pepper, Accessory Packet A

MENU 2

Chicken fajita, Refried beans, Trans fat free fudge brownie, Jalapeño cheese spread, Tortillas, Nuts, Irish cream cappuccino, Seasoning blend, Accessory Packet B

MENU 3

Chicken w/noodles, Peanut butter spread, Snack bread, Raisin nut mix w/pan coated chocolate disks, Jelly, Carbohydrate fortified beverage, Hot sauce, Accessory Packet A

MENU 4

Pork sausage w/gravy, Granola w/fruit, Toaster pastry, Cheese spread, Crackers, Carbohydrate fortified beverage, Accessory Packet A

MENU 5

Chicken w/tomatoes and feta cheese, First Strike™ bar, Cheese spread, Vegetable crackers, Dried fruit, Candy II, Carbohydrate electrolyte beverage, Accessory Packet A

MENU 6

Beef taco filling, Wet fruit pack, Filled crackers, Peanut butter spread, Crackers, Jelly, Carbohydrate electrolyte beverage, BBQ sauce, Accessory Packet A

MENU 7

Beef brisket, Garlic mashed potato, Cookie, Tortillas, Chocolate peanut butter spread, Candy I, Carbohydrate fortified beverage, Butter granules, Accessory Packet B

MENU 8

Meatballs w/marinara sauce, Au gratin potatoes, First Strike™ Bar, Cheese spread, Snack bread, Carbohydrate electrolyte beverage, Accessory Packet C

MENU 9

Beef stew, Raisin nut mix, Peanut butter spread, Snack bread, Jelly, Pretzels, Chocolate hazelnut cocoa powder, Hot sauce, Accessory Packet B

MENU 10

Chili and macaroni, Pound cake, Cheese spread, Crackers, Carbohydrate electrolyte beverage, Ground red pepper, Candy III, Accessory Packet A

MENU 11

Vegetable lasagna, Wet fruit pack, Cookie, Chunky peanut butter spread, Cracker, Candy I, Hot sauce, French vanilla coffee, Accessory Packet B

MENU 12

Spicy penne pasta, Toaster pastry, Peanut butter spread, Snack bread, Pudding, Carbohydrate electrolyte beverage, Hot sauce, Accessory Packet A

MENU 13

Cheese tortellini, Wet fruit pack, First Strike™ bar, Peanut butter spread, Crackers, Candy II, Carbohydrate electrolyte beverage, Seasoning blend, Accessory Packet B

MENU 14

Ratatouille, Pound cake, Peanut butter spread, Crackers, Dried fruit, Dairy shake (TFF), Seasoning blend, Accessory Packet A

MENU 15

Mexican style chicken stew, Sante Fe style rice and beans, Filled pretzels, Jalapeño cheese spread, Vegetable crackers, Candy II, Carbohydrate fortified beverage, Ground red pepper, Accessory Packet A

MENU 16

Boneless pork rib, Potato cheddar soup, Beef snacks, Peanut butter spread, Wheat snack bread (twin pack), Jelly, Caffeine mints, Carbohydrate fortified beverage, BBQ sauce, Accessory Packet B

MENU 17

Maple sausage, Maple muffin top, Cheese spread, Crackers, Raisin nut mix, Orange sugar free beverage, Table syrup, Accessory Packet A

MENU 18

Beef ravioli in meat sauce, Cheese spread, Snack bread, Corn nuts, Dried fruit, Carbohydrate fortified beverage, Hot sauce, Accessory Packet C

MENU 19

Jalapeño pepperjack beef patty, Cherry blueberry cobbler, Cookie, Bacon cheese spread, Wheat snack bread (twin pack), Ketchup, Mustard, Cocoa, Accessory Packet B

MENU 20

Spaghetti w/meat sauce, Pretzels, Cheese spread, Snack bread, Dried fruit, Candy III, Carbohydrate fortified beverage, Hot sauce, Accessory Packet A

MENU 21

Lemon pepper tuna, Baked snack cracker, Pound cake, Dairy shake (TFF), Fat free mayonnaise, Tortilla, Nuts, Seasoning blend, Accessory Packet B

MENU 22

Asian beef strips, Fried rice, Chunky peanut butter spread, Jelly, Snack bread, Candy I, Cocoa, Accessory Packet C

MENU 23

Chicken pesto pasta, Filled bakery item, Patriotic cookie, Cheese spread, Italian bread sticks, Carbohydrate electrolyte beverage, Ground red pepper, Accessory Packet A

MENU 24

Southwest beef and black beans, Spiced apples, Chocolate banana nut muffin top, Jalapeño cheese spread, Tortillas, Smoked turkey nuggets, Mocha cappuccino, Accessory Packet B

- **Accessory Packet A:** Coffee, non-dairy creamer, sugar and matches
- **Accessory Packet B:** Sugar free beverage powder
- **Accessory Packet C:** Coffee, non-Dairy creamer and sugar substitute
- **Candy I:** Toffee
- **Candy II:** Chocolate or peanut butter disks
- **Candy III:** Fruit-flavored or licorice candy
- **NOTE:** All beverages are powder

MRE™ XX — 2000 PRODUCTION

ITEMS IN:

Country captain chicken, Turkey tetrazzini, Raspberry applesauce, Minestrone, Western style beans, Yellow & wild rice pilaf, Marshmallow treats, Graham treats, Oatmeal cookie, Plain snack bread

ITEMS OUT:

Chicken stew, Ham slice

MRE ™ XXI – 2001 PRODUCTION

ITEMS IN:

Seafood jambalaya, Beef enchilada, Mashed potatoes, Plain snack bread, Wheat snack bread, Nacho cheese filled crackers, Chocolate chip cookies, Honey nut mini wheat snack cereal, Cinnamon snack cereal, Spice pound cake, Cookie w/pan coated chocolate disks

ITEMS OUT:

Pork chow mein, Smoky franks

MRE™ XXII – 2002 PRODUCTION

ITEMS IN:

Hamburger patty, Beef steak w/mushroom gravy, Multi grain cereal, Cappuccino (mocha, vanilla), Dairy shakes (chocolate, vanilla, strawberry), BBQ sauce, Picante sauce, Seasoning blend (salt free), Ground red pepper

ITEMS OUT:

Beef steak, Chicken w/rice, Hot sauce (4 menus)

MRE™ XXIII – 2003 PRODUCTION

ITEMS IN:

Hearty New England clam chowder, Applesauce (carbohydrate fortified), Pot roast w/vegetable, BBQ pork rib, Vegetable manicotti (vegetarian), Pan coated chocolate disks w/peanut butter, Pan coated crisp chocolate disks, Almond poppyseed pound cake, Pumpkin pound cake, Chocolate mint cookie, Vanilla waffle sandwich cookie

ITEMS OUT:

Jamaican pork chop, Pasta w/Alfredo sauce, Beef w/ mushrooms, White rice

MRE™ XXIV – 2004 PRODUCTION

ITEMS IN:

Veggie griller w/BBQ sauce, Mexican macaroni & cheese, Cajun rice w/sausage, Bacon cheese spread, Molasses cookie, Toffee crunch cookie, Kreamsicle cookie, Dried cranberries, Red hot cinnamon candies, Pan coated chocolate disks w/peanuts, Carrot cake, Refried beans

ITEMS OUT:

Bean & rice burrito, Turkey breast w/potatoes, Buttered noodles, Chocolate covered oatmeal cookie

MRE™ XXV – 2005 PRODUCTION

ITEMS IN:

Penne w/spicy tomato sauce, Sloppy joe filling, Hot beverage bag, Chicken fajita, Cheese omelet w/vegetables, Tortillas, Hash browns w/bacon, Smoke house almonds, Cheddar cheese baked snack crackers, Raisins (osmotically dried), White chocolate/raspberry cookie, Scone (cinnamon), Cherry blueberry cobbler, Carbohydrate fortified beverage, Carbohydrate electrolyte beverage, Xylitol gum, Toffee cube w/walnuts, Jalapeño ketchup, Steak sauce, Strawberry toaster pastry, Ranger bar

ITEMS OUT:

Pasta w/vegetables in tomato sauce, Thai chicken, Country captain chicken, Beef teriyaki, Beverage base powder

MRE™ XXVI – 2006 PRODUCTION

ITEMS IN:

HooAH!® Bar, Zippered foil drink pouch, Chili w/beef, Tuna fish, Mexican corn, Mango peach applesauce, Raisin nut mix w/pan coated chocolate disks, Caramel apple bar, Frosted brown sugar cinnamon toaster pastry, Chocolate banana muffin top, Chocolate hazelnut cocoa, Fat free mayo, Chocolate peanut butter spread, Pan coated peanut butter disks

ITEMS OUT:

Beefsteak w/mushroom gravy, Chicken tetrazzini

MRE™ XXVII – 2007 PRODUCTION

ITEMS IN:

Meatballs w/marinara sauce, Chicken w/dumplings, Cornbread stuffing, Fried rice, Pan coated fruit flavored disks (Wild Berry & Tropical), Marble pound cake, Green pepper hot sauce, Seasoning packets (BBQ & Pizza), Apple butter, Chunky peanut butter spread

ITEMS OUT:

Cajun rice w/ beans & sausage, Jambalaya, Western bean, rice (yellow & wild rice pilaf), Molasses cookie

MRE™ XXVIII – 2008 PRODUCTION

ITEMS IN:

Chicken pesto & pasta, Vegetable lasagna, Granola w/blueberries, Vanilla & chocolate pudding (instant), Chocolate chip toaster pastry, Chipotle snack bread, Chocolate toffee cubes, Bite size cherry licorice, Patriotic cookies, Hot and spicy cheese baked snack cracker, Irish cream coffee, Strawberry-banana dairy shake, Salsa verde, Butter granules, Sucralose sweetener

ITEMS OUT:

Chicken w/cavatelli, Vegetable manicotti

MRE™ XXIX – 2009 PRODUCTION

ITEMS IN:

Buffalo chicken, Beef brisket, Maple sausage, Potato cheddar soup, Biscuit, Cornbread, First Strike™ bar, Chocolate chip snack bar, Cran-apple snack bar, Filled cracker (pepperoni & cheddar flavors)

ITEMS OUT: Chicken breast strips w/salsa, Cheese & vegetable omelet, Meatloaf w/brown onion gravy, New England clam chowder, Shortbread cookies, Fig bar, HooAH!® bar

MRE™ XXX – 2010 PRODUCTION

ITEMS IN: Southwest beef & black beans, Chicken w/tomato & feta, Garlic mashed potatoes, Jalapeño cashews, Maple muffin top, Mint (caffeine), Cinnamon roll, Table syrup, Sugar free beverage base (w/vitamin C)

ITEMS OUT: Grilled chicken breast, Beef enchilada, Mashed potatoes

MRE™ XXXI – 2011 PRODUCTION

ITEMS IN:

Chunk light tuna (lemon pepper), Sausage w/creamy gravy, Ratatouille, Santa Fe rice & beans, Italian bread sticks, Apple filled pastry, Wheat snack bread (twin pack), Granola w/bananas, Corn nuts, Turkey bites, Hot sauce (pouch)

ITEMS OUT:

Tuna (white albacore), Chicken & dumplings, Veggie griller, Mexican corn

MRE ™ XXXII – 2012 PRODUCTION

ITEMS IN:

Asian pepper steak, Mexican chicken stew, Au gratin potatoes, Multi-grain snack bread, Jalapeño filled snack crackers, Banana nut Ranger Bar w/added fiber, Sour fruit flavored disks

ITEMS OUT:

Hamburger patty, Buffalo chicken, Mexican rice

MRE™ XXXIII –2013 PRODUCTION

ITEMS IN:

Jalapeño pepper jack beef patty, Beef taco filling, White wheat snack bread, Oatmeal chocolate chunk cookie, Chocolate-filled pound cake, Barbecue almonds, Fruit flavored hard candy, Dairy shakes (TFF), Lemon iced tea, Ketchup, Yellow mustard

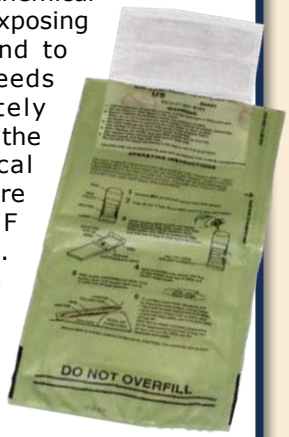
ITEMS OUT:

Beef pot roast w/vegetables, Sloppy joe filling, Cornbread stuffing

MRE™ FOOD FACT:

What is an FRH?

Because of the importance of providing hot meals to Warfighters, a Flameless Ration Heater (FRH) has been included in most MRE™ menus since 1993. The idea behind the FRH is to produce heat using the oxidation of metal. In an FRH, heat is produced by an exothermic chemical reaction that results from exposing a magnesium-iron compound to water. All a Warfighter needs to do is add approximately 1 oz. (29.6 mL) of water to the FRH bag, and the chemical reaction raises the temperature of an MRE™ entrée by 100°F (37.8°C) in 10-15 minutes. The Hot Beverage Bags included in MREs™ can also be placed in the FRH in order to produce a hot drink!



MRE™ XXXIIII –2014 PRODUCTION

ITEMS IN:

BBQ shredded beef, Vegetarian taco pasta, Seasoned black beans, BBQ corn nuts, Pretzel nibblers, Honey mustard & onion, Hard candy (Caramel flavor), Toaster pastry, Chocolate fudge, Pound cake (TFF), Chipotle Tortilla

ITEMS OUT:

Chicken fajita, Vegetable lasagna, Refried beans, Potato cheddar soup

MRE™ FOOD FACT:

Kicking It Up A Notch

Introduced in 2011, the hot sauce pouch is lighter and more durable than the miniature bottle it replaces.



MRE™ FOOD FACT:

Beginning possibly as early as 2014, each MRE™ menu name will appear in both English and French (the 2 NATO official languages) on the meal bag. Also, "Meal, Ready to Eat™" will appear in both languages on the shipping container. The benefits that this change provides include: 1) sustaining and bolstering the international reputation of the MRE™ among coalition forces; 2) supporting interoperability and standardization objectives in joint alliance and coalition operations; 3) offering potential benefits for US ration assemblers as NATO Maintenance and Supply Agency expands DLA support to NATO customers.



PURPOSE

The FSR™ is a compact, eat-on-the-move assault ration designed for high intensity combat operations. The FSR™ is substantially lighter and more compact than the Meal, Ready to Eat™, enhancing Warfighter consumption, nutritional intake, and mobility.



HISTORY

The FSR™ was designed to improve tactical mobility by lightening the load of the joint Warfighter during combat operations. It was developed to meet the needs of Warfighters in Iraq and Afghanistan, particularly during multi-day operations without logistical support. The First Strike Ration® was fielded in 2008, and has been extensively tested in combat and received positive feedback.

TECHNOLOGY

The FSR™ utilizes advancements in food processing, preservation, nutrient delivery, and packaging technologies, including intermediate moisture formulations, glucose optimization, and novel packaging materials and configurations.



CHARACTERISTICS

- **Enhanced Mobility:** All components of this lightweight ration are familiar, eat-out-of-hand foods that require little or no preparation by the Warfighter. Innovative packaging technologies enable the beverages to be reconstituted and consumed directly from the drink pouch.
- **Shelf Life:** Warfighters deserve food that is as fresh tasting in the field as the day it was made. The FSR™ has a shelf life of 24 months at 80°F (27°C).
- **Nutrition:** The FSR™ provides 24 hour fuel for Warfighters on the move. Each menu provides an average of 2900 calories per day, nutritionally balanced with 14% protein, 34% fat, and 52% carbohydrate.
- **Logistics:** A single FSR™ provides a day's worth of subsistence at approximately 50% the weight and volume of 3 Meals, Ready to Eat™. FSR™ is issued 9 menus per case.

CONTINOUS IMPROVEMENT

The FSR™ is nutritionally optimized for Warfighter performance. Like the entire family of combat rations, the FSR™ is part of a continuous product improvement program based on Warfighter feedback. In 2012, the FSR™ is expanding from 3 to 9 menus, including over 40 new items.

MENU 1

Filled French toast, Bacon cheddar pocket sandwich, Pepperoni pocket sandwich, Jalapeño cheese spread, Wheat snack bread (twin pack), Pretzel sticks, Mini First Strike™ bar (chocolate), Dessert bar (peanut butter), Sweet BBQ beef snack,Teriyaki beef snack, Cinnamon Zapplesauce®, Nut and fruit mix (Type III), Carbohydrate fortified beverage, Chocolate protein drink, Caffeinated gum (cinnamon), Sugar free beverage

MENU 2

Toaster pastry (brown sugar/cinnamon), Italian pocket sandwich, Chunk chicken, Tortillas, Peanut butter spread, Crackers, Mini First Strike™ bar (apple cinnamon), Dried cranberries, Dessert bar (mocha), Sweet BBQ beef snack, Teriyaki beef snack, Smoked almonds, Zapplesauce®, Carbohydrate fortified beverage (×2), Caffeinated gum (peppermint), BBQ sauce, Hot sauce, Sugar free beverage

MENU 3

Lemon poppyseed pound cake, BBQ beef pocket sandwich, Lemon pepper tuna, Tortillas, Cheese spread, Crackers, Mini First Strike™ bar (mocha), Mini First Strike™ bar (cran raspberry), Dessert bar (chocolate banana nut), Toasted corn kernels, Nut and fruit mix (Type III) , Zapplesauce®, Carbohydrate fortified beverage (×2), Caffeinated mints, Fat free mayonnaise, Hot sauce, Instant coffee, Non-dairy creamer, Sugar

MENU 4

Cinnamon bun, Mexican beef wrap, BBQ chicken breast, Dessert bar (peanut butter), Wheat snack bread (twin pack), Jalapeño cheese spread, Cranberry beef snack, Zapplesauce®, Mini First Strike™ bar (mocha), Energy gel (mixed berry), Cheddar filled pretzels, Raisins, Carbohydrate fortified beverage (×2), Caffeinated gum (cinnamon), Hot sauce, Instant coffee, Non-dairy creamer, Sugar

MENU 5

Toaster pastry (brown sugar/cinnamon), Filled French toast, BBQ chicken pocket sandwich, Mango chipotle salmon, Crackers, Peanut butter spread, Toasted corn kernels, Turkey snack, Nut and fruit mix (Type II), Mini First Strike™ bar (cranraspberry), Energy gel (mixed berry), Cinnamon Zapplesauce®, Carbohydrate fortified beverage, Chocolate protein drink, Caffeinated mints

MENU 6

Apple turnover, BBQ pork wrap, Garlic & herb chicken breast, Cheese spread, Plain bagel, Cranberry beef snack, Dried cranberries, Cheddar filled pretzels, Mini First Strike™ bar (apple cinnamon), Dessert bar (mocha), Caffeinated chocolate pudding, Hot sauce, Carbohydrate fortified beverage, Strawberry-banana dairy shake, Caffeinated gum (peppermint)

MENU 7

Blueberry turnover, Nacho beef stick pocket sandwich, Sweet & spicy tuna, Wheat snack break (twin pack), Hot & spicy baked cheddar crackers, Fat free mayonnaise, Nut and fruit mix (Type III), Turkey snack, Cheddar potato bacon spread, Crackers, Mini First Strike™ bar (chocolate), Mini First Strike™ bar (apple cinnamon), Zapplesauce®, Carbohydrate fortified beverage (×2), Caffeinated gum (cinnamon), Instant coffee, Non-dairy creamer, Sugar

MENU 8

BBQ chicken pocket sandwich, Albacore tuna, Filled French toast, Plain bagel, Cheddar filled crackers, Mini First Strike™ bar (mocha), Sweet BBQ beef snack, Teriyaki beef snack, Cinnamon Zapplesauce®, Nut and fruit mix (Type II), Chocolate banana nut dessert bar, Vanilla dairy shake, Carbohydrate fortified beverage, Caffeinated gum (peppermint), Fat free mayonnaise, Instant coffee, Non-dairy creamer, Sugar

MENU 9

Italian pocket sandwich, Garlic & herb chicken breast, Cinnamon bun, Tortillas, Cheddar potato bacon spread, Crackers, Mini First Strike™ bar (cranraspberry), Cranberry beef snack, Caffeinated chocolate pudding, Raisins, Toasted corn kernels, Carbohydrate fortified beverage, Vanilla dairy shake, Caffeinated mints, Sugar free beverage

NOTE: All beverages are powder

PRODUCT PHOTOS:





ASSAULT RATIONS: Meal, Cold Weather/Food Packet, Long Range Patrol (MCW/LRP)

PURPOSE

The Meal, Cold Weather (MCW) and the Food Packet, Long Range Patrol (LRP) are designed to meet the unique requirements of the United States Marine Corps (USMC) and Army Special Operations Forces (SOF). These specialized forces require appropriate nutritional and operational characteristics for extreme cold environments, as well as a restricted calorie ration with a long shelf life that can be used during initial assault, special operations, and long-range reconnaissance missions.



HISTORY

MCW and LRP are descendants of the original Long Range Patrol ration, introduced during the Vietnam era. Both rations reentered production early in Operation Enduring Freedom, as Warfighters operating in extreme environments requested a ration that was lightweight, freeze-resistant, and energy-rich.



CHARACTERISTICS

- **Shelf Life:** The shelf life is a minimum of three years at 80°F (27°C) and six months at 100°F (38°C), but significantly extended shelf life for the entrée has been demonstrated in storage tests. The MCW is packed in a white meal bag and the LRP in a tan colored bag.
- **Logistics:** Each MCW/LRP weighs approximately 1 lb (.5 kg), with a volume of .04 ft^3 (10 dm^3). The ration is issued in cases of 12; each case weighs approximately 15 lbs (7 kg). Preparation requires 28-40 fl oz of potable water, as well as a heat source.

NUTRITIONAL DATA

Each ration provides an average of 1540 calories, composed of 54 g of protein, 58 g of fat and 200 g of carbohydrates. Three MCW's per day provides the minimum 4500 calories required for heavy exertion in extreme cold. Limits on protein and sodium help to reduce risk of dehydration in cold weather environments, and additional powdered beverages also encourage hydration. The LRP is a restricted calorie ration approved for use for up to 10 days, when 1 ration is issued per day.

CONTENTS

Both rations include dehydrated components, which reduces weight while mitigating the risk of frozen rations during cold weather operations. Other components include spreads, crackers, cookies, sports bars, nuts, candy, powdered beverages, accessory packet, and spoon. All powdered beverages are packaged in a drink pouch for ease of consumption.

CONTINUOUS IMPROVEMENT

The MCW/LRP is part of the Assault Special Purpose Ration Improvement Project. Although the ration is designed for the Joint Service requirements of the Marine Corps and SOF, it can be utilized by other services that require a ration for extreme cold environments or long-range missions. The MCW/LRP is continuously improved to remove less acceptable components and replace them with new highly acceptable Warfighter tested and approved components. In 2011, the Joint Services approved the use of tan colored packaging in place of white colored packaging for all MCW ration components.

MENU 1

Spicy Oriental chicken w/rice, Fig bar, Ice cream sandwich, Dairy shake, Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 2

Beef stroganoff w/noodles, Chocolate sports bar, Starch jelly candy, Nut & fruit mix (Type III), Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 3

Chili macaroni, Crackers, Cheese spread, Toasted corn kernels, Pan coated chocolate disks w/peanuts, Cappuccino, Accessory pack, Spoon

MENU 4

Turkey tetrazzini, Dessert bar (mocha), Crackers, Cheese spread, Orange beverage, Cappuccino, Accessory pack, Spoon

MENU 5

Chicken & rice, Chocolate covered cookies, Toasted corn kernels, First Strike™ bar (cranraspberry), Cappuccino, Accessory pack, Spoon

MENU 6

Seafood chowder, Shortbread cookies, Smoked almonds, Nut & fruit mix (Type III), Crackers, Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 7

Beef stew, Pound cake, Toasted corn kernels, Chocolate covered cookies, Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 8

Spaghetti w/meat sauce, Nut & fruit mix (Type I), Chocolate peanut spread, Crackers, Pan coated chocolate disks, Sugar free beverage, Accessory pack, Spoon

MENU 9

Rice & chicken (Mexican), Shortbread cookies, Smoked almonds, Dried cranberries, Dessert bar (chocolate banana nut), Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 10

Scrambled eggs w/cheese (Western style), Granola w/ blueberries, Chocolate sports bar, Filled pretzels, Orange beverage, Cocoa, Accessory pack, Spoon

MENU 11

Scrambled eggs w/bacon, Oatmeal (flavored), Nut & fruit mix (Type I), Fig bar, Orange beverage, Cocoa, Accessory pack, Spoon

MENU 12

Scrambled eggs w/cheese (Western style), Oatmeal (flavored), Toaster pastry, Starch jelly candy, Dairy shake, Cocoa, Accessory pack, Spoon

PRODUCT PHOTOS:



MCW/LRP PACKAGING



WARFIGHTER ENJOYS NUTRITIOUS MCW

- **Meal, Cold Weather Accessory Pack contains:** Coffee, cream, sugar, gum, toilet tissue, hand cleaner, hot sauce, and matches
- **Food Packet Long Range Patrol Accessory Pack contains:** Coffee, cream, sugar, iodized salt, gum, 2 toilet tissues, hand cleaner, hot sauce, and matches
- **Nut & Fruit Mix Type 1:** Nuts & raisins

  Nut & Fruit Mix Type 2: Nuts, raisins w/ pan-coated chocolate disks

  Nut & Fruit Mix Type 3: Nuts w/raw sunflower seeds and infused fruit
- **NOTE:** All beverages are powder and all entrées are freeze-dried

PRODUCT PHOTOS:





WARFIGHTERS EATING MCW IN ARCTIC ENVIRONMENT

- **Meal, Cold Weather Accessory Pack contains:** Coffee, cream, sugar, gum, toilet tissue, hand cleaner, hot sauce, and matches
- **Food Packet Long Range Patrol Accessory Pack contains:** Coffee, cream, sugar, iodized salt, gum, 2 toilet tissues, hand cleaner, hot sauce, and matches
- **Nut & Fruit Mix Type 1:** Nuts & raisins

  Nut & Fruit Mix Type 2: Nuts, raisins w/ pan-coated chocolate disks

  Nut & Fruit Mix Type 3: Nuts w/raw sunflower seeds and infused fruit
- **NOTE:** All beverages are powder and all entrées are freeze-dried

MENU 1

Spicy Oriental chicken w/rice, Fig bar, Dessert bar, Peanut butter spread, Dairy shake (TFF), Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 2

Pasta w/chicken and asparagus, Nut & fruit mix (Type III), Dessert bar (mocha), Carbohydrate fortified beverage, Banana and strawberries (freeze dried), Accessory pack, Spoon

MENU 3

Chili macaroni w/beef, Toasted corn kernels, Crackers, Cheese spread, Pan coated chocolate disks, Cappuccino, Accessory pack, Spoon

MENU 4

Turkey tetrazzini, Dessert bar (mocha), Crackers, Cheese spread, Orange beverage, Cappuccino, Accessory pack, Spoon

MENU 5

Chicken and rice, Cheddar filled pretzels, Filled bakery (french toast), First Strike™ bar (Cranraspberry), Hazelnut cocoa, Accessory pack, Spoon

MENU 6

Seafood chowder, Ramen soup, Fudge brownie (TFF), Crackers, Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 7

Beef stew, Pound cake, Toasted corn kernels, Smoked almonds, Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 8

Spaghetti w/meat sauce, Ramen soup, Pan coated chocolate disks, Dairy shake (TFF), Sugar free fortified beverage, Bananas and strawberries (freeze dried), Accessory pack, Spoon

MENU 9

Rice and chicken Mexican style, Dessert bar (chocolate banana nut), Cornbread, Carbohydrate fortified beverage, Cranberries (dried), Accessory pack, Spoon

MENU 10

Eggs (scrambled w/cheese western style), Granola w/milk & blueberries, Toaster pastry, Maple muffin top, Nacho filled pretzels, Hazelnut cocoa, Sugar free beverage, Accessory pack, Spoon

MENU 11

Scrambled eggs w/bacon, Granola w/milk & bananas, Nut & fruit mix (Type II), Fig bar, Cocoa, Carbohydrate fortified beverage, Accessory pack, Spoon

MENU 12

Breakfast skillet, Rolled oats cereal, Ice cream sandwich, Tortilla, Cheese spread, Chocolate protein drink, Accessory pack, Spoon

ASSAULT RATIONS: Modular Operational Ration Enhancement (MORE)

The Modular Operational Ration Enhancement (MORE) was developed to augment daily operational rations with additional components tailored to particular environments. There are two types of MORE, one targets high altitude and cold weather while the other is intended for hot weather operations.

PURPOSE

Warfighters in extreme environments, such as cold weather, high altitude, or elevated temperature, require extra calories beyond the standard operational rations in order to combat weight loss and decreased physical and cognitive abilities. The MORE provides the correct amount of extra calories for these specific environmental scenarios with the right balance of fat, carbohydrate, and protein. By augmenting the MRE™ or FSR™ with additional calories and nutrients, the Warfighter is capable of performing at maximum capacity in extreme environments. The MORE is not a replacement to the MRE™ or FSR™; it is a scientifically balanced addition that ensures peak performance in even the most austere battlefield locations.

TECHNOLOGY

MORE components are calorically dense and carry a balance of carbohydrates, caffeine, electrolytes, vitamins, antioxidants, and amino acids. The MORE includes food components that are essential to improving the mental and physical abilities of Warfighters in demanding, extreme conditions.

CHARACTERISTICS

- The MORE-High Altitude/Cold Weather and MORE-Hot Weather are composed of developmental and commercial items, including caffeinated pudding, energy gels, carbohydrate-enhanced beverages, First Strike™ bars, carbohydrate-dense nut mixes, crackers, caffeinated gum and Zapplesauce®. Drink powders are issued in easy-to-use pouches hourglass pouches. The MORE has a shelf life of 2 years at 80°F.
- All components are lightweight, low cube, can be eaten on the move without preparation, and are easy to consume and digest. The MORE is lightweight and compact, providing only the enhancements most critical to maintaining Warfighter mental awareness and physical stamina.
- The MORE-High Altitude/Cold Weather and MORE-Hot Weather are currently available for procurement through DLA-Troop Support.

PRODUCT PHOTOS:







MORE – HIGH ALTITUDE/COLD WEATHER

Weight Per Pack: 0.75 lbs/.34 kg

Procurement Data: 24/case

NSN: 8970-01-581-2505

PACK 1

Caffeinated chocolate pudding, Nut and fruit mix (Type I), Toaster pastry, Energy gel (wild berry), Cheese filled pretzels

Nutrition: 1160 cal, 162 g carb, 20 g pro, 48 g fat

PACK 2

First Strike™ bar (chocolate), Nut and fruit mix (Type II), Toasted corn kernels, Energy gel (lemon lime), Carbohydrate fortified beverage, Beef jerky, Caffeinated gum

Nutrition: 1340 cal, 194 g carb, 30 g pro, 49 g fat

PACK 3

Cracker, Cheddar potato bacon soup spread, Zapplesauce®, Baked snack cracker, Mini First Strike™ bar (mocha), Carbohydrate fortified beverage

Nutrition: 1130 cal, 164 g carb, 14 g pro, 46 g fat

MORE – HOT WEATHER

Weight Per Pack: 0.75 lbs/.34 kg

Procurement Data: 24/case

NSN: 8970-01-599-4327

PACK 1

Caffeinated chocolate pudding, Dried cranberries, Energy gel (mixed berry), Cheddar cheese filled pretzels, Carbohydrate electrolyte beverage (×2)

Nutrition: 1000 cal, 200 g carb, 7.5 g pro, 19 g fat

PACK 2

First Strike™ bar (chocolate), Zapplesauce®, Energy gel (lemon lime), Smoked almonds, Caffeinated gum (peppermint), Carbohydrate electrolyte beverage (×2)

Nutrition: 910 cal, 168 g carb, 7 g pro, 23 g fat

PACK 3

Mini First Strike™ bar (mocha w/caffeine), Cinnamon Zapplesauce®, Energy gel (orange), Nut and fruit mix (Type III), Toasted corn kernels, Carbohydrate electrolyte beverage (×2)

Nutrition: 1030 cal, 185 g carb, 10 g pro, 27 g fat

PRODUCT PHOTOS:





GROUP RATIONS: Unitized Group Ration™ (UGR™)

The family of Unitized Group Rations™ provides high quality group meals to Warfighters in the field.

HISTORY

Prior to the introduction of the UGR™ system, group meals were assembled at the unit level for distribution to Warfighters in the field. Cooks had to order an average of 34 separate items for each meal, and could only hope that they arrived when needed. This significantly increased the logistical burden of field feeding. The Unitized Group Ration™ concept combines all the items necessary for field feeding into complete modules, allowing culinary specialists to focus on food preparation, not administration.

HOW IT WORKS

There are currently 4 rations in the UGR™ family:

- The **UGR-Heat and Serve™** consists of precooked, shelf-stable food issued in lightweight polymeric trays.
- The **UGR-B™** is the primary group ration of the Marine Corps, and contains dehydrated items to meet the Corps' expeditionary requirements.
- The **UGR-A™** consists of both shelf-stable and perishable components. It delivers the highest-quality, most fresh-like field feeding available anywhere.
- The unique **UGR-Express™** uses chemical heating technology to provide hot food anywhere on the planet, without the need for specialized field feeding equipment.

POLYMERIC TRAYS:

TECHNOLOGY:

The tray is made of polypropylene, together with:

- Ethylene Vinyl Alcohol (EVOH)… a barrier layer to help maintain the quality of food contained within.
- A multi-layer, heat-sealable Lidding Material.
- An ovenable paperboard Baking Insert to accommodate the packaging of bakery items.
- A protective Fiberboard Sleeve to help prevent damage during shipping.

BENEFITS:

Utility…The polymeric tray can be opened easily with a knife. The steel traycan requires a special opener.

Safety…The opened polymeric tray leaves no sharp edges. The opened steel traycan leaves sharp edges, which are a hazard to military personnel.

Producibility…The military polymeric tray is a modified commercial item. The steel traycan is a military-unique item with limited commercial applications.

	UGR-H&S™	UGR-A™	UGR-B™	UGR-E™
Components:	Shelf-stable, ready-to-eat entrées, sides, and desserts Ready-to-use commercial products Disposable service items	Perishable/frozen entrées Ready-to-use and quick-to-prepare commercial products Disposable service items	Shelf stable ingredients Easy-to-prepare commercial products Disposable service items	Shelf-stable, ready-to-eat entrées, sides, and desserts Ready-to-use commercial products Disposable service items
Configuration:	Unitized into 3-box modules containing 50 meals	Unitized into 2 semi-perishable boxes and 1 frozen box. Each 3-box module contains 50 meals	Unitized into 3-box modules containing 50 meals	Unitized into 1 shelf-stable box containing 18 meals
Shelf Life:	18 months at 80°F (27°C)	3 month CONUS 9 months OCONUS at 80°F (semi-perishable box) and 0°F (frozen box)	18 months at 80°F (27°C)	18 months at 80°F (27°C)
Menu Variety:	17 (3 Brk, 14 Lun/Din)	21 (7 Brk, 14 Lun/Din)	19 (5 Brk, 14 Lun/Din)	13 (4 Brk, 8 Lun/Din, 1 Holiday)

FURTHER ENHANCEMENTS TO THE UGR™

- All UGRs™ include seasonings such as salt, pepper, and hot sauce. UGR-H&S™ and UGR-A™ are issued with shelf-stable milk, and all rations are supplemented with bread and fresh fruits and vegetables as available.
- **Arctic Supplement:** Warfighters operating in cold environments may need additional calories and hydration. The Arctic Supplement meets this requirement with an additional 914 calories per Warfighter, per meal.

CONTINUOUS PRODUCT IMPROVEMENT

Like all military rations, the UGR™ family is constantly field-tested to increase variety, enhance acceptability, increase consumption, and improve nutritional intake.

Recent efforts include the development of a lightweight pouch to replace the ubiquitous #10 sized cylindrical metal can and a tremendous increase in the variety of ration items. In 2012, 12 items were approved for inclusion into future UGR menus. Current research is also focusing on including bio-based dining packets, bio-based serving utensils, and degradable trash bags to alleviate the environmental burden. Bio-based cutlery is a product that is molded with agricultural by-products (starches and fibers) from wheat, corn, or other crops instead of plastic resins. The bio-based cutlery performs the same as standard plastic cutlery; but is degradable and compostable. Their future use will benefit the farmer and the environment.

Additional CFD efforts include the development of an integrated database of UGR™ and field kitchen equipment is presently underway. This significant tool will facilitate rapid assessment of how potential UGR™ menu changes will impact the efficiency of the Services' current field kitchens by menu and across menus. It will further ensure interoperability and efficiency in both ration and kitchen designs and major upgrades, will provide the capability to assess alternate equipment items and determine equipment quantities based on requirements to cook/prepare menu items, will characterize ration packaging waste stream by type material and amount, and set planning factors for water requirements by menu item and total menu, determine number of batches/cycle time per batch by equipment item, and by planned sanitation time/labor/water requirements.

PRODUCT PHOTOS:







TOP: UGR-H&S™ MODULE
MIDDLE: POLYMERIC TRAY CONTAINERS
BOTTOM: COOK PREPARING UGR-H&S™

GROUP RATIONS: UGR-H&S™

PURPOSE

The UGR H&S™ is intended to be the first group ration available in theater, utilized in combination with the MRE™ for daily feeding.

The UGR-H&S™ can be prepared on field kitchens without refrigeration capability. Like all Unitized Group Rations™, the UGR-H&S™ simplifies the logistics chain by including everything needed to serve a group meal for 50 Warfighters in a single NSN.

Each UGR-H&S™ module contains 50 servings of pre-cooked food, serving utensils, dining packets and trays, and trash bags.

CHARACTERISTICS

- **Polymeric Trays:** Each UGR-H&S™ menu contains an entrée, starch, vegetable, and dessert. These major components are precooked and packaged in lightweight, disposable polymeric trays. These sealed trays are durable enough to withstand the rigors of shipping through a combat zone and allow food to be heated with minimal preparation.
- **Shelf Life:** The UGR-H&S™ does not require refrigeration to maintain its quality. Each module is shelf stable for 18 months at 80°F (27°C).
- **Logistics:** Each 50-meal UGR-H&S™ module is issued in 3 rugged fiberboard boxes. One pallet contains 8 modules, for a total of 400 meals.
  - **Average weight:** 124.5 lbs (56.6 kg)/module
  - **Cube:** 5.25 ft^3 (148.7 dm^3)/module
- **Variety:** 17 different menus are available for the UGR-H&S™. There are 3 breakfast varieties and 14 lunch/dinner menus.

NUTRITIONAL DATA

Including supplements of shelf-stable milk, bread, and other items, the average UGR-H&S™ menu provides 1450 calories per serving, including 10% protein (36 g), 35% fat (56 g), and 55% carbohydrates (199 g).

CONTINUOUS IMPROVEMENT

The UGR-Heat & Serve™, like all other Unitized Group Rations™, is continuously improved through field testing under realistic conditions with Warfighters throughout the military. On the next page, you'll see some of the items that have been added recently. In 2012 alone, 3 new entrées and 4 new bakery items will be added to the UGR-H&S™.

COMMENTS

The UGR-H&S™ is intended to provide between 40-60% of a Warfighter's daily nutrition intake in a deployed environment. It can be used in a "theater ration mix" in combination with other operational rations like the Meal, Ready to Eat™, UGR-A™, and UGR-E™, or with other food sources that may be available such as dining facilities. UGR-H&S™ meals can be prepared on a wide variety of field feeding equipment, including the Mobile Kitchen Trailer, Containerized Kitchen, Assault Kitchen, Expeditionary Field Kitchen, Base Expeditionary Airfield Resources, Tray Ration Heater System, and Single Pallet Expeditionary Kitchen. Go to hotchow.natick.army.mil for more information on these systems.

PRODUCT PHOTOS:







UGR-H&S™ MENU 13 ITEMS

BREAKFAST:

MENU 1

Scrambled eggs (butter flavored, Boil-in-Bag (BIB)), Pork sausage links, Creamed ground beef & potatoes, Breakfast cake w/maple syrup, Grits, Blueberry dessert, Salsa, Grape jelly, Orange beverage, Irish cream cappuccino

MENU 2

Scrambled eggs (butter flavored, BIB), Shelf stable bacon, Seasoned steak, Cheesy ham & potatoes, Banana nut cake, Oatmeal (instant), Apple dessert, Jalapeño ketchup, Strawberry jam, Grape beverage, Cocoa

MENU 3

Scrambled eggs (butter flavored, BIB), Ham slices, Cream gravy w/sausage, Blueberry breakfast cake, Apple dessert, Grits, Peaches, Ketchup, Grape jelly, Orange beverage, French vanilla cappuccino

PRODUCT PHOTOS:



UGR-H&S™ DESSERT,
CHOCOLATE CHIP MACAROONS

PRODUCT NOTES:

- *** Indicates a Split Entrée Menu**
- **Breakfast Menus** include coffee and non-dairy creamer with mandatory supplements of two 8 oz. UHT milk cartons and one box of cold cereal per individual. Enhancements include two slices of bread per individual.
- **Lunch/Dinner Menus** include hot sauce, coffee, and non-dairy creamer with mandatory supplements of 8 oz. of ultra high temperature (UHT) milk carton per individual. Enhancements include two slices of bread, fresh fruits, and salad when possible.
- All beverages are powder

LUNCH/DINNER:

MENU 1

BBQ pulled pork, Beef chili dogs, Hoppin' john – blackeyed peas, Hamburger buns, Peanut butter chip cookies, Lemonade beverage, Peanut butter spread, Grape jelly

MENU 2

Turkey cutlets w/gravy, Green beans, Cranberry sauce, Sweet potato casserole, Pan coated chocolate disks, Apple dessert, Orange cranberry cake, Iced tea, Carbohydrate electrolyte beverage

MENU 3

Seasoned steaks, Corn, Devil's fudge cake w/chocolate icing, Cherry dessert, Orange beverage, Peanut butter spread, Strawberry jam

MENU 4

Chicken breast in gravy, Mixed vegetables, Brown & wild rice pilaf, Cranberry white chocolate cookies, Cranberry sauce, Fruit cocktail, Cherry beverage, Sugar free cranberry-pomegranate beverage

MENU 5

Turkey tetrazzini, Peas & carrots, Red velvet cake, Pears, Grape beverage, Peanut butter spread, Grape jelly

MENU 6

Spaghetti w/meatballs, Green beans, Pan coated chocolate disks, Lemon cake w/white icing, Peaches, Iced tea, Carbohydrate electrolyte beverage

MENU 7*

Buffalo chicken, Chicken stir-fry, Corn, Brown rice, Walnut tea cake, Fruit cocktail, Lemonade beverage, Peanut butter spread, Strawberry jam

MENU 8

Burgundy beef stew, Green beans, White rice, Yellow cake w/chocolate icing, Fruit cocktail, Lemonade beverage, Carbohydrate electrolyte beverage

MENU 9

Pasta & sausage, Mixed vegetables, Pan coated peanut butter disks, Oatmeal chocolate chip cookie, Fruit cocktail, Orange beverage, Peanut butter spread, Grape jelly

MENU 10*

Chili, Chicken tamale, Corn, White rice, Cornbread, Apple dessert, Pink lemonade beverage, Pan coated chocolate disks, Sugar free cranberry-pomegranate beverage

MENU 11

Chicken pot pie, Green beans, Mashed potatoes w/poultry gravy, Biscuits, Red velvet cake w/icing, Grape beverage, Peanut butter spread, Strawberry jam

MENU 12

Roasted beef w/gravy, Peas & carrots, Mashed potatoes w/brown gravy, Yellow cake w/white icing, Peaches, Iced tea, Carbohydrate electrolyte beverage

MENU 13*

Sweet & sour pork cutlets, Cuban Garlic Beef, Carrots, White rice, Devil's fudge cake w/white icing, Fruit cocktail, Lemonade beverage, Peanut butter spread, Grape jelly

MENU 14*

Beef taco filling, Pork carnitas, Corn, Santa Fe rice & beans, Dulce de leche cake, Tortillas, Jalapeño cheese spread, Salsa/Picante sauce, Orange beverage, Sugar free blueberry tea

BREAKFAST:

MENU 1

Scrambled eggs (butter flavored, BIB), Pork sausage links, Creamed ground beef & potatoes, Breakfast cake w/maple syrup, Grits, Blueberry dessert, Salsa, Grape jelly, Orange beverage, Irish cream cappuccino

MENU 2

Scrambled eggs (butter flavored, BIB), Shelf stable bacon, Seasoned steak, Cheesy ham & potatoes, Golden harvest cake, Apple cinnamon oatmeal, Apple dessert, Jalapeño ketchup, Strawberry jam, Grape beverage, Cocoa

MENU 3

Scrambled eggs (butter flavored, BIB), Ham slices, Cream gravy w/sausage, Blueberry breakfast cake, Apple dessert, Grits, Peaches, Ketchup, Grape jelly, Orange beverage, French vanilla cappuccino

PRODUCT PHOTOS:



UGR-H&S™ BREAKFAST CAKES:
WALNUT TEA CAKE, BREAKFAST CAKE, & BLUEBERRY CAKE

PRODUCT NOTES:

- ***Indicates a Split Entrée Menu**
- **Breakfast Menus** include coffee and non-dairy creamer with mandatory supplements of two 8 oz. UHT milk carton and one box of cold cereal per individual. Enhancements include two slices of bread per individual.
- **Lunch/Dinner Menus** include hot sauce, coffee, and non-dairy creamer with mandatory supplements of 8 oz. of UHT milk per individual. Enhancements include two slices of bread, fresh fruits, and salad when possible.
- All beverages are powder

LUNCH/DINNER:

MENU 1

BBQ pulled pork, Vegetarian chili, Hamburger buns, Peanut butter chip cookies, Lemonade beverage, Peanut butter spread, Grape jelly

MENU 2

Turkey cutlets w/gravy, Green beans, Cranberry sauce, Sweet potato casserole, Pan coated chocolate disks, Apple dessert, Orange cranberry cake, Iced tea, Carbohydrate electrolyte beverage

MENU 3

Seasoned steaks, Corn, Chocolate cherry cake w/cherry topping, Peaches, Orange beverage, Peanut butter spread, Strawberry jam

MENU 4

Chicken breast in gravy, Mixed vegetables, Brown & wild rice pilaf, Cranberry white chocolate cookies, Cranberry sauce, Fruit cocktail, Cherry beverage, Cranberry-pomegranate beverage

MENU 5

Turkey Tetrazzini, Peas & carrots, Red velvet cake, Pears, Grape beverage, Peanut butter spread, Grape jelly

MENU 6

Spaghetti w/meatballs, Green beans, Pan coated chocolate disks, Lemon cake w/white icing, Peaches, Iced tea, Carbohydrate electrolyte beverage

MENU 7*

Buffalo chicken, Chicken stir-fry, Corn, Brown rice, Walnut tea cake, Fruit cocktail, Lemonade beverage, Peanut butter spread, Strawberry jam

MENU 8

Burgundy beef stew, Green beans, White rice, Yellow cake w/chocolate icing, Fruit cocktail, Lemonade beverage, Carbohydrate electrolyte beverage

MENU 9

Pasta & sausage, Mixed vegetables, Peanut butter pan coated disks, Oatmeal chocolate chip cookie, Fruit cocktail, Orange beverage, Peanut butter spread, Grape jelly

MENU 10*

Chili, Chicken tamale, Corn, White rice, Cornbread, Apple dessert, Pink lemonade beverage, Pan coated chocolate disks, Sugar free cranberry-pomegranate beverage

MENU 11

Chicken pot pie, Green beans, Mashed potatoes w/poultry gravy, Biscuits, Red velvet cake w/icing, Grape beverage, Peanut butter spread, Strawberry jam

MENU 12

Roasted beef w/gravy, Peas & carrots, Mashed potatoes w/brown gravy, Peaches, Iced tea, Carbohydrate electrolyte beverage

MENU 13*

Cuban garlic beef, Turkey riblet in BBQ sauce, Carrots, White rice, Devil's fudge cake w/white icing, Fruit cocktail, Lemonade beverage, Peanut butter spread, Grape jelly

MENU 14*

Beef taco filling, Pork carnitas, Corn, Santa Fe rice & beans , Dulce de leche cake, Tortillas, Jalapeño cheese, Salsa/Picante sauce, Orange beverage, Sugar free blueberry tea

PRODUCT PHOTOS:



UGR-H&S™ LUNCH/DINNER MENU 7 ITEMS

BREAKFAST:

MENU 1

Scrambled eggs (butter flavored, BIB), Pork sausage links, Creamed ground beef & potatoes, Breakfast cake w/maple syrup, Grits, Blueberry dessert, Salsa, Grape jelly, Orange beverage, Irish cream cappuccino

MENU 2

Scrambled eggs (butter flavored, BIB), Shelf stable bacon, Seasoned steak, Cheesy ham & potatoes, Golden harvest cake, Apple cinnamon oatmeal, Apple dessert, Jalapeño ketchup, Strawberry jam, Grape beverage, Cocoa

MENU 3

Breakfast skillet, Ham slices, Cream gravy w/ sausage, Sweet potato walnut cake, Apple dessert, Grits, Peaches, Ketchup, Grape jelly, Orange beverage, French vanilla cappuccino

PRODUCT NOTES:

- ***Indicates a Split Entrée Menu**
- **Breakfast Menus** include coffee and non-dairy creamer with mandatory supplements of two 8 oz. UHT milk carton and one box of cold cereal per individual. Enhancements include two slices of bread per individual.
- **Lunch/Dinner Menus** include hot sauce, coffee, and non-dairy creamer with mandatory supplements of 8 oz. of UHT milk per individual. Enhancements include two slices of bread, fresh fruits, and salad when possible.
- All beverages are powder

LUNCH/DINNER:

MENU 1

BBQ pulled pork, Vegetarian chili, Hamburger buns, Peanut butter chip cookies, Lemonade beverage, Peanut butter spread, Grape jelly

MENU 2

Turkey cutlets w/gravy, Green beans, Cranberry sauce, Sweet potato casserole, Pan coated chocolate disks, Apple dessert, Orange cranberry cake, Iced tea, Sugar free lemon-lime carbohydrate electrolyte beverage

MENU 3

Seasoned steaks, Corn, Chocolate cherry cake w/cherry topping, Peaches, Orange beverage, Peanut butter spread, Strawberry jam

MENU 4

Chicken breast in gravy, Mixed vegetables, Brown & wild rice pilaf, Cranberry white chocolate cookies, Cranberry sauce, Fruit cocktail, Cherry beverage, Sugar free cranberry-pomegranate beverage

MENU 5

Turkey Tetrazzini, Meatballs & pasta, Peas & carrots, Red velvet cake, Pears, Grape beverage, Peanut butter spread, Grape jelly

MENU 6

Spaghetti w/meatballs, Green beans, Pan coated chocolate disks, Lemon cake w/white icing, Peaches, Iced tea, Sugar free fruit punch carbohydrate electrolyte beverage

MENU 7*

Buffalo chicken, Chicken stir-fry, Corn, Brown rice, Walnut tea cake, Fruit cocktail, Lemonade beverage, Peanut butter spread, Strawberry jam

MENU 8

Burgundy beef stew, Green beans, White rice, Carrot cake, Fruit cocktail, Lemonade beverage, Sugar free fruit punch carbohydrate electrolyte beverage

MENU 9

Pasta & sausage, Mixed vegetables, Pan coated peanut butter disks, Oatmeal chocolate chip cookie, Fruit cocktail, Orange beverage, Peanut butter spread, Grape jelly

MENU 10*

Chili, Chicken tamale, Corn, White rice, Cornbread, Apple dessert, Pink lemonade beverage, Pan coated chocolate disks, Sugar free cranberry-pomegranate beverage

MENU 11

Chicken pot pie, Green beans, Mashed potatoes w/poultry gravy, Biscuits, Gingerbread, Grape beverage, Peanut butter spread, Strawberry jam

MENU 12

Roasted beef w/gravy, Peas & carrots, Mashed potatoes w/ brown gravy, Peaches, Iced tea, Carbohydrate electrolyte beverage

MENU 13*

Cuban garlic beef, Thai chicken curry, Carrots, White rice, Devil's fudge cake w/white icing, Fruit cocktail, Lemonade beverage, Peanut butter spread, Grape jelly

MENU 14*

Beef taco filling, Pork carnitas, Corn, Santa Fe rice & beans, Dulce de leche cake, Tortillas, Jalapeño cheese spread, Salsa/Picante sauce, Orange beverage, Sugar free blueberry tea

UGR-H&S™ IMPROVEMENTS, 2012-2014

2012 PRODUCTION:

ITEMS IN:

Breakfast: Apple cinnamon oatmeal, Golden harvest cake

Lunch/Dinner: Vegetarian chili, Golden BBQ turkey riblets, Almond cupcakes, Yellow cake w/strawberry topping, Chocolate cake w/cherry topping

ITEMS OUT:

Breakfast: Cheesy ham & potatoes, Banana nut cake

Lunch/Dinner: Chili dogs, Sweet & sour pork cutlets

2013 PRODUCTION:

ITEMS IN:

Breakfast: Sweet potato praline cake

Lunch/Dinner: Thai chicken curry, Meatballs & pasta, Carrot cake, Gingerbread cake

ITEMS OUT:

Breakfast: No items removed

Lunch/Dinner: Chicken stir fry, Golden BBQ turkey riblets

2014 PRODUCTION:

ITEMS IN:

Breakfast: Banana nut muffin

Lunch/Dinner: Southwest chicken chili, Apple spice cake w/apple topping, Butterfinger® cookie

ITEMS OUT:

Breakfast: No items removed

Lunch/Dinner: Chicken tamales







TOP: TRAY RATION HEATER;
MIDDLE: MEATBALLS AND PASTA;
BOTTOM: TURKY TETRAZZINI

PRODUCT PHOTOS:



UGR-A™ PREPARATION IN FIELD KITCHEN



UGR-A™ SERVING LINE IN FIELD

PURPOSE

The UGR-A™ is designed to provide restaurant quality group meals to Warfighters in the field. It is the most highly accepted ration in the UGR™ family, constituting up to 80% of a Warfighter's nutritional needs. The UGR-A™ is the only military operational ration that contains frozen food components. For that reason, it is based on a build-to-order assembly process that requires refrigerated/frozen storage and a field kitchen for preparation.

CHARACTERISTICS

Like the UGR-H&S™, the UGR-A™ module is a self-contained menu designed to decrease inventory carrying costs and simplify the ordering, distribution, and logistical processes. There are 7 breakfast and 14 lunch/dinner menus available that are composed of semi-perishable and perishable food components. Once established at a base camp with refrigerators and freezers, cooks can transition to the UGR-A™, which provides more variety and high quality food to Warfighters. The UGR-A™ is ordered directly from the vendor and is assembled in three fiberboard cartons, two with semi-perishable foods stored at 80°F (26.7°C) and one with perishable foods stored at 0°F (17.8°C) (condiments, preparation instructions, serving utensils, and trash bags are also included in the cartons). The ration has a 15-day order ship time and a 3 month remaining shelf life within CONUS deliveries and a 45-day order ship time with a 9 month remaining shelf life for OCONUS deliveries. One UGR-A™ module serves 50 Warfighters, and one pallet contains 8 modules, or 400 meals.

- **Average Weight:** 87 lbs (39.5 kg)/module
- **Cube:** 5.25 ft^3 (148.7 dm^3)/module

NUTRITIONAL DATA

Including mandatory supplements (see product notes on menus), each meal provides an average of 1450 calories (14% protein, 32% fat, 54% carbohydrate).

PREPARATION REQUIREMENTS:

Trained food service personnel prepare the ration using organized field food service facilities.

COMMENTS

Like the UGR-H&S™, it is designed to be used in a "theater ration mix" with individual rations and other types of group rations.

The UGR-A™ is part of the Fielded Group Ration Improvement Project. Field tests are conducted annually, and menu revisions are made based on Warfighter recommendations and feedback.

BREAKFAST:

MENU 1

Orange beverage, Ranchero beef steak, Sausage & egg quesadilla, Cinnamon roll w/icing, Eggs (dehydrated, BIB), Frosted blueberry toaster pastry, Grits, French vanilla cappuccino, Grape jelly, Chile lime hot sauce, Minced onions, Ketchup, Salsa, Vegetable oil, Butter granules, Oatmeal (individual packets, golden brown maple)

MENU 2

Apple beverage, Ham slice, Chicken breakfast fillet, Breakfast cheddar cheese sauce, Buttermilk biscuit, Eggs (dehydrated, BIB), Shelf stable blueberry muffins, Hash browns, Cocoa, Strawberry jam, Hot sauce, Grits, Ketchup, Vegetable oil, Butter granules, Caffeinated sugar free cranberry beverage

MENU 3

Orange beverage, Breakfast steak, Peppers & onions, French toast, Sausage taquito, Assorted mini danish, Eggs (dehydrated, BIB), Shelf stable bacon, Hash browns, Irish cream cappuccino, Grape jelly, Hot sauce, Minced onions, Ketchup, Steak seasoning, Everything sauce, Vegetable oil, Maple syrup, Oatmeal (individual packets, apple cinnamon)

MENU 4

Grape beverage, Beef tornado, Cheddar sausage gravy, Buttermilk biscuit, Caramel apple pecan coffee cake, Eggs (dehydrated, BIB), Asstorted fruit filled cereal bars, Grits, Cocoa, Grape jelly, Hot sauce, Minced onions, Ketchup, Vegetable oil, Butter granules

MENU 5

Orange beverage, Chipotle bacon, Blueberry pancake & pork sausage stick, Powdered sugar donut, Eggs (dehydrated, BIB), Whole grain brown sugar frosted toaster pastry, Hash browns, Cocoa, Strawberry jam, Hot sauce, Minced onions, Jalapeño ketchup, Maple syrup, Vegetable oil, Butter granules

MENU 6

Tropical beverage blend, Chorizo breakfast wrap, Whole grain cinnamon glazed French toast, Banana whole grain muffin, Eggs (dehydrated, BIB), Shelf stable bacon, French toast cookie, Hash browns, French vanilla cappuccino, Grape jam, Hot sauce, Minced onions, Ketchup, Maple syrup, Vegetable oil, Oatmeal (individual packets, golden brown maple)

MENU 7

Grape beverage, Beef breakfast skillet, Brown & serve pork sausage, Potato pancake, Cinnamon bagel w/apple filling, Eggs (dehydrated, BIB), Whole grain frosted strawberry toaster pastry, Grits, Cocoa, Strawberry jam, Chile lime hot sauce, Ketchup, Vegetable oil, Caffeinated sugar free apple beverage, Oatmeal (individual packets, apple cinnamon)

PRODUCT PHOTOS:



COOK PREPARING BIB EGGS



UGR-A™ LUNCH/DINNER MENU 13 ITEMS

LUNCH/DINNER:

MENU 1

Fried chicken, Seasoned collard greens, Apple taquito, Mashed potatoes, Country gravy w/black pepper, Oatmeal raisin cookies, Chocolate pudding, Lemon lime beverage, Hot sauce, BBQ sauce, Butter granules, Sugar free blueberry white tea tubes

MENU 2

Beef hamburgers & hot dogs, Potato wedges (coated), Chocolate chunk cookies, Baked beans, Shelf stable chili, Crisp rice and marshmallow bar, Peaches, Pink lemonade beverage, BBQ spice, Everything sauce, Steak seasoning, Minced onions, Ketchup, Mustard, Relish, Vegetable oil, Sugar free peach iced tea tubes

MENU 3

Pork in BBQ sauce, Beef brisket w/BBQ sauce, Cornbread (plain & jalapeño), Corn, Macaroni & cheese, Almond cupcakes, Applesauce, Orange Beverage, Pan coated peanut butter disks, Hot sauce, Sugar free lemonade tubes

MENU 4

Turkey cutlets, Maple glazed sweet potatoes, Harvest pumpkin cake, Italian style green beans, Herb & butter mashed potatoes, Cornbread stuffing, Turkey gravy, Butterscotch pudding, Iced tea, Cranberry sauce, Hot sauce, Poultry seasoning, Vegetable seasoning, Butter granules, Sugar free lemon lime electrolyte beverage

MENU 5

Chinese beef & vegetables, Spicy General Tso's chicken, Cashew chicken, Pineapple coconut cake, Corn, White rice, Pan coated chocolate disks, Pears, Mixed berry beverage, Hot sauce, Soy sauce, Vegetable seasoning, Butter granules, Sugar free cranberry pomegranate tubes

MENU 6

Shrimp scampi, Pasta Alfredo w/chicken, Amaretto cream cake, Peas, Chocolate chip cookies, Mixed fruit, Peach iced tea, Parmesan cheese, Hot sauce, Vegetable seasoning, Butter granules, Sugar free raspberry iced tea tubes

MENU 7

Grilled steak, Peppers & onions, Natural potato wedges, Chocolate decadence cake, Green beans, Brown gravy, Vanilla pudding, Lemon lime beverage, Ketchup, Steak seasoning, Vegetable seasoning, Butter granules, Vegetable oil, Everything sauce

MENU 8

Ribs/jerk chicken, Sweet potato pie, Corn, Au gratin potatoes, Chicken gravy, Pears, Grape beverage, Chile lime hot sauce, Vegetable seasoning, Paprika, Butter granules, Sugar free peach iced tea tubes

MENU 9

Meatballs in marinara sauce/sausage scaloppini, Pizza roll, Lemon raspberry white chocolate cake, Italian style green beans, Spaghetti, Mixed fruit, Fruit punch beverage, Hot sauce, Parmesan cheese, Italian seasoning, Vegetable seasoning, Butter granules, Sugar free lemonade tubes

MENU 10

Enchilada kit (chicken & beef), Tortillas, Apple pie slice, Ranch beans, Mexican rice, Chocolate chip cookies, Chocolate pudding, Peach iced tea, Chile lime hot sauce, Salsa, Butter granules, Carbohydrate electrolyte beverage

MENU 11

Chicken teriyaki thighs/spicy pork wings, White chocolate macadamia nut, Peas & carrots, Primavera rice, Cherry mixed fruit, Mixed berry beverage, Hot sauce, Vegetable seasoning, Butter granules, Sugar free fruit punch tubes

MENU 12

Burgundy short ribs, Turtle brownie, Corn, Mashed potatoes, Applesauce, Iced tea, Hot sauce, Vegetable seasoning, Butter granules, Sugar free raspberry iced tea tubes

MENU 13

Prime rib, Vanilla & chocolate cupcakes, Peas & carrots, Garlic mashed potatoes w/brown gravy, Vanilla pudding, Fruit punch beverage, Hot sauce, Horseradish sauce, Vegetable seasoning, Butter granules, Sugar free wild berry tubes

MENU 14

Chicken Cordon Bleu, Vanilla & chocolate cheesecake, Green beans, Rice pilaf, Peaches, Lemonade beverage, Hot sauce, Vegetable seasoning, Butter granules, Sugar free peach iced tea tubes

MENU 15

Tomatillo pork/pablano corn chowder, Buffalo chicken pasta, Tortillas, Dulce de leche cheesecake bites, Carrots, White rice, Pan coated almond chocolate disks, Orange beverage, Chile lime hot sauce, Vegetable seasoning, Butter granules, Sugar free lemonade tubes

MENU 16

Meatloaf, Loaded mashed potatoes, Cookie dough w/ candy coated disks, Corn, Brown gravy, Butterscotch pudding, Grape beverage, Hot sauce, Vegetable seasoning, Butter granules, Sugar free blueberry white tea tubes

PRODUCT NOTES:

- **Breakfast Menus** include coffee, nondairy creamer, salt and pepper and are supplemented with two 8 oz. UHT milk cartons and one box of cold cereal per individual. Enhancements include two slices of bread.
- **Lunch/Dinner Menus** include salt, pepper, coffee, and nondairy creamer and are supplemented with one 8 oz. UHT milk carton per individual. Enhancements include two slices of bread, fresh fruit, and salad when possible.
- All beverages are powder

BREAKFAST:

MENU 1

Orange beverage, Chicken sausage patty, Meat lovers breakfast wrap, Buttermilk biscuit, Monkey bites, Cinnamon rolls, Eggs (dehydrated, BIB), Jalapeño slices, Frosted blueberry toaster pastry, Hash browns, French vanilla cappuccino, Coffee, Creamer, Grape jelly, Chile lime hot sauce, Ketchup, Salsa, Vegetable oil, Oatmeal (individual packets, golden brown maple)

MENU 2

Apple beverage, Ham slice, Chicken breakfast fillet, Wisconsin cheese sauce, Buttermilk biscuit, Eggs (dehydrated, BIB), Shelf stable blueberry muffins, Grits, Cocoa, Coffee, French vanilla creamer, Strawberry jam, Hot sauce, Ketchup, Honey, Vegetable oil, Caffeinated cranberry beverage

MENU 3

Orange beverage, Breakfast steak, Peppers & onions, Sausage, Egg & cheese pita, Low fat whole grain (LFWG) Danish/LFWG honey bun, Eggs (dehydrated, BIB), Jalapeño slices, French toast cookie, Hash browns, Irish cream cappuccino, Coffee, Creamer, Grape jelly, Hot sauce, Ketchup, Steak seasoning, Everything sauce, Vegetable oil, Oatmeal (individual packets, apple cinnamon)

MENU 4

Grape beverage, Cheddar sausage gravy, Steak w/egg & cheese taquito, Buttermilk biscuit, Low fat coffee cake, Eggs (dehydrated, BIB), Asstorted fruit filled cereal bars, Grits, Cocoa, Coffee, Hazelnut creamer, Grape jelly, Hot sauce, Ketchup, Vegetable oil, Butter granules

MENU 5

Orange beverage, Chipotle bacon, Chicken sauage patty, Buttermilk biscuits, French toast taquito, Eggs (dehydrated, BIB), Jalapeño slices, Whole grain brown sugar frosted toaster pastry, Hash browns, Cocoa, Coffee, French vanilla creamer, Strawberry jam, Hot sauce, Jalapeño ketchup, Maple syrup, Vegetable oil

MENU 6

Tropical beverage blend, Brown & serve pork sausage, Chorizo wrap, Powdered sugar donut, Eggs (dehydrated, BIB), French toast cookie, Bacon, French vanilla cappuccino, Coffee, Creamer, Grape jelly, Hot sauce, Ketchup, Vegetable oil, Caffeinated sugar free apple beverage

MENU 7

Grape beverage, Beef breakfast skillet, Potato pancake, Cinnamon bagel w/apple filling, Eggs (dehydrated, BIB), Bacon (shelf stable), Whole grain frosted strawberry toaster pastry, Grits, Cocoa, Coffee, Hazelnut creamer, Strawberry jam, Chile lime hot sauce, Ketchup, Vegetable oil, Butter granules, Oatmeal (individual packets, apple cinnamon)

PRODUCT PHOTO:



UGR-A™ BREAKFAST MENU 3 ITEMS



WARFIGHTER PREPARES UGR-A™ EGGS

LUNCH/DINNER:

MENU 1

Fried chicken, Cookies 'n cream cake, Corn, Herb & butter mashed potatoes, Brown gravy, Chicken gravy, Chocolate pudding, Lemon lime beverage, Hot sauce, Butter granules, Peanut butter spread, Grape jelly, Variety pack sugar free tea, Coffee, Creamer

MENU 2

Meatloaf/Jambalaya, Whoopie pie cake, Green beans, Jasmine blend rice, Crisp rice and marshmallow bar, Peaches, Pink lemonade beverage, Everything sauce, Jalapeño slices, Vegetable seasoning, Butter granules, Variety pack sugar free beverages, Coffee, French vanilla creamer

MENU 3

BBQ beef brisket/Andouille pasta & cheese, Cornbread (plain & jalapeño), Peas & carrots, Macaroni & cheese, Almond cupcakes, Applesauce, Orange beverage, Pan coated peanut butter disks, Hot sauce, Vegetable seasoning, Butter granules, Peanut butter spread, Strawberry jam, Variety pack sugar free tea, Coffee, Creamer

MENU 4

Turkey cutlets, Maple glazed sweet potatoes, Harvest pumpkin cake, Italian style green beans, Cornbread stuffing, Turkey gravy, Butterscotch pudding, Iced tea, Cranberry sauce, Hot sauce, Butter granules, Carbohydrate electrolyte beverage, Coffee, Hazelnut creamer

MENU 5

Chili pepper beef/Spicy General Tso's chicken, Pineapple coconut cake, Green beans, White rice, Pan coated chocolate disks, Pears, Mixed berry beverage, Jalapeño slices, Hot sauce, Soy sauce, Butter granules, Peanut butter spread, Apple jelly, Sugar free mixed berry electrolyte tubes, Coffee, Creamer

MENU 6

Shrimp scampi/pasta Alfredo w/chicken, Amaretto cream cake, Peas, Chocolate chip cookies, Mixed fruit, Peach iced tea, Parmesan cheese, Hot sauce, Vegetable seasoning, Butter granules, Variety pack sugar free tea, Coffee, French vanilla creamer

MENU 7

Grilled steak, Peppers & onions, Natural potato wedges, Red velvet cake, Corn, Herb & butter mashed potatoes, Brown gravy, Jalapeño slices, Vanilla pudding, Lemon lime beverage, Vegetable oil, Everything sauce, Steak seasoning, Vegetable seasoning, Butter granules, Peanut butter spread, Blackberry jam, Variety pack sugar free beverages, Coffee, Creamer

MENU 8

BBQ pork ribs/Jerk chicken, Seasoned collard greens, Sweet potato pie, Au gratin potatoes, Chicken gravy, Pears, Grape beverage, Chile lime hot sauce, Paprika, Butter granules, Variety pack sugar free tea, Coffee, Hazelnut creamer

MENU 9

Meat balls in marinara sauce/Sausage scaloppini, Pizza roll, Lemon raspberry white chocolate cake, Italian style green beans, Spaghetti, Mixed fruit, Fruit punch beverage, Hot sauce, Parmesan cheese, Italian seasoning, Butter granules, Peanut butter spread, Grape jelly, Variety pack sugar free beverages, Coffee, Creamer,

MENU 10

Enchilada kit (chicken & beef), Tortillas, Dulce de leche cheesecake bites, Corn, Mexican rice, Chocolate pudding, Peach iced tea, Chile lime hot sauce, Jalapeño slices, Sugar free fruit punch electrolyte beverage, Coffee, French vanilla creamer

MENU 11

Beef provencal/Spicy pork shank, S'mores cake, Peas, Primavera rice, Cherry mixed fruit, Mixed berry beverage, Hot sauce, Butter granules, Peanut butter spread, Strawberry jam, Variety pack sugar free tea, Coffee, Creamer

MENU 12

Burgundy short ribs, Loaded mashed potatoes, Multilayer chocolate bar cake, Corn, Applesauce, Iced tea, Hot sauce, Vegetable seasoning, Butter granules, Variety pack sugar free beverages, Coffee, Hazelnut creamer

MENU 13

Prime rib, Vanilla & chocolate cupcakes, Peas & carrots, Roasted garlic mashed potatoes, Brown gravy, Vanilla pudding, Fruit punch beverage, Hot sauce, Horseradish sauce, Vegetable seasoning, Butter granules, Peanut butter spread, Blackberry jam, Variety pack sugar free tea, Coffee, Creamer

MENU 14

Chicken Cordon Bleu/Tuscan pork loin, Brocolli, Rice & cheese casserole, Vanilla & chocolate cheesecake, Green beans, Brown gravy, Peaches, Lemonade beverage, Hot sauce, Vegetable seasoning, Butter granules, Variety pack sugar free tea, Coffee, French vanilla creamer

PRODUCT NOTES:

- **Breakfast Menus** include salt and pepper and are supplemented with two 8 oz. UHT milk cartons and one box of cold cereal per individual. Enhancements include two slices of bread.
- **Lunch/Dinner Menus** include salt, pepper and are supplemented with one 8 oz. UHT milk carton per individual. Enhancements include two slices of bread, fresh fruit, and salad when possible.
- All beverages are powder

UGR-A™ IMPROVEMENTS, 2012-2013

2012 PRODUCTION

ITEMS IN:

Breakfast: Meatlovers enchiladas, Sausage & egg pita pocket sandwich, Steak, Egg & cheese taquito, Sweet & spicy hand roll, Monkey bites, Whole wheat cinnamon apple Danish cinnamon bun, Cinnamon coffee cake (low fat), Lower cholesterol eggs (frozen)

Lunch/Dinner: Beef provencal, Tuscan pork loin, Chili pepper beef, Andouille mac & cheese, Jambalaya, Diced jalapeños, French vanilla coffee creamer, Hazelnut coffee creamer, multi-layer chocolate bar cake, Cookies & cream cake, S'mores cake, Whoopie pie cake, Red velvet cake, Broccoli & cheese casserole, Roasted red potatoes, Variety pack sugar free beverages, Variety pack sugar free teas, Apple jelly, Blackberry jam

ITEMS OUT:

Breakfast: Ranchero beef steak, Sausage & egg quesadilla, Beef taquito, Chorizo breakfast wrap

Lunch/Dinner: Chicken teriyaki, Chinese beef, Tomatillo pork, Poblano corn chowder, Beef brisket, Pork BBQ

2013 PRODUCTION

ITEMS IN:

Breakfast: Eggs (dehydrated, BIB), Irish cream & French vanilla cappuccino (TFF), Turkey bacon, Turkey sausage links, Whole grain biscuits, Honey butter spread, Whole grain donut stick, Mixed berry bar, Mini apple filled bagel

Lunch/Dinner: Instant gravies (TFF), Sweet fire chicken, Happy family, Roasted turkey breast, Buffalo turkey wings, Beef barbacoa split w/pulled BBQ chicken, Pot roast, Creamed spinach & pasta, Roasted red mashed potatoes, Key lime cheesecake, Peanut butter filled choc cupcakes, Lemon drop cupcake, Pumpkin roll, Dulce leche cake, Orange sunshine cake, Chocolate almond coconut bar

ITEMS OUT:

Breakfast: Cheddar pork sausage gravy, Beef breakfast skillet, Eggs (dehydrated, BIB), Buttermilk biscuits, Powdered sugar donut, Apple filled bagel, Current cappuccinos

Lunch/Dinner: General Tso's chicken, Turkey cutlet, Pork shank, Sausage scaloppini, Jerk chicken, Jambalaya, Beef burgundy short ribs, Chocolate cheesecake, Chocolate cupcake, Vanilla cupcake, Harvest pumpkin cake, Pineapple coconut cake, Sweet potato pie



SOLDIER PARTICIPATING IN UGR-A™ FIELD TEST



UGR-A™ MENU ITEMS BEING FIELD TESTED PRIOR TO INCLUSION IN MENU

PURPOSE

The Unitized Group Ration™ - A Short Order (UGR-A™, Short Order) is designed to provide Warfighters with high quality short order entrées in locations where a dining facility is not available. This creates increased universal acceptance by providing Warfighters with an alternative choice to the current center of the plate meals.

CHARACTERISTICS

The UGR-A™ Short Order will consist of seven dinner options, and will be ordered alongside the standard UGR-A™ to offer the diner a choice of a mainline meal or a short order meal. Each UGR-A™ Short Order contains a complete balanced menu consisting of entrée, vegetable, beverage, and dessert options, along with condiments. Like the UGR-A™, each module consists of three boxes, one perishable and two non-perishable, and can feed up to fifty Warfighters. This requires the UGR-A™ Short Order to be stored and prepared in the same way a standard UGR-A™ would be.

NUTRITIONAL DATA

Including mandatory supplements (see product notes on menus), each meal provides an average of 1450 calories (14% protein, 32% fat, 54% carbohydrate).

PREPARATION REQUIREMENTS

Trained food service personnel prepare the ration using organized field food service facilities.

COMMENTS

The UGR-A™ Short Order option joins the family of group rations in FY12. Seven short order dinner options will be available for procurement. These menus will be ordered alongside the standard UGR-A™ dinners to offer the diner a choice of a mainline meal or a short order meal, and entrées will include Philly steak hoagie, chicken nuggets, Italian sausage sub, beef enchiladas, chicken wings, pepperoni & cheese stromboli, and hamburger/hot dog.



WARFIGHTERS PREPARE PHILLY STEAK

MENU 1

Philly steak hoagie, Corn, Almond cupcakes, Pears, Mixed berry carbohydrate beverage, Hot sauce, Ketchup, Vegetable seasoning, Butter granules, Salt/Pepper, Coffee/Creamer

MENU 2

Chicken nuggets, Seasoned potato wedges, Turtle brownie, Carrots, Mixed fruit, Iced tea, Hot sauce, Honey mustard, Ketchup, BBQ sauce, Butter granules, Salt/Pepper, Coffee/Creamer

MENU 3

Italian sausage sub, Green beans, Crisp rice and marshmallow bar, Chocolate pudding, Mixed berry carbohydrate beverage, Hot sauce, Spicy mustard, Vegetable seasoning, Butter granules, Salt/Pepper, Coffee/Creamer

MENU 4

Beef enchiladas, Spanish rice, Apple taquito, Seasoned black beans, Peaches, Lemon lime carbohydrate beverage, Hot sauce, Picante salsa, Salt/Pepper, Coffee/Creamer

MENU 5

Chicken wings, Seasoned potato wedges, Oatmeal raisin cookie, Peas & carrots, Vanilla pudding, Pink lemonade beverage, Hot sauce, Ketchup, Honey mustard, BBQ sauce, Vegetable seasoning, Butter granules, Salt/Pepper, Coffee/Creamer

MENU 6

Pepperoni & cheese stromboli, Marinara sauce, Sweet potato pie, Italian style green beans, Pan coated chocolate disks, Mixed fruit, Peach iced tea, Hot sauce, Italian seasoning, Butter granules, Salt/Pepper, Coffee/Creamer

MENU 7

Hamburger/Hot Dog, Seasoned potato wedge, Apple Pie, Baked Beans, Chili w/beans, Butterscotch pudding, Mixed berry carbohydrate beverage, Mustard, Relish, Salad Dressing, Ketchup, All purpose sauce, Steak seasoning, BBQ seasoning, Minced onions, Cinnamon maple sprinkles, Vegetable oil, Salt/Pepper, Coffee/Creamer

NOTE: All beverages are powder

PURPOSE

The UGR-B™ is used primarily by the Marine Corps. It is designed to meet requirements for providing Marines with high quality group rations that do not require refrigeration and are quick and easy to prepare. All ingredients in the ration are shelf stable, with an emphasis placed on including commercial products in all menus.

CHARACTERISTICS

The UGR-B™ consists of 5 breakfast and 14 lunch/dinner menus that incorporate a balance of dehydrated and commercial items. One module is unitized into three fiberboard cartons that contain all shelf stable ingredients, disposable serving trays, utensils, and trash bags. Each module provides 50 meals, and each pallet contains 8 modules, or 400 meals. Modules are assembled at Government depots and have a shelf life of 18 months at 80˚F (26.7˚C).

- **Average weight:** 125 lbs (56.7 kg)/module
- **Cube:** 5.25 ft^3 (148.7 dm^3)/module

NUTRITIONAL DATA

Each meal provides an average of 1300 calories (15% protein, 30% fat, and 55% carbohydrate)

PREPARATION REQUIREMENTS

Trained food service personnel prepare the ration using organized field food service facilities.

COMMENTS

The UGR-B™ is part of the Fielded Group Ration Improvement Project. The most recent field test resulted in incorporating the most highly acceptable items in previous menus into more of the current menus for production in 2009. These items included fruit cocktail, pancakes, peaches, cornbread, oatmeal cookies, sugar cookies, and brownies. New items introduced to the menus include scrambled eggs (dehydrated, BIB) and yellow cake with chocolate frosting. The least acceptable items were also identified in the field test and removed from the current menus. These items were: scrambled eggs (freeze dried, #10 can), cinnamon swirls, waffles, creamed chipped beef, pineapple, coffee cake with cinnamon crumb topping, walnut tea cake, and devil's fudge cake.

PRODUCT PHOTOS:



MARINE COOKS IN UGR-B™ SERVING LINE



UGR-B™ BREAKFAST ITEM: PANCAKES

BREAKFAST:

MENU 1

Pork sausage links, Scrambled eggs (dehydrated, BIB), Hominy grits, Pancakes, Biscuits, Hash browns, Fruit cocktail, Grape beverage, Maple syrup, Cocoa beverage

MENU 2

Turkey sausage links, Scrambled eggs (dehydrated, BIB), Oatmeal, Hash browns, Biscuits, Peaches, Orange beverage, Pancakes, Maple syrup, French vanilla cappuccino

MENU 3

Bacon, Scrambled eggs (dehydrated, BIB) Grits, Pancakes, Rice, Fruit cocktail, Apple beverage, Maple syrup, Cocoa

MENU 4

Creamed sausage, Scrambled eggs (dehydrated, BIB), Farina, Pancakes, Biscuits, Hash browns, Pears, Orange beverage, Maple syrup, Worcestershire sauce, Irish crème cappuccino

MENU 5

Scrambled eggs (Western style, dehydrated, BIB), Hominy grits, Pancakes, Biscuits, Hash browns, Peaches, Grape beverage, Maple syrup, French vanilla cappuccino

PRODUCT PHOTO:



UGR-B™ LUNCH/DINNER MENU 9 ITEMS

PRODUCT NOTES:

- **Breakfast Menus** include salt, pepper, hot sauce, shortening, ketchup, peanut butter spread, jelly/jam, coffee, and nondairy creamer.
- **Lunch/Dinner Menus** include salt, pepper, hot sauce, peanut butter spread, jelly/jam, coffee, tea and nondairy creamer.
- **NOTE:** All beverages are powder

LUNCH/DINNER:

MENU 1

Beef & gravy w/biscuit topping, Mashed potatoes, Mixed vegetables, Pears, Sugar cookies, Butter granules, Ketchup, Lemonade beverage

MENU 2

Creole chicken, Rice corn, Fruit cocktail, Cornbread, Oatmeal cookies, Butter granules, Ketchup, Grape beverage

MENU 3

Pork chops & gravy, Au gratin potatoes, Green beans, Applesauce, Biscuits, Brownies, Ketchup, Cherry beverage

MENU 4

Chicken a la King, Rice, Peas, Fruit cocktail, Biscuits, Yellow cake w/chocolate frosting, Butter granules, Ketchup, Lemonade beverage

MENU 5

Shrimp & ham jambalaya, Rice, Corn, Peaches, Cornbread, Brownies, Lemonade beverage

MENU 6

Shepard's pie (beef, potatoes, & corn), Carrots, Pears, Biscuits, Sugar cookies, Butter granules, Grape beverage

MENU 7

Mexican macaroni & chicken, Green beans, Peaches, Cornbread, Oatmeal cookies, Orange beverage

MENU 8

Baked chicken & rice, Mixed vegetables, Peaches, Biscuits, Brownies w/chocolate frosting, Ketchup, Orange beverage

MENU 9

Spaghetti w/meatballs, Corn, Applesauce, Biscuits, Yellow cake w/chocolate frosting, Cherry beverage

MENU 10

BBQ pork chops, Macaroni & cheese, Green beans, Pears, Biscuits, Chocolate cookies, Pears, Ketchup, Lemonade beverage

MENU 11

Chicken & bread stuffing, Mashed Potatoes, Carrots, Peaches, Biscuits, Oatmeal cookies, Butter granules, Ketchup, Grape beverage

MENU 12

Chili con carne, Rice, Corn, Fruit cocktail, Cornbread, Chocolate pudding, Grape beverage

MENU 13

Shrimp Creole, Rice, Peas, Pears, Cornbread, Apple crisp, Cherry beverage

MENU 14

White bean & chicken chili, Rice, Green beans, Peaches, Cornbread, Brownies, Grape beverage

GROUP RATIONS: UGR-Express™ (UGR-E™) Ration

PURPOSE

The UGR-E™ provides a complete meal for 18 Warfighters in remote locations where group field feeding would not otherwise be possible. It is a compact module that does not require cooks or a field kitchen for preparation. With the simple pull of a tab, the UGR-E™ is ready to serve in 30-45 minutes.

One UGR-E™ module provides all of the items necessary for a complete meal to serve up to 18 Warfighters, including 4 trays of cooked food, drink pouches, snacks/candies, compartmented dining trays, seasoning, disposable eating and serving utensils, condiments, beverages, napkins, wet-naps, and trash bags.

KEY FEATURES

- **Self Heating:** The UGR-E™ heats itself with a safe chemical reaction similar to that in the MRE's™ Flameless Ration Heater. Heaters containing magnesium and iron powder come installed beneath each serving tray. After exposing the heaters with a pull tab, a second tab releases saline solution, activating an exothermic (heat-generating) reaction.
- **Shelf Life:** The UGR-E™ is shelf stable for 18 months at 80°F (27°C). This ensures a fresh, hot group meal to Warfighters in the most remote locations.
- **Logistics:** One pallet contains 18 UGR-E™ modules, with 3 layers of 6 modules per layer.
  - **Average Weight:** 43 lbs (20 kg)
  - **Cube:** 1.9 ft^3 (53.8 dm^3)
- **Variety:** 13 menus are currently available: 4 breakfast, 8 lunch/dinner, and a unique holiday meal

NUTRITIONAL DATA

Each meal provides an average of 1300 calories: 12% protein (39 g), 38% fat (55 g), 50% carbohydrate (179 g).

CONTINUOUS IMPROVEMENT

As with other UGRs™, the UGR-E™ is part of the Fielded Group Ration Improvement Project. This project uses survey data from Warfighters in the field to determine new menu items for increased acceptability. Future enhancements include a hot beverage box which uses the same heating technology as the UGR-E™ to provide a gallon of hot water.

The UGR-E™ currently utilizes a Type I heater, which requires Warfighters to insert the heaters underneath the polymeric trays. The Type II heater incorporates the magnesium-iron heater into the module, and a pull tab will expose all four heaters.

COMMENTS

The UGR-E™ is intended to supplement, not replace, other group rations like the UGR-H&S™ or the UGR-A™. It provides the morale benefits of a group meal to Warfighters when the food service equipment and cooks are unavailable. More importantly, it keeps Warfighters safe by eliminating the need to provide hot food to remote units via ground transportation. The ultimate capability provided by the UGR-E™ is that it offers an alternative to individual meals as the sole source of subsistence in austere, remote locations.

PRODUCT PHOTOS:



WARFIGHTER UTILIZES HOT BEVERAGE BOXES APPROVED AND AWAITING FINAL DOCUMENTS FOR PROCUREMENT IN FY14



UGR-E™ PACKAGING & COMPONENTS



BREAKFAST:

MENU 1

Beef & potatoes in cream gravy, Ham slice, Biscuits, Raspberry swirls w/icing, Caramel apple bar, Blueberry granola, Orange beverage

MENU 2

Eggs (BIB), Pork sausage links, Breakfast cake, Blueberry dessert, Mini First Strike™ bar (apple cinnamon), Banana granola, Grape beverage

MENU 3

Beef & potatoes in cream gravy, Turkey sausage links, Golden harvest cake, Biscuits, Mini First Strike™ bar (cran-raspberry), Blueberry granola, Orange beverage

MENU 4

Eggs (BIB), Beef steaks au jus, Blueberry breakfast cake, Oatmeal (apple cinnamon), Mini First Strike™ bar (mocha w/caffeine), Banana granola, Grape beverage

PRODUCT PHOTOS:





LUNCH/DINNER:

MENU 1

Pasta & sausage, Peas, Spice cake w/icing, Licorice candy, Butter granules, Italian seasoning, Dairy shake

MENU 2

Chicken breast in gravy, Corn, Sweet potato casserole, Vanilla cake w/strawberry fruit topping, Turkey jerky, Butter granules, Drink pouch

MENU 3

Burgundy beef stew, Green beans, White rice, Banana nut cake w/white icing, Butter granules, Vegetable seasoning, Pan coated chocolate disks, Instant vanilla pudding

MENU 4

Cuban garlic beef, Corn, Brown & wild rice, Red velvet cake w/white icing, Butter granules, Pan coated peanut butter disks, Drink pouch

MENU 5

Chicken stir fry, Carrots, Brown rice, Caramel chocolate chip cookies, Butter granules, Instant chocolate pudding, Drink pouch, Sugar free beverage

MENU 6

Spaghetti w/meatballs, Green beans, Lemon cake w/ icing, Butter granules, Raisin nut mix w/pan coated chocolate disks, Italian seasoning, Dairy shake, Sugar free beverage

MENU 7

Pork carnitas, Corn & tomato casserole, Brown rice, Dulce de leche cake, Butter granules, Beef jerky, Instant vanilla pudding, Sugar free beverage

MENU 8

Chicken pot pie filling, Green beans, Poultry gravy, Chocolate cherry cake w/cherry fruit topping, Butter granules, Vegetable seasoning, Licorice candy, Dairy shake, Sugar free beverage

HOLIDAY MENU

Turkey slices w/gravy, Mashed potatoes w/chicken gravy, carrots, Cornbread w/sausage stuffing, Raisin nut mix w/pan coated chocolate disks, Cranberry jelly, Poultry seasoning, Drink pouch

PRODUCT NOTES:

- **Breakfast Menus** include ketchup, hot sauce, salt, pepper, coffee, creamers, shortening, paper trays, dining packets, cups, and trash bags.
- **Lunch/Dinner Menus** include hot sauce, salt, pepper, tea, coffee, creamers, paper trays, dining packets, cups, and trash bags.
- **NOTE:** All beverages are powder

PURPOSE

The Navy Standard Core Menu (NSCM) is designed to standardize food service throughout the Navy fleet while providing more variety and nutritious choices to Sailors. It meets the diverse tastes of US Navy Sailors by offering old favorites like pizza and burgers along with more ethnic choices, like vegetable stir-fry and chicken fajitas. The NSCM facilitates a more streamlined procurement process and ensures consistency in product availability. There are five menu variations for the afloat community based on crew size and storage constraints: Carrier L-Deck, Frigates/ Destroyers, Littoral Combat Ship and Submarines.

CHARACTERISTICS

The NSCM is based upon a 21 day cycle that includes a different breakfast, lunch, and dinner menu for each day of the cycle. Special theme meals are incorporated into the cycle, allowing for holiday and ethnic cuisine to be served and to allow flexibility for Sailors to plan "steel beach picnics," ice cream socials, and other similar events. In an effort to support healthier choices, every lunch/dinner menu has 1-2 Armed Forces Recipe Service approved healthy choice entrées.

NUTRITIONAL DATA

Unlike the specific nutritional requirements applied to field feeding rations like the MRE™ and UGR™, the concept of feeding onboard a ship is based on balanced, healthy nutrition. Sailors are given choices of two entrées at each of their meals in addition to choices of starches, grains, vegetables, fruits, and desserts. The NSCM improves upon the nutrition of past menus by removing many fried items and replacing them with baked counterparts.

PREPARATION REQUIREMENTS

Most items on the NSCM require preparation by a culinary specialist. However, the NSCM employs more heat and serve items than in past menus, so the hours devoted to food preparation have been reduced.

COMMENTS

Prior to the NSCM, the Navy had to use approximately 2500 line items to ensure Sailors were provided variety and balanced nutrition in their daily meals. The standardization of menus across the Navy fleet now allows for only 687 line items to be used, guaranteeing optimal nutritional content for Sailors while reducing cargo requirements and streamlining catalogs to ensure availability and consistency of product. Financial management is also improved. DoD CFD supports the NSCM by performing advanced food research to provide product recommendations to maintain the highest quality of nutritious food products. Packaging studies are conducted in order to examine packing materials, waste stream and stowage requirements, equipment requirements, sensory evaluation and optimal product form. DoD CFD continues to identify emerging food preparation techniques to reduce labor for shipboard feeding while maintaining high quality food service.

The 21st Century Sailor and Marine Initiative is supported by "Go for Green" items, incorporating Omega-3 fatty acids into rations, and other programs to promote healthy eating and continuous product improvement.



PRODUCT PHOTOS:





SAMPLE MENU 1 (1 day out of 21 day cycle):

BREAKFAST:

Hot hominy grits, Cereal (healthy & sweet varieties), Griddle fried eggs, Cooked eggs, Scrambled eggs, Omelet bar, Pancakes w/assorted toppings, Sausage biscuit sandwich, Creamed ground beef, Grilled O'Brien potatoes, Banana nut muffin, Pastry bar, Fruit bar, Yogurt (assorted flavors, low fat), Bread bar, Beverage bar

LUNCH:

Chicken gumbo, Southwestern shrimp linguine, Spicy Italian pork chops, Rosemary roasted potato wedges, Stewed tomatoes, Cauliflower, Chocolate chip brownies, Red gelatin, Salad bar, Cucumber & onion salad, Fruit bar, Toasted garlic bread, Bread bar, Ice cream bar, Beverage bar

DINNER:

Hatteras clam chowder, Creole macaroni w/ground turkey, Baked stuffed fish, Aztec rice, Broccoli parmesan, Italian vegetable medley, Chocolate chip brownies, Red gelatin, Salad bar, Fruit bar, Toasted garlic bread, Bread bar, Beverage bar

SAMPLE MENU 2 (1 day out of 21 day cycle)

BREAKFAST:

Hot oatmeal, Cereal (healthy & sweet varieties), Griddle fried eggs, Cooked eggs, Scrambled eggs, Omelet bar, French toast w/assorted toppings, Oven fried bacon, Corned beef hash, Cheesy diced potatoes, Apple coffee cake, Pastry bar, Fruit bar, Yogurt (assorted flavors, low fat), Bread bar, Beverage bar

LUNCH:

Turkey rice soup, Hamburgers, Cheeseburgers, Veggie Burgers, Corn dogs, Potato steak fries, Assorted potato chips, Baked beans, French style green beans, Dutch apple pie, Hermits, Salad bar, Macaroni salad, Fruit bar, Bread bar, Ice cream bar, Beverage bar

DINNER:

Corn chowder, Chicken Alfredo, Roast pork, Roasted pepper potatoes, Boiled penne pasta, Honey dijon vegetables, Broccoli, Dutch apple pie, Hermits, Salad bar, Fruit bar, Toasted garlic bread, Bread bar, Beverage bar

SAMPLE MENU 3 (1 day out of 21 day cycle)

BREAKFAST:

Hot oatmeal, Cereal (healthy & sweet varieties), Griddle fried eggs, Cooked eggs, Mexican egg bake, Omelet bar, French toast w/assorted toppings, Oven fried bacon, Sausage gravy w/biscuits, Cottage fried potatoes, Cinnamon crumb top muffins, Pastry bar, Fruit bar, Yogurt (asstorted flavors, low fat), Bread bar, Beverage bar

LUNCH:

Knickerbocker soup, Sandwich (bacon, lettuce & tomato), Turkey pot pie, Oven browned potatoes, Pasta, Asparagus, Carrots, Strawberry shortcake, Creamy rice pudding, Salad bar, Deviled potato salad, Fruit bar, Bread bar, Beverage bar

DINNER:

French onion soup, Shrimp scampi, Roast beef, Long grain & wild rice, Garlic cheese potatoes, Au jus gravy, Brussel sprouts, Corn on the cob, Strawberry shortcake, Creamy rice pudding, Salad bar, Fruit bar, Whole wheat rolls, Bread bar, Beverage bar

For more information, please see the Armed Forces Recipe Service on the web:
www.quartermaster.army.mil/jccoe/publications/recipes/cover.pdf



PRODUCT PHOTOS:



KOSHER & HALAL MEAL PACKAGING AND ENTRÉE



KOSHER & HALAL MEAL ACCESSORIES

PRODUCT NOTES:

- Components & accessory items are packaged together and shipped in the same case with the entrées.
- Component/accessory items contain brand name items.

PURPOSE

The Meal, Religious, Kosher/Halal is utilized to serve those individuals in the military service who maintain a strict religious diet.

CHARACTERISTICS

Each meal consists of two components: (1) an entrée (pouch in box) certified and labeled as Glatt Kosher or Dhabiha Halal and a common accessory pack certified by both Kosher and Halal authorities. Kosher and Halal entrées, however, are never cased together; they are purchased separately from different companies. For each ration, entrées are delivered in a mixed case of 12 meals, and the accessory packs delivered in a separate carton of 12. Both the entrée case and the accessory pack case are then packed side-by-side in a master case. Minimum and maximum expected shelf life at delivery are three and 10 months, respectively. As displayed in the product photos, complementary menu components are commercial items and include a beverage base (hot or cold), cereal, bakery items (bagel chips, granola bars, etc.), and fruit/nuts (raisins, peanuts, etc.). Accessory items include salt, pepper, sugar, spoon, toilet tissue, FRH, and a moist towelette.

- **Weight:** 18 lbs (8 kg)/case
- **Cube:** 1.4 ft^3 (40 dm^3)/case

NUTRITIONAL DATA

Each menu provides approximately 1200 calories (11-13% protein, 37-40% fat, and 48% carbohydrate).

PREPARATION REQUIREMENTS

The entire meal is ready-to-eat, except for the beverages, which need to be rehydrated. Although the entrée may be eaten cold when operationally necessary, it can also be heated by immersion in hot water while sealed in its individual package or by using the FRH provided in the accessory packet.

MAIN ENTRÉE VARIETIES

KOSHER: Beef stew, Chicken & noodles, Cheese tortellini, Florentine lasagna, Pasta w/garden vegetables, "My Kind of Chicken"®, Old world stew, Chicken & black beans, Chicken Mediterranean, Vegetarian stew

HALAL: Beef stew, Chicken & noodles, Cheese tortellini, Florentine lasagna, Pasta w/garden vegetables, "My Kind of Chicken"®, Old world stew, Chicken & black beans, Chicken Mediterranean, Vegetarian stew, Lamb and barley stew, Lamb & lentil stew

PURPOSE

The purpose of this ration is to feed those individuals in the military service who maintain a Kosher for Passover diet by providing three meals per day for not more than eight days during their observance of Passover. Like the MRE™, it is a totally self-contained meal combined in one single flexible meal bag.

CHARACTERISTICS

The ration provides individual meal bags for 12 meals. Each meal bag consists of an entrée, complementary food items, and accessory items (i.e., salt, sugar, spoon, matches, toilet tissue, moist towelette, and FRH, as applicable). Additionally, each case has a box of matzo crackers and a feedback survey. The entire food contents of each meal are certified Kosher for Passover. The minimum shelf life is nine months at 80°F (27°C) from the time components are assembled into the meal packet.

NUTRITIONAL DATA

The contents of one meal bag provide a minimum of 1200 calories. The complete contents of each meal bag, supplemented with matzo crackers packed separately in the case, provides sufficient nutrition to adequately sustain a moderately active, healthy individual for one meal and contains 29-42% fat, 9-13% protein, and no less than 48% carbohydrate.

PREPARATION REQUIREMENTS

With the exception of beverages, all food components are ready-to-eat. The entrée may be warmed using an FRH as applicable by menu.

COMMENTS

The availability of this meal is limited to the months leading up to the Passover holiday time frame.

MENUS:

MENU 1

Beef stew, Dried fruit, Raisins, Nuts (e.g. walnut, almond), Jelly/jam, Cookies, Coffee, Tea, Sugar, Salt, Toilet tissue, Spoon, Moist towelette, Matches, FRH

MENU 2

Salmon, Dried fruit, Raisins, Nuts (e.g. walnut, almond), Jelly/jam, Cookies, Coffee, Tea, Sugar, Salt, Toilet tissue, Spoon, Moist towelette, Matches, FRH

MENU 3

Bone-in chicken, Dried fruit, Raisins, Nuts (e.g. walnut, almond), Jelly/jam, Cookies, Coffee, Tea, Sugar, Salt, Toilet tissue, Spoon, Moist towelette, Matches, FRH

PRODUCT PHOTOS:





PRODUCT NOTES:

- Menus are to be supplemented with ~one ounce of matzo crackers to meet minimum nutritional requirements per day.

PRODUCT PHOTOS:



TOTM MEAL BAG



TOTM COMPONENTS & ACCESSORIES

PURPOSE

The purpose of this ration is to provide an alternative operational training meal in lieu of "sack lunches" and catered commercial meals to military organizations that engage in inactive duty training. It may be used in any situation where traditional operational ration meals are not mandated. The TOTM became available in May 2001. This effort was executed to promote doctrine requirements and a "train as you fight" philosophy, while meeting the customer budgetary needs.

CHARACTERISTICS

As a training tool, this meal aids units in gaining familiarity with the preparation, usage, consumption, and disposal of a pre-packed meal similar to the MRE™. This meal is similar to the standard MRE™ in packaging and contains many of the same MRE™ components. However, it employs commercial packaging to reduce costs. The TOTM is not an MRE™, nor is it designed to take the place of the MRE™. The TOTM is a totally self-contained packet consisting of a meal packed in a lightweight flexible meal bag that fits easily into military field clothing pockets. Three sets of menus are available, as described on the following page. Each set is comprised of 12 different menus. Each case contains 12 meals, one of each menu. The TOTM is easily adaptable for disaster relief efforts.

- **Weight:** 20 lbs (9 kg)/case
- **Cube:** .95 ft^3 (1.1 dm^3)/case

NUTRITIONAL DATA

Each TOTM meal bag provides an average of 997 calories.

PREPARATION REQUIREMENTS

The entire meal is ready to eat, except for the beverages, which need to be rehydrated. Although the entrée may be eaten cold if operationally necessary, a FRH is provided with each meal.

COMMENTS

The TOTM is intended only for situations where use of the MRE™ is not mandatory.



AMERIQUAL:

MENU 1

Penne pasta, MRE™ fruit*, Fig bar, Potato sticks, Pan coated peanut butter disks, French vanilla cappuccino, FRH, Dining kit**

MENU 2

Cheese tortellini, MRE™ fruit*, Crackers, Peanut butter spread, Pan coated chocolate disks, Tea, FRH, Dining kit**

MENU 3

Spaghetti, MRE™ fruit*, Crackers, Peanut butter spread, Pan coated chocolate disks, Tea, FRH, Dining kit**

MENU 4

Cajun rice w/beans & sausage, MRE™ fruit*, Fig bar, Potato sticks, Toffee cube, Pan coated peanut butter disks, Tea, FRH, Dining kit**

MENU 5

Chicken w/noodles, MRE™ fruit*, Fig bar, Pretzels, Toffee cube, Pan coated chocolate disks, French vanilla cappuccino, FRH, Dining kit**

MENU 6

Chicken salsa, MRE™ fruit*, Fig bar, Pretzels, Toffee cube, Pan coated chocolate disks, French vanilla cappuccino, FRH, Dining kit**

MENU 7

Beef ravioli, MRE™ fruit*, Fig bar, Potato sticks, Pan coated chocolate disks, Tea, FRH, Dining kit**

MENU 8

Chili mac, MRE™ fruit*, Crackers, Peanut butter spread, Pan coated peanut butter disks, Tea, FRH, Dining kit**

MENU 9

Chili w/beans, MRE™ fruit*, Fig bar, Potato sticks, Pan coated chocolate disks, Tea, FRH, Dining kit**

MENU 10

Pork rib, MRE™ fruit*, Fig bar, Potato sticks, Toffee cube, Pan coated peanut butter disks, Mocha cappuccino, FRH, Dining kit**

MENU 11

Beef stew, MRE™ fruit*, Fig bar, Pretzels, Toffee cube, Pan coated chocolate disks, Mocha cappuccino, FRH, Dining kit**

MENU 12

Beef enchilada, MRE™ fruit*, Fig bar, Pretzels, Toffee cube, Pan coated peanut butter disks, Mocha cappuccino, FRH, Dining kit**

SOPAKCO:

MENU 1

Vegetable manicotti, Fruit*, Cracker, Peanuts (salted), Pan coated chocolate disks, Beverage, FRH, Dining kit**

MENU 2

Cheese tortellini, Rice (yellow & wild), Cookie (various flavors), Pan coated chocolate disks, Beverage, FRH, Dining kit**

MENU 3

Shrimp jambalaya, Rice (yellow & wild), Cracker, Fruit flavored disks, Beverage, FRH, Dining kit**

MENU 4

Chili macaroni, Mashed potatoes, Cracker, Pan coated chocolate disks, Ground red pepper, Beverage, FRH, Dining kit**

MENU 5

Chicken cavatelli, Mashed potatoes, Cracker, Peanut butter spread, Pan coated chocolate disks, Beverage, FRH, Dining kit**

MENU 6

BBQ pork ribs, Wheat snack bread (×2), Fruit flavored disks, BBQ sauce, Ground red pepper, Beverage, FRH, Dining kit**

MENU 7

Beef ravioli, Fruit*, Cookie (various flavors), Peanuts (salted), Beverage, FRH, Dining kit**

MENU 8

Spaghetti, Fruit*, Skittles®, Cracker, Peanut butter spread, Red pepper, Beverage, FRH, Dining kit**

MENU 9

Chicken fajitas, Mashed potatoes, Osmotic fruit, Cookie (various flavors), Wheat snack bread, Beverage, FRH, Dining kit**

MENU 10

Cajun rice, Osmotic fruit, Cracker, Fruit flavored disks, Hot sauce, Beverage, FRH, Dining kit**

MENU 11

Vegetable omelet, Osmotic fruit, Cookie (various flavors), Hot sauce, Beverage, FRH, Dining kit**

MENU 12

Penne pasta, Cracker, Peanut butter spread, Hot sauce, Beverage, FRH, Dining kit**

WORNICK:

MENU 1

Spaghetti, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Pan coated chocolate disks*, Beverage, FRH, Dining Pkt B

MENU 2

Chicken cavatelli, Mango-peach apple sauce, Raisin nut mix, Pan coated chocolate disks*, Beverage, FRH, Dining Pkt B

MENU 3

Pork rib, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Cracker packet, Pan coated chocolate disks*, Beverage, FRH, Dining Pkt A

MENU 4

Beef stew, Mango-peach applesauce, Potato sticks, Cookie packet (MRE™ style**), Toffee roll (1 ea), Beverage, FRH, Dining Pkt A

MENU 5

Chili macaroni, Osmotic fruit (raisins or cranberries), Cracker packet, Cookie packet (MRE™ style**), Toffee roll (1 ea), Beverage, FRH, Dining Pkt A

MENU 6

Cheese tortellini, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Cookie packet (MRE™ style**), Toffee roll (1 ea), Beverage, FRH, Dining Pkt B

MENU 7

Chicken noodles, Mango-peach applesauce, Peanut butter spread, Cracker packet, Jelly, Beverage, FRH, Dining Pkt B

MENU 8

Chicken w/salsa, Raisin nut mix, Cinnamon Imperial candies, Chocolate covered sports bar, Beverage, FRH, Dining Pkt A

MENU 9

Manicotti, Cookie packet (MRE™ style**), Toffee roll (1 ea), Dairy Shake***, Beverage, FRH, Dining Pkt A

MENU 10

Beef enchilada, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Pan coated chocolate disks*, Beverage, FRH, Dining Pkt A

MENU 11

Beef ravioli, Pretzels, Toffee roll (1 ea), Dairy Shake***, Beverage, FRH, Dining Pkt B

MENU 12

Cajun rice w/beans & beef sausage, Mango-peach applesauce, Peanuts (dry roasted, salted), Pan coated chocolate disks*, Beverage, FRH, Dining Pkt B

PRODUCT PHOTOS:



TOTM ENTRÉE & SNACKS

PRODUCT NOTES:

AMERIQUAL:

- *MRE™ fruit will be one of the following: mixed fruit, pears, or pineapple
- **Dining kit includes seasoning packet, spoon, chewing gum, and a towelette

SOPAKCO:

- *One of either applesauce (fortified or raspberry), spiced apples, mixed fruit or pineapple
- **Dining kit includes napkin, spoon, coffee, sugar, black pepper, salt, creamer and a moist towelette

WORNICK:

- **Dining Packet A:** spoon, salt, pepper, creamer, coffee, sugar, towelette, napkin
- **Dining Packet B:** spoon, salt, pepper, sugar, towelette, napkin
- *A variety of at least one per case (plain, peanut butter, peanuts)
- **A variety of at least two per case (chocolate chip, toffee chip, kreamsicle, fig bar)
- ***A variety of at least one per case (vanilla, chocolate, strawberry)

PURPOSE

The Go-To-War (GTW) Ration is a unitized ration designed to sustain Warfighters during the early stages of mobilization until the industry is able to ramp up to meet the demand for operational rations. The ration evolved from lessons learned during Operation Desert Shield/Storm (ODS). It does not meet the full spectrum of military service requirements and is not intended to replace any operational ration. Rather, it is designed to augment the full range of combat rations with readily available, highly acceptable commercial products.

CHARACTERISTICS

Each of the nutritionally complete menus consists of commercially available, individual serving size, shelf stable components, including a single entrée, fruit, snack items, spreads, condiments and beverages. All components are contained in a clear polymeric meal bag. All menu components are available from a variety of commercial sources. Criteria for selection of the menus include: acceptability of components, shelf stability, packaging utility, and nutritional adequacy. Expected shelf life is 12 months at 80°F (27°C). As with the MRE™, there are 12 meals per shipping container.

- **Weight:** 33 lbs (15 kg)/case; 2.26 lbs (1 kg)/meal
- **Cube:** 1.24 ft^3 (40 dm^3)/case; .09 ft (2.5 dm^3)/meal

NUTRITIONAL DATA

Each meal provides an average of 1300 calories (12% protein, 32% fat and 56% carbohydrate).

PREPARATION REQUIREMENTS

The food is fully processed/prepared and ready-to-eat. The water requirement is 16 ounces (.5 liters) for rehydration of beverages.

COMMENTS

A comprehensive computer database of commercially available, shelf-stable foods to support this ration is maintained by the DoD CFD at the U.S. Army Natick Soldier RD&E Center (NSRDEC). When Defense Logistics Agency-Troop Support receives a procurement requirement, menus reflecting currently available components are coordinated with the Office of The Surgeon General (OTSG) for approval and packing/assembly documents are finalized. The GTW Ration database, menus and packaging requirements were updated and provided to DLA-Troop Support during Operation Iraqi Freedom.

PRODUCT PHOTOS:







POTENTIAL GTW COMPONENTS, ENTRÉE, & DESSERTS

PRODUCT PHOTOS:



FOOD PACKET & COMPONENTS



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 typically stored in the survival kit on aircraft and is meant to provide basic sustenance for periods less than five consecutive days.

CHARACTERISTICS

The ration contains six compressed bars, two cereal bars, three cookie bars and a wintergreen glucose bar. The bars are vacuum-sealed in trilaminate foil pouches and packed in a water resistant, paperboard box. Sweetened lemon tea and soup broth powder are also included. The storage requirement for this ration is five years at 80°F (27°C) and one month at 140°F (60°C). There are 24 food packets per shipping container.

- **Weight:** 18.2 lbs (8 kg)/case; 11.4 oz (.3 kg)/packet
- **Cube:** 0.520 ft^3 (20 dm^3)/case; 24 in^3 (.4 dm^3)/packet

NUTRITIONAL DATA

Each packet provides 1435 calories (5% protein, 39% fat and 56% carbohydrate). In order to minimize metabolic water requirements less than 8% protein is an Air Force operational requirement. If the product is required to be used in a salt-water survival scenario the consumption of the soup broth is not recommended.

PREPARATION REQUIREMENTS

No preparation is required. The cereal bars can be broken into pieces and rehydrated with water if desired. Fourteen ounces (.4 liters) of water are required to reconstitute the lemon tea and the soup broth powder.

COMMENTS

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). This first packet was packaged in a tin-plated can. Limited procurement quantities contributed to the unavailability of the can and some of the original components. The product was redesigned and changes incorporated into the product in 1993. The improvements included a 42% increase in calories and greater component variety. The Food Packet, Survival, General Purpose has a verified five year shelf life.

RATION COMPONENTS:

- Cornflake bar (2)
- Shortbread bar (1)
- Wintergreen tablets (1)
- Granola bar (1)
- Chocolate chip bar (1)
- Soup & gravy base (1)
- Sweetened lemon tea (1)

PURPOSE

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

CHARACTERISTICS

The packet contains dense commercial food bars that are required not to provoke thirst. The food bars are required to meet a minimum five year shelf life which is verified by a certificate of compliance from the manufacturer. There are a minimum of six equally shaped, individually wrapped bars per vacuum sealed laminated foil pouch. The food packet does not exceed 36.6 cubic inches (.6 cubic decimeters) or a weight of 20 ounces (.5 kg), which are the maximum measurements for the packet to fit in the storage areas of lifesaving craft.

- **Weight:** 48 lbs (22 kg)/case; 20 oz (.5 kg)/packet maximum
- **Cube:** 1.36 ft^3(39 dm^3)/case; 36.6 in^3 (.6 dm^3)/packet

NUTRITIONAL DATA

The food packet has a minimum of 2400 calories and 54% carbohydrate. The maximum protein content is 8% and the maximum salt content is .5%. Restriction of the protein and salt content are advantageous in minimizing the negative metabolic effects of short term fasting. This product is strictly a short term survival ration for three to five days. The food bars are compatible with potable water restrictions.

PREPARATION REQUIREMENTS

No preparation is necessary.

COMMENTS

Experiences with ocean disasters have shown that other supplies, such as lifesaving equipment and drinking water, were more critical to survival for the three to five day abandon ship scenario. Minimizing cube is essential if a food packet is included in the life craft cargo. The current packet is a commercial product first available in 1997. The Navy would prefer to have shelf life extended on this product to simplify the logistical restocking schedule. The previous version of the ration contained hard candy and chewing gum like the Food Packet, Survival, Aircraft, Life Raft (described on next page). Earlier versions contained starch jelly bars, candy coated chewing gum, mint tablets, matches and a cigarette pack. Future plans include a redesign of this product to provide up to seven years of product storage life. Specific improvements to packaging are aimed at reducing the weight and cube of the packet even further while also reducing the size of the bars contained inside.

PRODUCT PHOTOS:





CURRENT FOOD PACKET & COMPONENTS (TOP) AND PROPOSED FOOD PACKET & COMPONENTS (MIDDLE)



PRODUCT PHOTOS:



CURRENT FOOD PACKET & COMPONENTS





PROPOSED FOOD PACKET & COMPONENTS

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 either hard candy or candy coated chewing gum. The contents are overwrapped in a flexible interlocking closure laminated foil pouch. An instruction sheet is included in the food packet explaining that the food contained in the packet will be beneficial for a 24 hour period even when water supply is limited. The components are required to have a minimum shelf life of five years. The hard candy component has shown stability at extreme temperatures (three years at 100°F (38°C)) and 10 year acceptable quality at 80°F (27°C).

- **Weight:** 8 lbs (3.6 kg)/case; 3.5 oz (99 g)/packet
- **Cube:** .24 ft^3(6.8 dm^3)/case; 12 in^3 (.2 dm^3)/packet

NUTRITIONAL DATA

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

COMMENTS

The Navy only requires small quantities of this product, and procurement is limited but purchased regularly. In 2011, Navy concurred with the use of an interlocking closure pouch instead of twine to reseal the contents within the pouch.

PURPOSE

The original requirement for the Humanitarian Daily Ration (HDR) was based on a need identified by the Defense Security Cooperation Agency-Humanitarian Assistance/Demining Activities, for a means of feeding large populations of displaced persons or refugees under emergency conditions. The HDR was developed and is managed by the DLA-Troop Support. The HDR is composed of ready-to-eat themostabilized entrées, and complementary components and is packaged in materials stucturally similar to the MRE™.

CHARACTERISTICS

The components are designed to provide a full day's sustenance to a moderately malnourished individual. In order to provide the widest possible acceptance from the variety of potential consumers with diverse religious and dietary restrictions from around the world, the HDR contains no animal products or animal by-products, except that minimal amounts of dairy products are permitted. Alcohol and alcohol based ingredients are also banned. The meal bag is similar to the MRE™ meal bag except that it is a salmon color and contains graphics depicting how to open the bag and that the contents should be eaten. The shipping container is also similar to the MRE™, but holds 10 meal bags instead of 12 and contains markings and graphics specific to the HDR. The shelf life of the HDR is 36 months at 80°F (27°C).

- **Weight:** 25 lbs (11 kg)/case; 1,237 lbs (561 kg)/pallet
- **Cube:** 1.02 ft^3 (30 dm^3)/case; 58.1 ft^3 (1600 dm^3)/pallet

NUTRITIONAL DATA

Since the meal is designed as a complete day's supply of food, a minimum of two entrées is provided in each meal bag. Complementary components are also included to provide the balance of the daily nutritional requirements that call for not less than 2200 calories, broken down as 10-13% protein, 27-30% fat, and not less than 60% carbohydrate. A spoon and a non-alcohol based moist towelette are the only non-food components in the meal bag.

PREPARATION REQUIREMENTS

The entire meal is ready-to-eat, and the entrées may be eaten cold if necessary. Like other individual rations, the HDR entrées are generally more desirable when heated, which can be done by immersing the entrée package in hot water or by placing it in a pot over a hot flame.

PRODUCT PHOTOS:



HDR DISTRIBUTION IN IRAQ



HDR PACKAGING AND COMPONENTS

MENU 1A

Bean salad, Brown & wild rice w/lentils, Crackers, Raisins, Peanut butter spread, Strawberry jam, Flat bread, Accessory pack

MENU 1B

Barley stew, Lentil stew, Vegetable biscuits, Fruit bar, Peanut butter spread, Jam, Fruit pastry, Shortbread cookies, Accessory pack

MENU 1C

Beans & rice in tomato sauce, Herb rice, Biscuit (2 pack MRE™ crackers), Vegetable crackers (2 pack), Fruit bar (2 oz. fig), Peanut butter spread, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

MENU 2A

Bean salad, Rice w/ beans, Crackers, Apple fruit bar, Peanut butter spread, Strawberry jam, Raisins, Flat bread, Accessory pack

MENU 2B

Barley stew, Peas in tomato sauce, Vegetable biscuits, Fruit bar, Peanut butter spread, Jam, Fruit pastry, Shortbread cookies, Accessory pack

MENU 2C

Red beans & rice, Yellow rice, Biscuit (2 pack MRE™ crackers), Vegetable crackers (2 pack), Fruit bar (2 oz. fig), Peanut butter spread, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

MENU 3A

Bean salad, Lentils & vegetables, Crackers, Apple fruit bar, Peanut butter spread, Strawberry jam, Raisins, Flat bread, Accessory pack

MENU 3B

Barley stew, Rice & vegetables in sauce, Vegetable biscuits, Fruit bar, Peanut butter spread, Jam, Fruit pastry, Shortbread cookies, Accessory pack

MENU 3C

Lentil stew, Herb rice, Biscuit (2 pack MRE™ crackers), Vegetable crackers (2 pack), Fruit bar, Peanut butter spread, Strawberry jam, Fruit pastry (2 pack), Shortbread, Accessory pack

MENU 4A

Beans w/potatoes, Brown & wild rice w/lentils, Crackers, Peanut butter spread, Strawberry jam, Raisins, Flat bread, Accessory pack

MENU 4B

Rice & vegetables in sauce, Peas in tomato sauce, Vegetable biscuits, Fruit bar, Peanut butter spread, Jam, Fruit pastry, Shortbread cookies, Accessory pack

MENU 4C

Pasta in tomato sauce, Yellow rice, Biscuit (2 pack MRE™ crackers), Vegetable crackers (2 pack), Fruit bar (2 oz. fig), Peanut butter spread, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

MENU 5A

Lentils & vegetables, Beans w/potatoes, Crackers, Apple fruit bar, Peanut butter spread, Strawberry jam, Raisins, Flat bread, Accessory pack

MENU 5B

Lentil stew, Peas in tomato sauce, Vegetable biscuits, Fruit bar, Peanut butter spread, Jam, Fruit pastry, Shortbread cookies, Accessory pack

MENU 5C

Lentil stew, Red beans & rice, Biscuit (2 pack MRE™ crackers), Vegetable crackers (2 pack), Fruit bar (2 oz. fig), Peanut butter spread, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

PRODUCT PHOTO:



PRODUCT NOTES:

▲ **Accessory pack contents:**
red pepper, pepper, salt, sugar, spoon, matches (unprinted), towelette (alcohol free), napkin

PURPOSE

The Meal, Alternative Regionally Customized (MARC) is a self contained, shelf stable meal. The effort was initiated after receiving an urgent request from the DLA to expedite the development of a suitable vegetarian ration with unique dietary and component requirements designed specifically for detainees at Guantanamo Bay Naval Base (GTMO). By collaborating closely with DLA-Troop Support and the U.S. Navy food service personnel at GTMO, the salient performance characteristics and calorie require-ments to maximize nutritional benefit and identify component restrictions were determined. While created out of a need to support GTMO detainees, the meal may be used to provide for other purposes as well.

CHARACTERISTICS

The final product configuration includes 10 different luncheon entrée menus containing food components familiar to Southwest Asian/Middle East populations and each is packaged in a single meal bag. Each case contains 10 meals, one of each menu. Based on the product design parameters, the MARC does not include "prohibited products" such as beef, pork, poultry, or any other animal product or animal by-product in any of the entrées or meal components (note: the MARC is NOT Kosher or Halal certified). The shelf life of the MARC is a minimum of 12 months at 80°F (27°C) from the time of product assembly. Contractors will ship the MARC with no less than nine months shelf life remaining.

- **Weight/Case:** 17 lbs (8 kg)
- **Cube/Case:** .63 ft^3 (18 dm^3)

NUTRITIONAL DATA

The contents of one MARC meal bag provides a minimum of 700 calories (9-15% protein, 25-30% fat, and not less than 60% carbohydrate).

PREPARATION REQUIREMENTS

The entire meal is ready-to-eat, except for the beverages, which need to be rehydrated.



MARC MENUS:

MENU 1

Chili w/black beans, Nuts, Crackers, Jam, Tea (powdered drink mix)

MENU 2

Pasta w/vegetable tomato, Raspberry applesauce, Nuts, Crackers (vegetable), Tea (powdered drink mix)

MENU 3

Minestrone, Separate packets of raisins & dry roasted nuts, Crackers (vegetable), Jam, Tea (powdered drink mix)

MENU 4

Cheese tortellini, Nuts, Crackers, Jam, Tea (powdered drink mix)

MENU 5

Curried vegetables, Spiced apples, Crackers (vegetable), Jam, Tea (powdered drink mix)

MENU 6

Saag chole (spinach & garbanzos), Yellow & wild rice, Crackers, Jam, Tea (powdered drink mix)

MENU 7

Pea & mint rice, Spiced apples, Nuts, Tea (powdered drink mix)

MENU 8

Channa dal masala (golden lentils w/vegetables), Yellow & wild rice, Crackers, Jam, Tea (powdered drink mix)

MENU 9

Vegetable jalfrazi (spicy garden vegetables), Mexican rice, Crackers, Jam, Tea (powdered drink mix)

MENU 10

Okra & tomato, Rice, Crackers (vegetable), Jam, Tea (powdered drink mix)



PURPOSE

The purpose of tube food is to feed U2 reconnaissance pilots in the U.S. Air Force (USAF) during missions that may last as long as 12 hours. The high altitude profile of these missions requires pilots to wear full pressure suits and helmets that cannot be removed, making it impossible for them to consume conventional rations. Tube food attaches directly to a feeding tube that extends through a receptacle on the helmet to the inside where the pilot is able to sip the food from the straw-like tube. The Combat Feeding Directorate is the sole supplier of tube foods to the USAF and has unique facilities and food processing equipment to produce a wide variety of these highly specialized, unique products. All tube foods provided to the USAF meet strict requirements for percentages of fat, protein, and carbohydrates while being flavorful and easy to consume and digest. These requirements result in a product that provides sustenance sufficient enough to enable pilots to perform exhausting physical and cognitive duties for periods up to 12 hours.

PRODUCT PHOTOS:





CHARACTERISTICS

Each tube contains approximately 4.75-5.0 oz (134-141 g) of product and has a shelf life of 3 years at 80°F (27°C) and 6 months at 100°F (38°C).

VARIETY

- **Entrées:** Beef & gravy, Beef stew, Beef stroganoff, Hash browns w/ bacon, Sloppy Joe, Chicken a la king
- **Fruits:** Applesauce, Peaches, Pears, Cinnamon Zapplesauce®
- **Puddings & Desserts:** Butterscotch, Toffee, Caramel, Chocolate, Apple pie w/caffeine, Cherry dessert, Chocolate pudding w/caffeine, Peach melba

NUTRITIONAL DATA

Each tube provides 150-300 calories.

PREPARATION REQUIREMENTS

All tube foods are ready to eat. The individual pilot simply removes the cap to the tube food and connects it to the feeding tube in his/her helmet. The cockpit is equipped with a heater if the pilot wants warm food.

COMMENTS

The Air Force is interested in enhancing tube foods with nutritional supplements for increased endurance and optimal performance during extended or long mission objectives, as well as to provide additional short-term energy, which is particularly critical when landing an aircraft. Caffeinated chocolate pudding was successfully introduced in 2004 to enhance U2 Pilots' cognitive response and reduce fatigue and stress. Ongoing research and development is evaluating other methods of enhancing tube foods with nutrient supplementation and carbohydrate/electrolyte products.

Tube foods are often referred to as high-altitude rations, or "foods with altitude."

PURPOSE

This item is used by the Armed Forces as a mandatory supplement and/or enhancement for operational ration feeding during operations which either do not have refrigeration capability or have limited capability. It is used in situations that do not permit resupply of perishable foods.

CHARACTERISTICS

Ultra High Temperature (UHT) Milk is fresh milk that has been heat processed using UHT technology. The UHT process ensures maximum retention of flavor and nutritional value. The aseptic processing and packaging system protects the product from microorganisms, air and light, which assures a long shelf life without refrigeration. The shelf life of UHT milk is 10 months (unopened) when stored at 80°F (27°C).

- **Weight:** 16.4 lbs (7.4 kg)/case
- **Cube:** 0.33 ft^3 (9.3 dm^3)/case

NUTRITIONAL DATA

The nutritional values per 8 oz. (236 mL) are:

- **Whole White:** 150 calories (30% fat, 40% carbohydrate, 30% protein)
- **Whole Chocolate:** 230 calories (21% fat, 58% carbohydrate, 21% protein)
- **Reduced Fat Chocolate 2% milk fat:** 170 calories (14% fat, 64% carbohydrate, 22% protein)
- **Reduced Fat Strawberry 2% milk fat:** 170 calories (13% fat, 66% carbohydrate, 21% protein)
- **Reduced Fat White 2% milk fat:** 120 calories (21% fat, 46% carbohydrate, 33% protein).

PRODUCT PHOTOS:



ULTRA HIGH TEMPERATURE (UHT) MILK

Who establishes the dietary and nutritional guidelines of operational rations?

These guidelines are established in accordance with U.S. Army Regulation 40-25, Nutritional Standards and Education, which defines nutritional standards, termed military dietary reference intakes (MDRI) for military feeding and nutritional standards for operational rations (NSORs).

Where can I purchase MREs™?

DLA-Troop Support is the procuring agency for military rations. Their customer eligibility policy is as follows: "It is DLA-Troop Support policy NOT to sell rations to individuals, whether members of the Armed Services or civilians. The DoD regulations and DLA-Troop Support policy permit the sale of rations to the following: U.S. military organizations, federal government-funded activities, activities empowered to perform a federal-government-legislated function, a DoD sponsored non-appropriated fund instrumentality, a State Department sponsored employee commissary located outside the U. S., a foreign government when an authorized contractual relationship has been established, a federal government contractor, when the contract specifically provides for the purchase of stock fund items by the contractor and other entities when authorized by duly appointed officials. In some instances sales are only permitted to these entities if other conditions are met.

Commercial versions of MREs™ may be purchased from the Wornick Company, SOPAKCO, and AmeriQual.

Is the First Strike Ration® (FSR™) a replacement for the MRE™?

No. The FSR™ is a restricted-use ration that provides fewer calories than an MRE™. The menu components are designed to be compact, eat-on-the-move to be used during periods of highly intense, highly mobile combat operations.

Where can I find the ingredients list for each of the MREs™?

The ingredients list is provided on each of the food labels of the operational ration.

How are rations/menus added or removed from MREs™?

Each year new menus are developed in compliance with Office of the Surgeon General (OTSG) nutritional requirements for an entrée, starch, beverage, snack/candy, condiments, and accessory pack. Products are evaluated by trained sensory panelists and rated on a Quality Scale of 1 to 9 with 1 being extremely poor and 9 excellent. For a product to be accepted it must have a score of 6 or better. Acceptable candidate items are subsequently field tested with Warfighters and rated on a Hedonic Scale of 1 to 9 with 1 being dislike extremely to 9 being like extremely. Again 6 or better is the acceptable score. Questionnaires are also included to determine which items to add or delete from the current MRE™. Once the scores are tabulated, the highest scoring items are recommended as replacement items of those receiving the lowest overall scores. Field tests are conducted approximately three years ahead of the ration procurement cycle. For example, testing performed in 2012 determines which items are included in 2015 procurements. This time allows for all approved field tested items to be put into long term storage to collect the 3-year shelf life data. To date, 261 new items have been approved and 64 items removed.

Are MREs™ allergen free?

No. Operational rations may contain ingredients that are allergens, potentially causing adverse health effects to Warfighters with severe food allergies. The eight major food allergens are milk, egg, soy, peanuts, tree nuts, fish, shellfish and wheat.

Many military rations contain gluten, a protein which is present in barley, rye, wheat and oats. In addition, food allergies may lead to under-consumption of operational rations and may cause potentially serious health risks including anaphylaxis that may trigger a series of symptoms affecting the respiratory system, gastrointestinal tract, skin, or cardiovascular system. These reactions can be mild to life threatening. The only way to prevent an allergic reaction to a particular food is to avoid it. The Food Allergen Labeling and Consumer Protection Act has required that since January 2006, all commercial and military ration manufacturers of packaged foods containing any of the eight major allergens list the allergens present in the food ingredient statement. In addition, manufacturers are encouraged to avoid/eliminate cross-contamination and to follow good manufacturing practices to help eliminate adverse allergic reactions in food components present in combat rations.

The labeling of allergen warnings on combat ration components is meant for consumer education but not to indicate the suitability of combat rations for deployed Warfighters with severe food allergies or food intolerances. Only a Warfighter's primary medical care provider is qualified to make determinations as to deployment status due to food allergies or food intolerance.

Are Kosher rations available for Warfighters observing Passover?

Yes. The availability of this meal is limited to the months leading up to the Passover holiday time frame and requirements/pre-orders submitted by the Services. The purpose of this ration is to feed those individuals in the Military Services who maintain a Kosher for Passover diet by providing three meals per day for not more than eight days during their observance of Passover. Like the MRE™, it is a totally self contained meal combined in one single flexible meal bag. The complete contents of each meal bag, supplemented with Matzo crackers packed separately in the case, provide sufficient nutrition to adequately sustain a moderately active, healthy individual for one meal.

What about brand name products?

By law, the government is prevented from specifying brand name products. When purchasing ration components, DLA-Troop Support utilizes performance based contract requirements that are generic enough to allow any company with the appropriate capabilities to produce the product. Because of this, the origin of products or brand can vary from contract to contract as long as the product meets the performance based requirements.

Why aren't nutritional supplement products available in operational rations?

Nutritional supplement products are highly marketable and it is fast growing industry. CFD receives numerous requests from companies regarding ingredients and nutritional supplements that make health claims to improve physical and cognitive performance. We are continually researching functional food additives for potential inclusion in military rations. The research, data and validation of clinical trials must be reviewed thoroughly and approved by the DoD Nutrition Committee.

Why aren't energy drinks provided in operational rations?

The beverages included in operational rations are designed to promote hydration, be lightweight, low cube, and provide the Warfighter with additional carbohydrates and/or electrolytes. Popular liquid energy drinks are not included in operational rations because they do not meet the volume and weight restrictions. Many companies are referred to the Army Air Force Exchange Service (AAFES) to market their products and make them available to Warfighters.

What are the numbers on cases of MREs™?

They are referred to as date-of-pack markings. Every case of MRE™ is required to have a lot number, the first four digits of which represent the day on which it was assembled. This date-of-pack is represented by a Julian date code. The first digit represents the year-of-pack, and the next three digits represent the day of that year. For example, the lot code 1010 would represent the date as January 10, 2011 (the 10th day of 2011). Lot code 1365 would represent December 31, 2011 (the 365th day of 2011). Usually the side panel of the case has both a date packed (in either an open date or a Julian date) and also has an inspection/test date (usually a month/year). This inspection test date is three years after the ration was assembled. At 80°F (27°C) storage, that would be the end of the product's shelf life. Rations are often inspected and their shelf life may be extended beyond the inspection test date, but that is done by trained U.S. Army veterinary food personnel inspecting the rations.

What are the orange circles on the cases of MREs™?

The orange circles are called Time Temperature Indicator (TTI) Labels and are used to estimate whether the MRE™ has reached or exceeded its expected shelf life. The labels have an outer reference ring and an inner circle. The inner circle darkens with time, darkening more quickly as the temperature increases. TTIs are read by comparing the color of the center to the reference ring that surrounds it. Initially, each TTI has a "bulls-eye" appearance, with the center being much lighter than the dark reference ring. Over time, the center will darken until it exactly matches the reference ring, giving the appearance of a large solid circle on the TTI. Gross observation can be used to quickly determine whether the product has remaining shelf life (center lighter), has reached the end of its expected shelf life (center the same) or has exceeded its expected shelf life (center darker). To be sure MREs™ are still serviceable; however, they should be inspected by trained veterinary food inspectors or Services preventive medicine personnel.

What is DoD doing about removing or reducing the trans fat content of operational rations?

CFD is well aware of the health issues relative to the use of trans fatty acids (TFAs) in commercial foods and military rations. Due to the rotation of MRE™ stocks and the shelf life requirement, any replacement of TFA products in military rations must be closely evaluated and tested. Because the reformulation of operational ration products could have a significant adverse impact on the shelf life of operational rations, shelf life studies need to be conducted to ensure that requirements are met. Once these criteria and other factors are met, the reformulated operational ration products/documentation will be transitioned to DLA-Troop Support for procurement.

Are MREs™ irradiated?

No. MREs™ are not irradiated but undergo a retorting process similar to commercial practices. Retorting is a thermo-stabilization process using a combination of time, temperature, and pressure in a "pressure cooker-like" apparatus. This process in concert with entrée quad-laminate packaging enables the MRE™ to have its extended shelf life and withstand the rigors of extreme military conditions during storage and transportation.

Why don't MREs™ contain dental hygiene products such as a toothbrush/tooth paste or floss?

Dental hygiene-type items have been considered and/or tested in the recent past for possible inclusion in the MRE™ accessory packet. However, it was decided that these types of non food items were better suited for inclusion in the Health and Comfort Packs that are available for purchase from DLA-Troop Support. These kits provide forward area troops the everyday necessities required for their health and comfort when the local Post Exchange system or stores are not available.

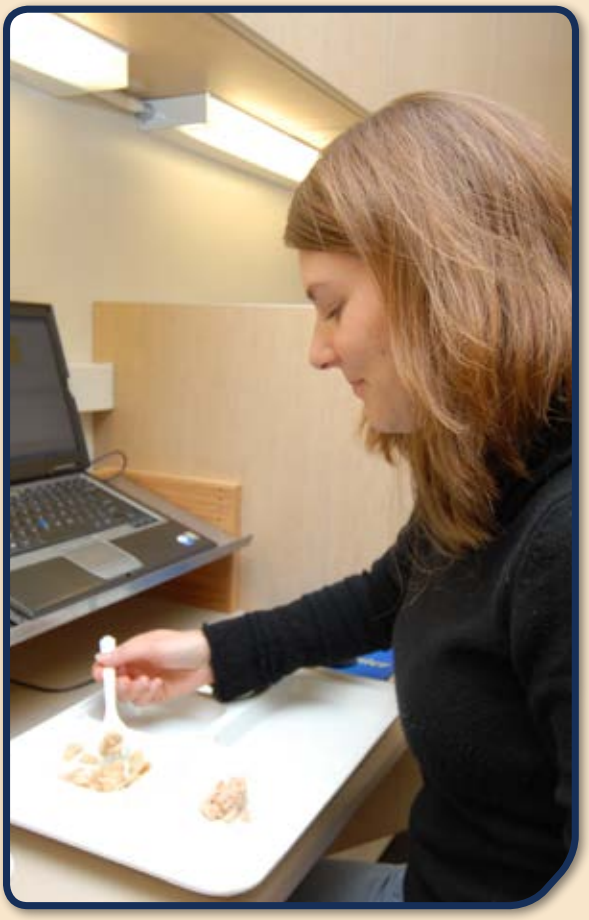
Does the CFD utilize "green" packaging?

CFD recognizes the environmental impact caused by ration waste, and is currently working on developing packaging that is bio-based and bio-degradable. Current initiatives include degradable trash bags, bio-based dining packets and serving utensils. Research is currently being conducted to improve the packaging, but due to stringent shelf life requirements, the current ration packaging is not bio-degradable. Technological advancements in polymers and nanotechnologies will hopefully provide less packaging and reduce the waste generated.

Is there a way to add dietary fiber to our rations?

All operational rations currently meet or exceed the Institute of Medicine Daily Reference Intakes (DRI) for dietary fiber. Current efforts within the Individual, Assault/Special Purpose and Group Ration Improvement Projects include increasing the number of highly acceptable whole grain and whole wheat components.





WANT TO LEARN MORE?

If you would like more information about the DoD CFD and the products and programs described in this book, please visit our website. The website contains fact sheets on rations and emerging food technologies as well as field feeding equipment developed at the DoD CFD. You can also learn about our teams and unique facilities and view a historical presentation on rations.

hotchow.natick.army.mil

HAVE FEEDBACK ON RATIONS?

Please submit your comments, questions, and ideas to:

usarmy.natick.nsrdec.mbx.nati-amsrd-nsc-ad-b@mail.mil

You may also contact us at:

U.S. Army Natick Soldier RD&E Center
DoD Combat Feeding Directorate
Kansas Street Natick, MA
01760-5018

Commercial Phone: (508) 233-4670, DSN: 256-4670

NEED TO ORDER RATIONS?

Customers interested in ordering fielded rations described in this book should contact DLA-Troop Support as listed below. The website provides National Stock Numbers, pricing information, and a point of contact for each of the operational rations in this book.

Defense Logistics Agency - Troop Support
Directorate of Subsistence - Operational Rations
700 Robbins Avenue
Philadelphia, PA
19111-5092

Commercial Phone: (215) 737-2952

www.troopsupport.dla.mil/subs/rations/index.asp



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