



**RDECOM**

NATICK PAM 30-25,  
8th Edition, FEBRUARY 2009  
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**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**

# **OPERATIONAL RATIONS OF THE DEPARTMENT OF DEFENSE**

**NATICK PAM 30-25,**

**8TH EDITION**

**FEBRUARY 2009**

**OPSEC 08-481**

**DISTRIBUTION: A**

Proponent of this pamphlet is the DoD Combat Feeding Directorate (AMSRD-NSR-CF) located at the U.S. Army Natick Soldier Research Development & Engineering Center (NSRDEC).

This pamphlet is posted on the DoD Combat Feeding website address given on the back cover. For the most current ration updates prior to the publication of an updated pamphlet, please consult the website. General comments and suggested improvements from readers are most 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 Defense Supply Center Philadelphia (DSCP), Directorate of Subsistence at the address, phone number or website listed on the last page. The website 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 endorsements 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 U.S. Army Natick Soldier RD&E Center's DoD 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

Boil-in-Bag.....	BIB	Meal, Ready-to-Eat™.....	MRE™
Carbohydrate.....	CHO	Meal, Tailored Operational Training.....	TOTM
Continuous Product Improvement.....	CPI	Navy Standard Core Menu.....	NSCM
Combat Feeding Directorate.....	CFD	Natick Soldier Research, Development & Engineering Center.....	NSRDEC
Defense Logistics Agency.....	DLA	National Stock Number.....	NSN
Defense Supply Center Philadelphia.....	DSCP	Office of the Surgeon General.....	OTSG
Department of Defense.....	DoD	Operation Desert Shield/Storm.....	ODS
First Strike Ration®.....	FSR®	Operation Enduring Freedom.....	OEF
Flameless Ration Heater.....	FRH	Operation Iraqi Freedom.....	OIF
Food and Drug Administration.....	FDA	Special Operations Forces.....	SOF
Go-To-War Ration.....	GTW	Unitized Group Ration™.....	UGR™
Guantanamo Bay Naval Base.....	GTMO	Unitized Group Ration – Heat & Serve™.....	UGR-H&S™
Health & Comfort Pack.....	HCP	Unitized Group Ration – A™.....	UGR-A™
Humanitarian Daily Ration.....	HDR	Unitized Group Ration – B™.....	UGR-B™
Joint Services Operational Rations Forum.....	JSORF	Unitized Group Ration – Express™.....	UGR-E™
Meal, Alternative Regionally Customized.....	MARC	Ultra High Temperature.....	UHT
Meal, Cold Weather/Food Packet, Long Range Patrol.....	MCW/LRP	United States Army Special Operations Command.....	USSOCOM

## CONVERSION CHART

RATION	US STANDARD UNITS		METRIC UNITS	
	WEIGHT/case (pounds)	VOLUME/case (cubic feet)	WEIGHT/case (kilograms)	VOLUME/case (cubic meters)
MRE™	21.8	0.99	9.89	.03
UGR-H&S™	125	5.25	56.7	4.21
UGR-A™	87	5.25	39.46	4.21
UGR-B™	125	5.25	56.7	4.21
UGR-E™	43	1.9	19.5	1.52
Arctic Supplement to the UGR™	60	5	27.22	4.09
FSR®	25	1	11.34	.8
MCW/LRP	15	0.99	6.8	.79
Meal, Religious Kosher/Halal	18	1.4	8.16	1.12
TOTM	20	0.95	9.07	.76
GTW	33	1.24	14.97	.99
Food Packet, Survival, General Purpose	18	0.52	8.16	.42
Food Packet, Survival, Abandon Ship	48	1.36	21.77	1.09
Food Packet, Survival, Aircraft, Life Raft	8	0.24	3.63	.19
HDR	25	1.02	11.34	.82
MARC	17	0.63	7.71	.5
UHT Milk	16.4	0.33	7.44	.26
HCP Type I	58	2.91	26.31	2.3
HCP Type II	18	1.86	8.16	1.49
HCP Type III	18	1.86	8.16	1.49



Feeding the military has been a global challenge throughout the ages. As long as there are wars, there will be armies, and as long as there are armies, there must be food to sustain them. The need to provide sustenance to our Warfighters hasn't changed since the time of the Revolutionary War, and without the efforts to bring fuel to our Warfighters, the military machine would come to a grinding halt. The mission of the Department of Defense (DoD) Combat Feeding Program is to fuel the most valuable weapons platform in the DoD — the individual Warfighter.

Today's operational requirements demand state-of-the-art combat rations to provide for the nutritional needs of the Warfighter in extremely intense and highly mobile combat situations 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 the Defense Supply Center Philadelphia's (DSCP) Directorate of Subsistence, Operations Rations Business Unit, collaborate employing 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 that are made to rations. The Joint Services Operational Rations Forum (JSORF), which meets annually, approves all changes made to individual components within rations. The Operational Rations Business Unit at DSCP is responsible for developing and implementing a master strategy for the integration of the U.S. food industry into the combat ration program. The Directorate of Subsistence is also responsible for ensuring a logistical infrastructure is in place 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, Group Rations, Assault Rations, and Special Purpose Rations. Each specific ration is described by its purpose, major characteristics, nutritional data, and preparation requirements.

The DoD Combat Feeding Program mission is to ensure that United States Warfighters are the best fed in the world. The DoD CFD is charged with carrying out that mission and will continue to invest in high risk, high payoff science and technology and continuous product improvement to provide revolutionary combat feeding capabilities for our Warfighters.

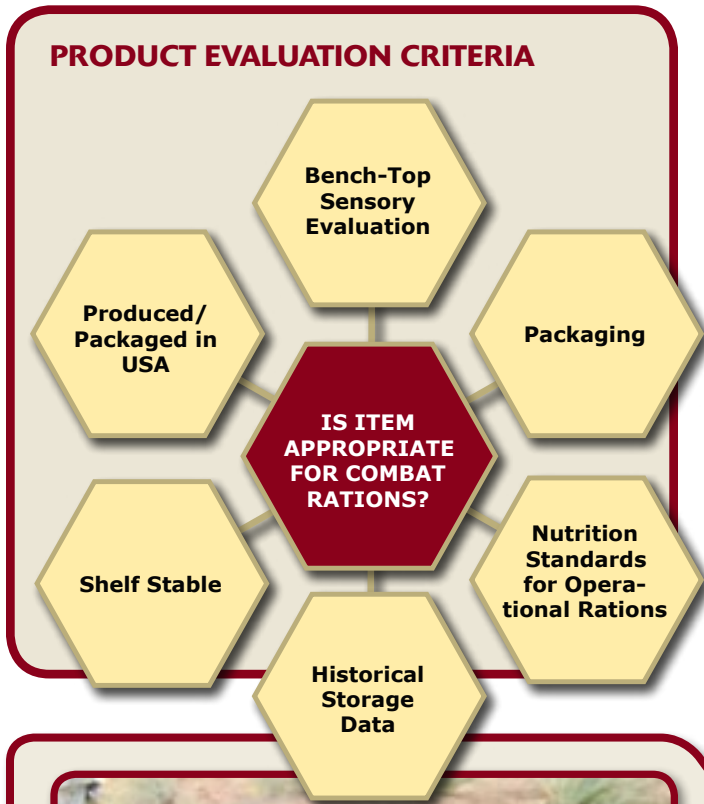
**The DoD Combat Feeding Program mission is to ensure that United States Warfighters are the best fed in the world.**





**WARFIGHTER RECOMMENDED, WARFIGHTER TESTED,  
WARFIGHTER APPROVED™**

**PRODUCT EVALUATION CRITERIA**



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 continuous product improvement (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 being 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 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 covers 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, FIGRIP, 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 CPI process results in food technologies and packaging that ensure our Warfighters are the best fed in the world.*





APPLE MAPLE OATMEAL

INGREDIENTS: WATER,  
APPLE JUICE CONCENTRATE,  
OATS, BROWN SUGAR,  
LEMON JUICE, MAPLE  
SYRUP, SPICE, AND SALT.



## PRODUCT PHOTOS:



MRE™ CASES



MRE™ MEAL BAG AND COMPONENTS



MRE™ PACKAGING

## PURPOSE:

The Meal, Ready to Eat™ (MRE™) is used by all Military Services to sustain individuals during operations where food service facilities are not available. They are the cornerstone of military subsistence, intended to provide a Warfighter's sole subsistence for up to 21 days of deployment (in accordance with AR 40-25) yet nutritionally adequate to be used for longer periods if necessary.

## CHARACTERISTICS:

Three MREs™ provide a Warfighter with the OTSG's approved nutritional requirements for a military ration (or day's worth of subsistence). Each meal contains an entrée, starch, spread (cheese, peanut butter, jam/jelly), dessert, snacks, beverages, hot beverage bag, accessory packet, plastic spoon and a flameless ration heater (FRH). The flexibly packaged foods are heat processed in retort pouches that are lightweight, compact, and easily opened. Each component has a shelf life of 3 years at 80°F (27°C) or 6 months at 100°F (38°C). Twenty-four menus provide flexibility and variety to meet the diverse tastes of all Warfighters, including traditional favorites, like spaghetti & meat sauce, as well as ethnic dishes, like chicken fajitas and chili w/beans. Of the 24 menus, four are vegetarian, meeting the needs of those individuals following a vegetarian diet for personal or religious reasons. The MRE™ is shipped in two cases, with Menus 1-12 packed in Case A and Menus 13-24 packed in Case B (2 vegetarian menus per case).

- **Weight:** 21.8 lbs. (9.8 kg)/case (gross); 1.5 lbs. (.68 kg)/meal bag
- **Cube:** .99 cubic feet (.03 cubic meters)/case; .08 cubic feet (2.27 cubic decimeters)/meal bag

## NUTRITIONAL DATA:

Each meal provides an average of 1300 calories (13% protein, 34% fat, and 52% carbohydrate).

## PREPARATION REQUIREMENTS:

The individual Warfighter heats the food. Approximately 23 ounces (.68 liters) of water is needed to rehydrate all beverages. An additional 1 oz. (29.6 ml) of water is needed to activate the FRH for heating the entrée.

## COMMENTS:

The MRE™ is part of the Continuous Product Improvement process under the Fielded Individual Ration Improvement Project. Feedback from Operation Desert Shield/Storm suggested that Warfighters would consume more if their preferences were taken into consideration. In 1993, the Fielded Individual Ration Improvement Project (FIRIP) was initiated to improve the variety, acceptability, consumption and nutritional intake of individual combat rations to enhance performance on the battlefield. Today, all components that are put into or taken out of an MRE™ must first be Warfighter Recommended, Warfighter Tested, Warfighter Approved™. Specific improvements include:

- From 1993 through 2010, 216 new items will have been approved and added to menus; 65 of the least acceptable items will have been removed
- Over 75% of new components are non-developmental items, many of which are commercially available
- New, easy-open meal bags with Warfighter approved colors and graphics were put into production in 2008
- Drink pouches for dairy shakes, cocoa, and cappuccino are ergonomically designed
- Nutritional labeling is included on each component

**PRODUCT PHOTOS:**

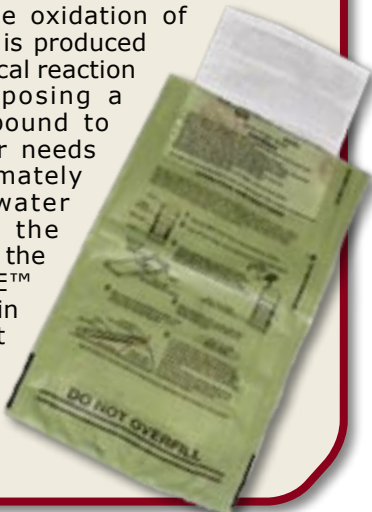


**MRE™ XXVII SNACK ITEMS**

**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 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!



**MENU 1**

Chili w/beans, Mexican corn, Cracker, Jam, Candy III, Dairy shake, Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 2**

Boneless pork rib, New England clam chowder, Pound cake, Wheat snack bread (2 slices), Cheese spread, CHO electrolyte beverage, BBQ sauce, Spoon, ACC PKT-A, FRH

**MENU 3**

Beef ravioli in meat sauce, Fruit (wet pack), Fudge brownie, Cracker (veggie flvr.), Jalapeño cheese spread, Beef snacks, Beverage base (CHO fortified), Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 4**

Cheese & vegetable omelet, Hash browns w/bacon, Toaster pastry, Cracker, Cinnamon scone, Sugar free beverage, Apple butter, Hot sauce, Spoon, ACC PKT-C, FRH

**MENU 5**

Chicken breast filet, Cornbread stuffing, Caramel apple bar, Wheat snack bread, Jalapeño cheese spread, Candy II, French vanilla coffee, Jalapeño ketchup, Spoon, ACC PKT-B, FRH

**MENU 6**

Chicken w/noodles, Chocolate covered sports bar, Cracker, Cheese spread, Candy II, Cocoa beverage, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 7**

Chicken breast strips with salsa, Mexican rice, Shortbread cookie, Cracker (veggie flvr.), Jalapeño cheese spread, Candy II, Mocha coffee, Green pepper hot sauce, Spoon, ACC PKT-B, FRH

**MENU 8**

Grilled beef patty, Mexican macaroni & cheese, Nacho Combos®, Wheat snack bread (2 slices), Bacon cheese spread, Beverage base (CHO fortified), BBQ sauce, Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 9**

Beef stew, HooAH!® Bar, Cracker, Cheese spread, Dairy shake, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 10**

Tuna, Pretzels, Cookie, Tortillas, Candy II, Dairy shake, Fat free mayo, Seasoning blend, Spoon, ACC PKT-C

**MENU 11\***

Vegetable manicotti, Fruit (wet pack), Pound cake, Cracker, Peanut butter, Hazelnut cocoa, Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 12\***

Veggie burger in BBQ sauce, Potato sticks, Fruit (dried), Chocolate banana muffin top, Wheat snack bread (2 slices), CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 13\***

Cheese tortellini, Spiced apples, HooAH!® Bar, Cracker, Chunky peanut butter, Candy II, Sugar free beverage, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 14\***

Penne w/vegetarian sausage in spicy tomato sauce, Fruit (dried), Pound cake, Cracker, Peanut butter, Beverage base (CHO fortified), Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 15**

Beef enchiladas, Refried beans, Cookie, Cracker (veggie flvr.), Jalapeño cheese spread, Beverage base (CHO fortified), Picante sauce, Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 16**

Chicken fajita, Fried rice, Raisin nut mix, Tortillas, Cheese spread, French vanilla coffee, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 17**

Sloppy Joe filling, Tortillas, Cheezits®, Shortbread cookie, Wheat snack bread (2 slices), Jalapeño cheese spread, CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 18**

Meatballs w/marinara, Nuts, Cheddar Combos®, Wheat snack bread (2 slices), Cheese spread, Beverage base (CHO fortified), Pizza seasoning, Spoon, ACC PKT-A, FRH

**MENU 19**

Pot roast w/vegetables, Fruit (dried), Pound cake, Cracker, Chocolate peanut butter spread, Beverage base (CHO fortified), Steak sauce, Spoon, ACC PKT-A, FRH

**MENU 20**

Spaghetti w/meat sauce, Potato sticks, Cherry-blueberry cobbler, Wheat snack bread, Cheese spread, CHO electrolyte beverage, Green pepper hot sauce, Spoon, ACC PKT-A, FRH

**MENU 21**

Chili & macaroni, Fruit (wet pack), Cookie, Wheat snack bread, Jalapeño cheese spread, Candy III, Sugar free beverage, Ground red pepper, Spoon, ACC PKT-C, FRH

**MENU 22**

Chicken w/dumplings, Pound cake, Wheat snack bread, Jelly, Dairy shake, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 23**

Chicken w/cavatelli, Fig bar, Raisin nut mix w/chocolate candies, Wheat snack bread, Bacon cheese spread, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 24**

Meatloaf w/gravy, Mashed potato, Cookie, Cracker, Jelly, Candy I, Cocoa beverage, BBQ seasoning, Spoon, ACC PKT-B, FRH

**PRODUCT PHOTOS:**



MRE™ XXVII ITEMS, MENUS 2 & 22

**PRODUCT NOTES:**

- \* Indicates a vegetarian menu
- **Accessory Packet A:** coffee, cream sub, sugar, salt, gum, matches, tissue, towelette
- **Accessory Packet B:** lemon tea, salt, gum, matches, tissue, towelette
- **Accessory Packet C:** apple cider, salt, gum, matches, tissue, towelette
- **Candy I:** Tootsie® Roll, Walnettos®
- **Candy II:** M&Ms®, Peanut M&Ms®, Reese's Pieces®
- **Candy III:** cinnamon candies, Skittles® (Wild Berry, Tropical)
- The HooAH!® Bar is a registered trademark of the US Army

**PRODUCT PHOTOS:**



**MRE™ XXVIII ITEMS, MENU 5**

**MRE™ FOOD FACT:**

**Mini Tabasco® Sauce**

Mini Tabasco® Sauce is one of the most well-known components of the MRE™. It is also the only glass that is found in any US military ration. Inclusion of the Tabasco® sauce in the first MRE™ proved to be very challenging because it ate through every flexible package that was tested, and it even blew out the bottoms of the glass bottles when those were tested.

The folks at Tabasco® solved the problem, though, and the mini bottle still remains one of the most popular items in the MRE™ today!



**MENU 1**

Chili w/beans, Mexican corn, Cracker, Peanut butter, Jam, Candy III, Dairy shake, Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 2**

Boneless pork rib, New England clam chowder, Raisin nut mix w/M&Ms®, Tortillas, Cheese spread, Beverage base (CHO fortified), BBQ Sauce, Spoon, ACC PKT-A, FRH

**MENU 3**

Beef ravioli in meat sauce, Toaster pastry, Cookie, Cracker (veggie flvr.), Jalapeño cheese spread, Beef snacks, CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-D, FRH

**MENU 4**

Cheese & vegetable omelet, Granola w/blueberries, Cracker, Apple butter, Cinnamon scone, French vanilla coffee, Salsa verde, Spoon, ACC PKT-C, FRH

**MENU 5**

Chicken breast filet, Cornbread stuffing, Caramel Apple bar, Wheat snack bread, Jalapeño cheese spread, Candy II, French vanilla coffee, BBQ Seasoning, Spoon, ACC PKT-B, FRH

**MENU 6**

Chicken w/noodles, Fig bar, Cracker, Cheese spread, Candy II, Cocoa beverage, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 7**

Meatloaf w/gravy, Mashed potato, Cookie, Cracker, Peanut butter, Jelly, Candy I, CHO electrolyte beverage, BBQ sauce, Butter Buds®, Spoon, ACC PKT-B, FRH

**MENU 8**

Grilled beef patty, Mexican macaroni & cheese, Nacho Combos®, Wheat snack bread (2 slices), Bacon cheese spread, Sugar free beverage, BBQ sauce, Spoon, ACC PKT-B, FRH

**MENU 9**

Beef stew, Pound cake, Cracker, Cheese spread, Dairy shake, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 10**

Chili & macaroni, Fruit (wet pack), Toaster pastry, Wheat snack bread, Jalapeño cheese spread, Candy III, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-C, FRH

**MENU 11\***

Vegetable lasagna, Fruit (wet pack), Pound cake, Cracker, Peanut butter, Hazelnut cocoa, Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 12\***

Veggie burger in BBQ sauce, Fruit (dried), Chocolate banana muffin top, Wheat snack bread (2 slices), Beverage base (CHO fortified), Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 13\***

Cheese tortellini, Spiced apples, HooAH!® Bar, Cracker, Chunky peanut butter, Candy II, Sugar free beverage, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 14\***

Penne w/vegetarian sausage in spicy tomato sauce, Fruit (dried) Pound cake, Cracker, Peanut butter, Beverage base (CHO fortified), Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 15**

Beef enchiladas, Refried beans, Cookie, Cracker (veggie flvr.), Jalapeño cheese spread, Beverage base (CHO fortified), Picante sauce, Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 16**

Chicken fajita, Mexican rice , Tortillas, Cheezits®, Cheese spread, Irish cream coffee, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 17**

Sloppy Joe filling, Tortillas, Nut raisin mix, Fudge brownie, Wheat snack bread (2 slices), Jalapeño cheese spread, CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-D, FRH

**MENU 18**

Meatballs w/marinara, Nuts, Cheddar Combos®, Wheat snack bread (2 slices), Cheese spread, Beverage base (CHO fortified), Pizza seasoning, Spoon, ACC PKT-A, FRH

**MENU 19**

Pot roast w/vegetables, Fruit (dried), Pound cake, Cracker, Chocolate peanut butter spread, Cocoa, Steak sauce, Spoon, ACC PKT-A, FRH

**MENU 20**

Spaghetti w/meat sauce, Cherry-blueberry cobbler, Chipotle snack bread, Hot & Spicy Cheezits®, Cheese spread, Sugar free beverage, Green pepper hot sauce, Spoon, ACC PKT-A, FRH

**MENU 21**

Tuna, Tortillas, Cookie, Pretzels, Candy I, Dairy shake, Fat free mayo, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 22**

Chicken w/dumplings, Shortbread cookie, Wheat snack bread, Chunky peanut butter, Jelly, Candy I, Dairy shake, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 23**

Chicken pesto & pasta, Fruit (wet pack), Pudding, Wheat Snack bread, Bacon cheese spread, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 24**

Chicken breast strips w/salsa, Fried rice, Patriotic cookie, Wheat snack bread, Jalapeño cheese spread, Candy II, Mocha coffee, Green pepper hot sauce, Spoon, ACC PKT-B, FRH

**PRODUCT PHOTOS:**



MRE™ XXVIII DAIRY SHAKES & SNACK ITEMS

**PRODUCT NOTES:**

- \* Indicates a vegetarian menu
- **Accessory Packet A:** coffee, cream sub, sugar, salt, gum, matches, tissue, towelette
- **Accessory Packet B:** lemon tea, salt, gum, matches, tissue, towelette
- **Accessory Packet C:** apple cider, salt, gum, matches, tissue, towelette
- **Candy I:** Tootsie® Roll, Choclettos®, chocolate covered coffee beans
- **Candy II:** M&Ms®, Peanut Butter M&Ms®, Reese's Pieces®
- **Candy III:** cinnamon candies, Skittles® (Wild Berry, Tropical), Twizzlers® Nibs® (Cherry Bits)
- The HooAH!® Bar is a registered trademark of the US Army

## PRODUCT PHOTOS:



MRE™ XXIX ITEMS, MENU 18

## MENU 1

Chili w/beans, Mexican corn, Cheese spread, Cracker, Candy III, Dairy shake, Ground red pepper, Spoon, ACC PKT-A, FRH

## MENU 2

Boneless pork rib, Potato cheddar soup, Raisin nut mix w/ chocolate candies, Peanut butter, Tortillas, Jam, BBQ sauce, Beverage base (CHO fortified), Spoon, ACC PKT-A, FRH

## MENU 3

Beef ravioli in meat sauce, Toaster pastry, Cookie, Jalapeño cheese spread, Cracker (veggie flvr.), Beef snacks, CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-D, FRH

## MENU 4

Maple sausage, Granola w/blueberries, Toaster pastry, Apple butter, Cracker, Cinnamon scone, French vanilla coffee, Salsa verde, Spoon, ACC PKT-C, FRH

## MENU 5

Chicken breast filet, Cornbread stuffing, Ranger bar, Jalapeño cheese spread, Wheat snack bread, Candy II, Beverage base (CHO fortified), BBQ seasoning, Spoon, ACC PKT-B, FRH

## MENU 6

Chicken w/noodles, Ranger bar, Cheese spread, Cracker, Candy II, Cocoa beverage, Hot sauce, Spoon, ACC PKT-A, FRH

## MENU 7

Beef brisket, Biscuit, Cookie, Jelly, Cracker, Peanut butter, Candy I, Cocoa beverage, Butter granules, BBQ sauce, Spoon, ACC PKT-B, FRH

## MENU 8

Meatballs w/marinara, Filled pretzels, Cheese spread, Wheat snack bread (2 slices), Nuts, Beverage base (CHO fortified), Pizza seasoning, Spoon, ACC PKT-A, FRH

## MENU 9

Beef stew, Mashed potato, Pound cake, Cheese spread, Cracker, Dairy shake, Hot sauce, Spoon, ACC PKT-A, FRH

## MENU 10

Chili & macaroni, Fruit (wet pack), Cornbread, Jalapeño cheese spread, Cracker, Candy III, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-C, FRH

## MENU 11\*

Vegetable lasagna, Fruit (wet pack), Pound cake, Peanut butter, Wheat snack bread, Hazelnut cocoa, Hot sauce, Spoon, ACC PKT-B, FRH

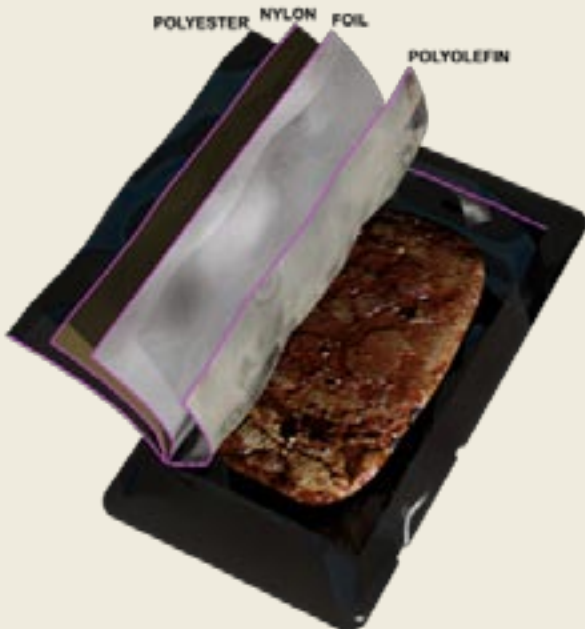
## MENU 12\*

Veggie burger in BBQ sauce, Fruit (dried), Chocolate banana muffin top, Wheat snack bread (2 slices), CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-B, FRH

## MRE™ FOOD FACT:

### Packaging Secrets

How is it that all the components in an MRE™ remain shelf stable for up to 3 years? A large part of each component's shelf stability is due to the packaging in which the food is contained. For example, all MRE™ entrées are composed of a quad-laminate material. This material has four layers — polyester, nylon, foil, and polyolefin — that work together to produce extremely high barrier properties to protect the food against microbial, chemical and physical deterioration under extreme environments. Ongoing research is looking at using a material that will remove the foil and reduce the weight of the packaging.



**MENU 13\***

Cheese tortellini, Spiced apples, First Strike™ Bar, Chunky peanut butter, Cracker, Candy II, Sugar free beverage, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 14\***

Penne w/vegetarian sausage in spicy tomato sauce, Fruit (dried), Pound cake, Peanut butter, Cracker, Beverage base (CHO fortified), Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 15**

Beef enchiladas, Refried beans, Cookie, Jalapeño cheese spread, Cracker (veggie flvr.), Picante sauce, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 16**

Chicken fajita, Mexican rice, Baked snack cracker, Cheese spread, Tortillas, Irish cream Coffee, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 17**

Sloppy Joe filling, Nut raisin mix, Fudge brownie, Jalapeño cheese spread, Wheat snack bread, CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-D, FRH

**MENU 18**

Grilled beef patty, Mexican macaroni & cheese, Filled crackers, Bacon cheese spread, Wheat snack bread (2 slices), BBQ sauce, Beverage base (CHO fortified), Spoon, ACC PKT-B, FRH

**MENU 19**

Pot roast w/vegetables, Fruit (dried), Pound cake, Chocolate peanut butter spread, Cracker, Steak sauce, Beverage base (CHO fortified), Spoon, ACC PKT-A, FRH

**MENU 20**

Spaghetti w/meat sauce, Cherry-blueberry cobbler, Baked snack cracker, Cheese spread, Chipotle snack bread, Sugar free beverage, Green pepper hot sauce, Spoon, ACC PKT-A, FRH

**MENU 21**

Tuna in pouch, Pretzels, Cookie, Tortillas, Candy I, Fat free mayo, Dairy shake, Seasoning blend, Spoon, ACC PKT-C

**MENU 22**

Chicken w/dumplings, French toast cookie, Jelly, Chunky peanut butter, Wheat snack bread, Candy I, Beverage base (CHO fortified), Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 23**

Chicken pesto & pasta, Fruit (wet pack), Pudding, Bacon cheese spread, Wheat snack bread, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 24**

Buffalo chicken, Fried rice, Patriotic cookie, Jalapeño cheese spread, Wheat snack bread, Candy II, Mocha coffee, Spoon, FRH

**PRODUCT PHOTOS:**



MRE™ XXIX ITEMS, MENU 8

**PRODUCT NOTES:**

- \* Indicates a vegetarian menu
- **Accessory Packet A:** coffee, cream sub, sugar, salt, gum, matches, tissue, towelette
- **Accessory Packet B:** lemon tea, salt, gum, matches, tissue, towelette
- **Accessory Packet C:** apple cider, salt, gum, matches, tissue, towelette
- **Accessory Packet D:** coffee, cream sub, sugar sub, salt, gum, matches, tissue, towelette
- **Candy I:** chocolate flavored toffee roll, chocolate flavored toffee cube, chocolate covered coffee beans
- **Candy II:** pan coated discs (chocolate, chocolate w/peanuts, peanut butter)
- **Candy III:** cinnamon candies, fruit flavored discs, licorice bits
- **Cookie types:** chocolate chip, pan coated chocolate discs, toffee crunch, kremsicle, white chocolate raspberry, oatmeal
- **Toaster pastry flavors:** frosted brown sugar cinnamon, chocolate chip

**PRODUCT PHOTOS:**

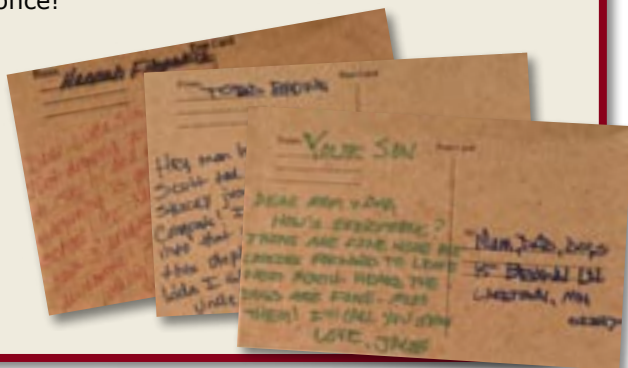


**MRE™ XXX ITEMS, MENUS 5 & 14**

**MRE™ FOOD FACT**

**The MRE™ Post Card**

Keeping in touch with their friends and families at home is very important to our Warfighters. As a direct result of Warfighter innovation and recommendation, the chipboard box that holds certain MRE™ components has found dual use as the MRE™ Post Card. Instead of becoming waste, the back of the chipboard box is printed in the regular post card standard. Warfighters can eat, write, and send, all at once!



**MENU 1**

Chili w/beans, Mexican corn, Cheese spread, Tortillas, Candy III, Dairy shake, Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 2**

Boneless pork rib, Potato cheddar soup, Cookie II, Peanut butter, Jam, Cracker, BBQ Sauce, Beverage Base (CHO fortified), Spoon, ACC PKT-C, FRH

**MENU 3**

Beef ravioli in meat sauce, Toaster pastry, Cookie I, Jalapeño cheese spread, Cracker (veggie flvr.), Beef snacks, Caffeine mints, CHO electrolyte beverage, Hot Sauce, Spoon, ACC PKT-D, FRH

**MENU 4**

Maple sausage, Granola w/blueberries, Toaster pastry, Apple butter, Cracker, Maple griddle cake, Sugar free beverage base w/vitamin C, Table syrup, Spoon, ACC PKT-A, FRH

**MENU 5**

Chicken w/tomato & feta, Cornbread stuffing, Ranger bar, Cracker, Cheese spread, Wheat snack bread, Candy II, French vanilla coffee, BBQ seasoning, Spoon, ACC PKT-B, FRH

**MENU 6**

Chicken w/noodles, Raisin nut mix w/chocolate candies, Cheese spread, Candy II, Beverage base (CHO fortified), Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 7**

Beef brisket, Biscuit, Cookie I, Cheese spread, Cracker, Candy I, Cocoa beverage, Butter granules, BBQ sauce, Spoon, ACC PKT-B, FRH

**MENU 8**

Meatballs w/marinara, Filled pretzels, Cheese spread, Wheat snack bread (2 slices), Nuts, Beverage base (CHO fortified), Pizza seasoning, Spoon, ACC PKT-A, FRH

**MENU 9**

Beef stew, Garlic mashed potatoes, Pound cake, Jelly, Cracker, Peanut butter, French vanilla coffee, Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 10**

Chili & macaroni, Fruit (dried), Cornbread, Jalapeño cheese spread, Cracker, Candy III, Sugar free beverage, Ground red pepper, Spoon, ACC PKT-C, FRH

**MENU 11\***

Vegetable lasagna, Fruit (wet pack), Pound cake, Peanut butter, Wheat snack bread, Hazelnut cocoa, Hot sauce, Spoon, ACC PKT-B, FRH

**MENU 12\***

Veggie burger in BBQ sauce, Fruit (wet pack), Chocolate banana muffin top, First Strike™ Bar, Wheat snack bread (2 slices), CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-A, FRH



**MENU 13\***

Cheese tortellini, Spiced apples, First Strike™ Bar, Chunky peanut butter, Cracker, Candy II, Sugar free beverage, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 14\***

Penne w/vegetarian sausage in spicy tomato sauce, Fruit (dried), Pound cake, Peanut butter, Cracker, Beverage base (CHO fortified), Seasoning blend, Spoon ACC PKT-C, FRH

**MENU 15**

Southwest beef & black beans, Mexican rice, Cookie I, Cheese spread, Cracker (veggie flvr.), Picante sauce, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 16**

Chicken fajita, Refried beans, Baked snack cracker, Cheese spread, Tortillas, Irish cream coffee, Seasoning blend, Spoon, ACC PKT-C, FRH

**MENU 17**

Sloppy Joe filling, Nut raisin mix, Fudge brownie, Jalapeño cheese spread, Wheat snack bread, CHO electrolyte beverage, Hot sauce, Spoon, ACC PKT-D, FRH

**MENU 18**

Grilled beef patty, Mexican macaroni & cheese, Filled crackers, Bacon cheese spread, Wheat snack bread (2 slices), BBQ sauce, Beverage base (CHO fortified), Spoon, ACC PKT-B, FRH

**MENU 19**

Pot roast w/vegetables, Fruit (dried), Pound cake, Chocolate peanut butter spread, Cracker, Steak sauce, Cocoa, Spoon, ACC PKT-A, FRH

**MENU 20**

Spaghetti w/meat sauce, Cherry-blueberry cobbler, Baked snack cracker, Cheese spread, Chipotle snack bread, Candy III, Sugar free beverage, Green pepper hot sauce, Spoon, ACC PKT-A, FRH

**MENU 21**

Tuna, Pretzels, Cookie I, Tortillas, Candy I, Fat free mayo, Dairy shake, Seasoning blend, Spoon, ACC PKT-C

**MENU 22**

Chicken w/dumplings, Cinnamon roll, Jelly, Chunky peanut butter, Wheat snack bread, Candy I, Sugar free beverage base w/multi vitamins, Hot sauce, Spoon, ACC PKT-A, FRH

**MENU 23**

Chicken pesto & pasta, Fruit (wet pack), Pudding, Bacon cheese spread, Wheat snack bread, Beverage base (CHO fortified), Ground red pepper, Spoon, ACC PKT-A, FRH

**MENU 24**

Buffalo chicken, Fried rice, Cookie II, Jalapeño cheese spread, Wheat snack bread, Candy II, Mocha coffee, Spoon, ACC PKT-B, FRH

**PRODUCT PHOTOS:**



MRE™ XXX CANDY ITEMS

**PRODUCT NOTES:**

- \* Indicates a vegetarian menu
- **Accessory Packet A:** coffee, cream sub, sugar, salt, gum, matches, tissue, towelette
- **Accessory Packet B:** lemon tea, salt, gum, matches, tissue, towelette
- **Accessory Packet C:** apple cider, salt, gum, matches, tissue, towelette
- **Accessory Packet D:** coffee, cream sub, sugar sub, salt, gum, matches, tissue, towelette
- **Candy I:** chocolate flavored toffee roll, chocolate flavored toffee cube, chocolate covered coffee beans
- **Candy II:** pan coated discs (chocolate, chocolate w/peanuts, peanut butter), pan coated flat bottom tear drops
- **Candy III:** fruit flavored discs, licorice bits, peppermint mint, wintergreen mint
- **Cookie Types I:** chocolate chip, pan coated chocolate discs, toffee crunch, kremsicle, white chocolate raspberry, oatmeal
- **Cookie Types II:** Brownie, French toast, Patriotic
- **Toaster pastry flavors:** strawberry, frosted brown sugar cinnamon, chocolate chip, French toast

**MRE™ IMPROVEMENTS, 2004-2010**

**MRE™ XXV – 2005 PRODUCTION**

**ITEMS IN:**

Penne w/vegetarian sausage in spicy tomato sauce, Sloppy Joe filling, Chicken fajita, Cheese & vegetable omelet, Tortillas, Hash browns w/bacon, Smoke house almonds, Cheezits®, Raisins (osmotically dried), White chocolate raspberry cookie, Strawberry Pop Tarts®, Cinnamon scone, Cherry-blueberry cobbler, Beverage base (CHO fortified), CHO electrolyte beverage, Hot beverage bag, Jalapeño ketchup, Steak sauce

**ITEMS OUT:**

Pasta w/vegetables in tomato sauce, Country Captain chicken, Oriental chicken, Beef teriyaki, Beverage base

**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/M&M's®, Caramel apple bar, Frosted Brown Sugar Cinnamon Pop Tarts®, Chocolate banana muffin top, Xylitol gum, Chocolate hazelnut cocoa, Fat free mayo, Chocolate peanut butter spread, Reese's Pieces®

**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, Skittles® (Wild Berry & Tropical), Marble pound cake, Green Pepper Tabasco™ Sauce, Seasoning packets (BBQ & Pizza), Apple butter, Chunky peanut butter, Reese's Pieces®

**ITEMS OUT:**

Jambalaya, Cajun rice w/sausage, Yellow & wild rice

**MRE™ XXVIII – 2008 PRODUCTION**

**ITEMS IN:**

Chicken pesto & pasta, Vegetable lasagna, Granola w/blueberries, Vanilla & chocolate pudding (instant), Pop Tarts® (chocolate chip & French toast), Chipotle snack bread, Choclettos®, Twizzler® Nibs® (Cherry Bits), Chocolate covered coffee beans, Patriot cookies, Hot & Spicy Cheezits®, Irish cream coffee, Strawberry-banana dairy shake, Salsa verde, Butter Buds®

**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, French toast cookie, Filled cracker (pepperoni & cheddar flavors), Sucralose sweetener

**ITEMS OUT:**

Chicken breast strips w/salsa, Cheese & vegetable omelet, Meatloaf w/brown onion gravy, 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 griddle cake, Pan coated flat-bottom tear drops, Mint (peppermint), Mint (wintergreen), Mint (caffeine), Cinnamon roll, Cookie (brownie flavor), Table syrup, Sugar free beverage base (w/vitamin C)

**ITEMS OUT:**

Grilled chicken breast, Beef enchilada, Mashed potato

**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, Granola w/bananas, Corn nuts, Turkey bites, Apple cinnamon muffin tops, Hot sauce powder, Mustard powder, Hot sauce (pouch), Buffalo Bob's Everything Sauce® (pouch), Sugar free spice apple cider, Sugar free raspberry lemonade w/fiber, Electrolyte beverage (lemon lime, orange)

**ITEMS OUT:**

Tuna (white albacore), Chicken & dumplings, Veggie grillers, Mexican corn, Wheat snack bread



**MRE™ XXV "IN" ITEM: SLOPPY JOE FILLING WITH TORTILLAS, TABASCO® SAUCE & CHEESE SPREAD**

## PRODUCT PHOTOS:



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

## WHAT IS A UGR?™

The Unitized Group Ration™ (UGR™) streamlines the process of providing the highest quality group feeding to Warfighters in the field. The UGR™ family consists of the UGR-Heat & Serve™ (UGR-H&S™), UGR-A™, UGR-B™, and the UGR-Express™ (UGR-E™). UGRs™ are generally available to Warfighters within 15-30 days of deployment, providing increased variety to daily subsistence and the enjoyment of having a hot meal within a group setting.

## WHAT ARE THE BENEFITS OF THE UGR?™

Before the UGR™ was introduced in the mid-1990s, cooks had to order an average of 34 items per group meal and hope that all the items arrived to the field location together. The primary benefit of the UGR™ is that it “unitizes” all the items needed for one meal together into one or two stock order items that cooks can order with the assurance that all items will arrive together. One UGR™ module packages the entrée, starch, vegetables, desserts, drink mixes, condiments, spices and other ingredients along with disposable trays, cups, flatware, and trash bags into fiberboard boxes.

Mandatory supplement boxes of bread, UHT milk, and cold cereal are ordered along with each UGR™ module, augmenting menus with additional nutrients. Enhancements of fresh fruits and salads can also provide extra calories, increased nutrition, and more variety for Warfighters. All food components of the UGR™ are OTSG approved.

The concept of “unitization” has decreased the amount of administrative tasks and preparation time cooks must spend on each meal, enabling them to use the extra time to add their own spices or garnishes to meals for higher presentation quality.

In the earliest stages of deployment, the MRE™ is versatile and nutritionally adequate enough to provide a Warfighter’s only subsistence each day. However, as soon as field kitchens can be set up and cooks can begin preparing hot meals, the UGR™ provides increased variety to Warfighters. Feedback from troops over many years has told us time and time again that there is a huge intangible benefit of being able to relax in a group setting and enjoy a hot meal. The UGR™ provides this capability.

## COMMENTS:

The UGR™ is part of the DoD CFD’s Continuous Product Improvement process under the Fielded Group Ration Improvement Project. The UGR-H&S™, UGR-A™, and UGR-E™ all undergo annual field testing with Warfighters to ensure that their tastes and needs are being met. The UGR-B™ also undergoes frequent evaluation with Warfighters. Highly acceptable items are incorporated into UGR™ menus to increase variety. An emphasis is also placed on including commercial products in menus as often as possible in order to promote increased consumer acceptance.

### PURPOSE:

The UGR-H&S™ is generally the first group ration made available to Warfighters in theater, utilized in combination with the MRE™ for daily feeding. The objective of the UGR-H&S™ is to decrease inventory-carrying costs and simplify the ordering, distribution, and logistical process while providing Warfighters with top-quality, easy to prepare meals.

### CHARACTERISTICS:

The UGR-H&S™ is designed to be the first group meal provided to Warfighters in early deployment where field kitchens without refrigeration capability are available. For that reason, all components of the ration are pre-cooked and are shelf stable for up to 18 months at 80°F (27°C). One of the primary components in this ration is the polymeric tray container, which is the primary shelf stable food component in the UGR-H&S™. These trays contain entrées, side dishes, and desserts that are pre-prepared and thermally processed or baked, allowing a critical reduction in preparation time. The food is hermetically sealed within the trays and can be heated by simply submerging the tray in boiling water for 30-45 minutes. These containers provide great functionality as well, as they can be used as serving trays.

There are 3 breakfast and 14 lunch/dinner menus available for this ration. One module of the UGR-H&S™ is designed as a self-contained menu, unitized into 3 fiber-board cartons that include food components, disposables (serving trays and utensils), and trash bags. A single UGR-H&S™ module feeds 50 Warfighters, and one pallet contains 8 modules, or 400 meals.

### NUTRITIONAL DATA:

Including mandatory supplements (see product notes on menus), each meal provides an average of 1,450 calories (10% protein, 35% fat, 55% carbohydrate).

### PREPARATION REQUIREMENTS:

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

### COMMENTS:

The UGR-H&S™ can constitute between 40-60% of a Warfighter's daily subsistence. It is designed to be used in a "theater ration mix" with individual rations and other group rations.

This ration 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.

### PRODUCT PHOTOS:



UGR-H&S™ MENU 13 ITEMS

**BREAKFAST:**

**MENU 1**

Scrambled eggs (butter flavored, dehydrated, Boil-in-Bag, Pork sausage links, Creamed ground beef, Hash browns\*\* (Army/Air Force), Breakfast cake w/maple syrup, Grits, Blueberry dessert, Salsa, Grape jelly, Orange juice, Irish cream cappuccino

**MENU 2**

Scrambled eggs (butter flavored, dehydrated, BIB), Shelf stable bacon, Creamed ground sausage, Cheesy ham & potatoes, Spice cake, Oatmeal, Apple dessert, Jalapeño ketchup, Strawberry jam, Grape juice, Hot cocoa

**MENU 3**

Scrambled eggs (butter flavored, dehydrated, BIB), Ham slices, Corned beef hash, Hash browns\*\* (Army/Air Force), Walnut tea cake, Grits, Peaches, Ketchup, Grape jelly, Orange juice, French vanilla cappuccino

**PRODUCT PHOTOS:**



**UGR-H&S™ DESSERT,  
CHOCOLATE CHIP MACAROONS**

**PRODUCT NOTES:**

- **\* Indicates a Split Entrée Menu**
- **\*\*Marine Corps does not have the capability to prepare this item**
- **Breakfast Menus** include coffee and non-dairy creamer with mandatory supplements of two 8 oz. UHT milks 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. Odd numbered menus include peanut butter and grape jelly/strawberry jam. Enhancements include two slices of bread, fresh fruits, and salad when possible.

**LUNCH/DINNER:**

**MENU 1\***

BBQ pulled pork, Chili dog, Hamburger buns, Green beans, Spice cake, Applesauce, Lemonade

**MENU 2**

Turkey cutlets w/gravy, Mashed potatoes w/poultry gravy, Cornbread w/sausage stuffing, Mixed vegetables, M&M's®, Caramel chocolate chip cookies, Iced tea

**MENU 3**

Chili, White rice, Corn, Lemon cake, Pears, Lemonade

**MENU 4**

Tacos (beef taco filling, tortillas, jalapeño cheese spread), Corn, Dulce de leche cake, Fruit cocktail, Pink lemonade, Salsa or picante sauce

**MENU 5**

Mexican chili mac, Zucchini w/tomatoes, Devil's fudge cake, Cherry dessert, Grape drink

**MENU 6**

Spaghetti w/meatballs, Green beans, Butterscotch pudding, Peaches, Iced tea

**MENU 7\***

Buffalo chicken, Lemon pepper chicken, Brown rice, Corn, Walnut tea cake, Fruit cocktail, Lemonade

**MENU 8**

Burgundy beef stew, White rice, Green beans, Devil's fudge cake, Peaches, Lemonade

**MENU 9**

Pasta & sausage, Zucchini w/tomatoes, Reese's Pieces®, Caramel chocolate chip cookie, Pears, Orange drink

**MENU 10**

Chicken breasts w/gravy, Wild rice pilaf, Mixed vegetables, Walnut tea cake, Fruit cocktail, Cherry drink, Cranberry sauce

**MENU 11**

BBQ pork ribs, Macaroni & cheese, Hamburger buns, Green beans, Chocolate chip macaroon, Apple dessert, Orange drink

**MENU 12**

Beef pot roast w/gravy, Mashed potatoes, Mixed vegetables, Lemon cake, Peaches, Iced tea

**MENU 13\***

Sweet & sour pork, Szechwan chicken, White rice, Carrots, Spice cake, Pineapple chunks, Lemonade

**MENU 14**

Meatballs w/gravy, Red beans & rice (improved), Green beans, M&M's®, Tapioca pudding, Orange drink

**BREAKFAST:**

**MENU 1**

Scrambled eggs (butter flavored, dehydrated, Boil-in-Bag), Pork sausage links, Creamed ground beef, Hash browns\*\* (Army/Air Force), Breakfast cake w/maple syrup, Grits, Blueberry dessert, Salsa, Grape jelly, Orange juice, Irish cream cappuccino

**MENU 2:**

Scrambled eggs (butter flavored, dehydrated, BIB), Shelf stable bacon, Creamed ground sausage, Cheesy ham & potatoes, Spice cake, Oatmeal, Apple dessert, Jalapeño ketchup, Strawberry jam, Grape juice, Hot cocoa

**MENU 3:**

Scrambled eggs (butter flavored, dehydrated, BIB), Ham slices, Corned beef hash, Hash browns\*\* (Army/Air Force), Walnut tea cake, Grits, Peaches, Ketchup, Grape jelly, Orange Juice, French vanilla cappuccino

**LUNCH/DINNER:**

**MENU 1\***

BBQ pulled pork, Beef chili dogs, Hoppin' John seasoned black eye peas w/bacon, Hamburger buns, Spice cake with icing, Lemonade, Peanut butter, Grape jelly

**MENU 2**

Turkey cutlets w/gravy, Carrots, Cranberry sauce, Mashed potato & poultry gravy, Cornbread w/sausage stuffing, Chocolate pan coated discs, Caramel chocolate chip cookies, Iced tea

**MENU 3**

Mexican chili macaroni, Green beans, Devil's fudge cake w/chocolate icing, Cherry dessert, Orange drink, Peanut butter, Strawberry jam

**MENU 4**

Chicken breast in gravy, Corn, Wild rice pilaf, Cranberry sauce, Lemon cake w/lemon icing, Fruit cocktail, Cherry drink

**MENU 5**

BBQ pork ribs, Macaroni & cheese, Hamburger buns, Green beans, Chocolate chip macaroon, Apple dessert, Orange drink

**MENU 6**

Spaghetti w/meatballs, Green beans, Chocolate pan coated discs, Chocolate pudding, Peaches, Iced tea

**MENU 7\***

Buffalo chicken, Lemon pepper chicken, Brown rice, Corn, Walnut tea cake, Fruit cocktail, Lemonade

**MENU 8**

Burgundy beef stew, Green beans, White rice, Vanilla cake w/chocolate icing, Peaches, Lemonade

**MENU 9**

Pasta & sausage, Mixed vegetables, Peanut butter pan coated discs, Caramel chocolate chip cookie, Fruit cocktail, Orange drink

**MENU 10\***

Chili, Chicken tamale, Corn, White rice, Cornbread, Apple dessert, Pink Lemonade

**MENU 11**

Chicken pot pie, Green beans, Mashed potatoes w/poultry gravy, Biscuits, Chocolate cake w/chocolate frosting, Grape drink

**MENU 12**

Roasted beef w/gravy, Peas & carrots, Mashed potatoes w/brown gravy, Vanilla cake w/white icing, Peaches, Iced tea

**MENU 13\***

Sweet & sour pork cutlets, Szechwan Chicken, Carrots, White rice, Devil's fudge cake w/white icing, Fruit cocktail, Lemonade

**MENU 14\***

Tacos (beef taco filling, tortillas, jalapeño cheese spread), Pork carnitas, Corn, White rice, Dulce de leche cake, Salsa/Picante sauce, Orange drink

**PRODUCT PHOTOS:**



**UGR-H&S™ BREAKFAST CAKES:  
WALNUT TEA CAKE ('09), BREAKFAST CAKE ('09), & BLUEBERRY CAKE ('10)**

**PRODUCT NOTES:**

- **\*Indicates a Split Entrée Menu**
- **\*\*Marine Corps does not have the capability to prepare this item**
- **Breakfast Menus** include coffee and non-dairy creamer with mandatory supplements of two 8 oz. UHT milks 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. Odd numbered menus include peanut butter and grape jelly/strawberry jam. Enhancements include two slices of bread, fresh fruits, and salad when possible.

**PRODUCT PHOTOS:**



**UGR-H&S™ LUNCH/DINNER MENU 7 ITEMS**

**BREAKFAST:**

**MENU 1**

Scrambled eggs (butter flavored, dehydrated, Boil-in-Bag), Pork sausage links, Creamed ground beef, Hash browns\*\* (Army/Air Force), Breakfast cake w/maple syrup, Grits, Blueberry dessert, Salsa, Grape jelly, Orange juice, Irish cream cappuccino

**MENU 2**

Scrambled eggs (butter flavored, dehydrated, BIB), Shelf stable bacon, Creamed ground beef, Cheesy ham & potatoes, Apple cinnamon scones w/icing, Oatmeal, Apple dessert, Jalapeño ketchup, Strawberry jam, Grape juice, Hot cocoa

**MENU 3**

Scrambled eggs (butter flavored, dehydrated, BIB), Ham slices, Corned beef hash, Hash browns\*\* (Army/Air Force), Blueberry breakfast cake, Grits, Peaches, Ketchup, Grape jelly, Orange Juice, French vanilla cappuccino

**PRODUCT NOTES:**

- **\*Indicates a Split Entrée Menu**
- **\*\*Marine Corps does not have the capability to prepare this item**
- **Breakfast Menus** include coffee and non-dairy creamer with mandatory supplements of two 8 oz. UHT milks 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. Odd numbered menus include peanut butter and grape jelly/strawberry jam. Enhancements include two slices of bread, fresh fruits, and salad when possible.

**LUNCH/DINNER:**

**MENU 1\***

BBQ pulled pork, Beef chili dogs, Hoppin' John seasoned black eye peas w/bacon, Hamburger buns, Spice cake with icing, Lemonade

**MENU 2**

Turkey cutlets w/gravy, Carrots, Cranberry sauce, Mashed potato & poultry gravy, Sausage cornbread, Stuffing, Chocolate pan coated discs, Caramel chocolate chip cookies, Iced tea, Sugar free lemon-lime electrolyte beverage

**MENU 3**

Mexican chili macaroni, Green beans, Devil's fudge cake w/chocolate icing, Cherry dessert, Orange drink

**MENU 4**

Chicken breast in gravy, Corn, Wild rice pilaf, Cranberry sauce, Lemon cake w/lemon icing, Fruit cocktail, Cherry drink, Sugar free cranberry-pomegranate beverage

**MENU 5**

Turkey tetrazzini, Mixed vegetables, Chocolate chip macaroons, Pears, Grape drink

**MENU 6**

Spaghetti w/meatballs, Green beans, Chocolate pan coated discs, Chocolate pudding, Peaches, Iced tea, Sugar free fruit punch electrolyte beverage

**MENU 7\***

Buffalo chicken, Chicken stir-fry, Corn, Brown rice, Walnut tea cake, Fruit cocktail, Lemonade

**MENU 8**

Burgundy beef stew, Green beans, White rice, Vanilla cake w/chocolate icing, Peaches, Lemonade, Sugar free fruit punch electrolyte beverage

**MENU 9**

Pasta & sausage, Mixed vegetables, Peanut butter pan coated discs, Caramel chocolate chip cookie, Fruit cocktail, Orange drink

**MENU 10\***

Chili, Chicken tamales, Corn, White rice, Cornbread, Apple dessert, Pink Lemonade, Sugar free cranberry-pomegranate beverage

**MENU 11**

Chicken pot pie, Green beans, Mashed potatoes w/poultry gravy, Biscuits, Chocolate cake w/chocolate frosting, Grape drink

**MENU 12**

Roasted beef w/gravy, Peas & carrots, Mashed potatoes w/brown gravy, Vanilla cake w/white icing, Peaches, Iced tea, Sugar free lemon-lime electrolyte beverage

**MENU 13\***

Sweet & sour pork cutlets, Szechwan Chicken, Carrots, White rice, Devil's fudge cake w/white icing, Fruit cocktail, Lemonade

**MENU 14\***

Tacos (beef taco filling, tortillas, jalapeño cheese spread), Pork carnitas, Corn, White rice, Dulce de leche cake, Salsa/Picante sauce, Orange drink, Sugar free blueberry tea tubes

## UGR-H&S™ IMPROVEMENTS (2008 -2010)

### 2008 PRODUCTION

#### ITEMS IN:

**Breakfast:** Scrambled eggs (BIB, butter flavored), Shelf stable bacon, Ham slices in brine, Creamed ground sausage, Hash browns (Army/AF), Hominy grits, Spice cake, Walnut tea cake, Oatmeal

**Lunch/Dinner:** Beef pot roast w/gravy, Szechwan chicken, Turkey cutlets w/gravy, BBQ pulled pork, Chili dogs, Hamburger buns, Tacos (beef taco filling, tortillas, jalapeño cheese spread) Mexican chili macaroni, Burgundy beef stew, Peas & carrots, Wild rice pilaf, Brown rice, Caramel chocolate chip cookies, Lemon cake, Spice cake, Dulce de leche cake, M&Ms®, Reese's Pieces®

#### ITEMS OUT:

**Breakfast:** All tray eggs (except scrambled, plain for MC), Omelet w/ham & potato, Omelet w/sausage & potato, Turkey sausage links, Pork sausage in gravy, Waffles (plain, blueberry, & apple cinnamon), Cinnamon scones w/icing, Blueberry scones, Coffee cake, Raspberry swirls, Fruit salad, Pears

**Lunch/Dinner:** Turkey slices w/gravy, Brownie w/M&Ms®, Lemon crunch cake, Beef chunks w/noodles, Chocolate peanut butter chip cookies, Country Captain chicken, Beef stew, Blondie brownie, Spaghetti pizza bake, Butterscotch chip cookies, Chicken & dumplings, Butterfinger® brownie

### 2009 PRODUCTION

#### ITEMS IN:

**Breakfast:** 2010 In Items may be available for 2009 Production

**Lunch/Dinner:** Buffalo chicken, Chicken tamales, Chicken pot pie, Sweet & sour pork cutlets, Pork carnitas, Hoppin' John seasoned black eye peas w/ bacon, Cornbread, Biscuits, Chocolate pudding, Caramel chocolate chip cookies, Vanilla cake (w/ chocolate or white icing)

#### ITEMS OUT:

**Breakfast:** 2010 Out Items may be removed in 2009 Production

**Lunch/Dinner:** Sweet & sour pork, Meatballs w/gravy, Zucchini w/tomatoes, Red beans & rice, Applesauce, Pineapple chunks, Caramel chocolate chip cookies, Butterscotch pudding, Tapioca pudding

### 2010 PRODUCTION

#### ITEMS IN:

**Breakfast:** Apple cinnamon scones w/icing, Blueberry breakfast cake

**Lunch/Dinner:** Turkey tetrazzini, Chicken stir-fry, Sugar free blueberry tea tubes, Sugar free electrolyte beverages (cranberry-pomegranate, fruit punch, lemon-lime)

#### ITEMS OUT:

**Breakfast:** Walnut tea cake, Spice cake

**Lunch/Dinner:** Lemon pepper chicken, BBQ pork ribs, Macaroni & cheese, Caramel chocolate chip cookies

### 2011 PRODUCTION

#### ITEMS IN:

**Breakfast:** Breakfast steak au jus, Cream gravy w/ beef & potato

**Lunch/Dinner:** Cuban garlic beef, Beef steak au jus, Coconut sweet potato casserole, Santa Fe rice & beans, Corn & tomato casserole, Banana nut cake, Cranberry white chocolate chip cookies, Red velvet cake, Cranberry orange cake, Peanut butter chip cookies, Oatmeal chocolate chip cookies, Chile lime hot sauce, Sweet & spicy hot sauce

#### ITEMS OUT:

**Breakfast:** Corned beef hash, Cream gravy w/beef

**Lunch/Dinner:** Mexican chili macaroni, Szechwan chicken, Cornbread & sausage stuffing



TOP: CHICKEN TAMALES ('09);  
BOTTOM: TURKEY TETRAZZINI ('10)



**PRODUCT PHOTOS:**



**UGR-A™ PREPARATION IN FIELD KITCHEN**



**UGR-A™ SERVING LINE IN FIELD**

**PURPOSE:**

The UGR-A™ is designed to provide high quality, fresh-like 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 daily subsistence (in combination with other group and individual rations). 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 additional variety and high quality food to Warfighters. The UGR-A™ order is placed through DSCP, which orders the ration directly from the vendor, where it is assembled and shipped. One module is assembled in three fiberboard cartons, two with semi-perishable foods stored at 80° F (27° C) and one with perishable foods stored at 0° F (18° C). Condiments, preparation instructions, serving utensils, and trash bags are included in the cartons. The ration has a 2-10 day order ship time and a 3 month remaining shelf life for CONUS deliveries and a 45-75 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 10 modules, or 500 meals.

- **Average Weight/Module:** 100 pounds (45 kg)
- **Cube/Module:** 5.25 cubic feet (.15 cubic meters)

**NUTRITIONAL DATA:**

Including supplements (see product notes on menus), each meal provides an average of 1,450 calories (10% protein, 35% fat, 55% carbohydrate).

**PREPARATION REQUIREMENTS:**

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

**COMMENTS:**

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**

**Frozen:** Ranchero beef steak, Queso sauce, Potatoes w/chorizo, Egg taco w/cheese & vegetables, Cinnamon twists, Orange juice

**Shelf Stable:** Eggs (dehydrated, Boil-in-Bag), Grits, Assorted oatmeal (indiv. packets), Grape jelly, French vanilla cappuccino, Hot sauce, Ketchup, Salsa, Minced onions, Butter Buds®, Vegetable oil

**MENU 2**

**Frozen:** Bacon, Omelet kit (onions, peppers, ham & cheese), Pancake, Egg & sausage sandwich, Powdered sugar donut

**Shelf Stable:** Eggs (dehydrated, BIB), Hash browns, Assorted grits (indiv. packets), Strawberry jam, Apple juice, Cocoa, Hot sauce, Jalapeño ketchup, Minced onions, Vegetable oil

**MENU 3**

**Frozen:** Breakfast steak, Peppers & onions, Creamed ground sausage, Buttermilk biscuit, Blueberry pancake & pork sausage stick, Orange juice

**Shelf Stable:** Eggs (dehydrate, BIB), Brown Sugar Frosted Pop Tarts®, Hash browns, Assorted oatmeal (indiv. packets), Grape jelly, Irish cream cappuccino, Hot sauce, Ketchup, Steak sauce, Steak seasoning, Minced onions, Vegetable oil

**MENU 4**

**Frozen:** Bacon, Corned beef hash, Waffle, Coffee cake muffin

**Shelf stable:** Eggs (dehydrated, BIB), Almond biscotti, Grits, Assorted oatmeal (indiv. packets), Grape jelly, Grape drink, French vanilla cappuccino, Hot sauce, Ketchup, Maple syrup, Cinnamon maple sprinkles, Butter Buds®

**MENU 5**

**Frozen:** Pork sausage (brown & serve), Creamed ground beef, Buttermilk biscuit, Assorted mini Danish, Orange juice

**Shelf Stable:** Eggs (dehydrated, BIB), Hash browns, Assorted grits (indiv. packets), Strawberry jam, Cocoa, Hot sauce, Ketchup, Vegetable oil

**MENU 6**

**Frozen:** Maple sausage patty, Chorizo breakfast wrap, French toast, Blueberry muffin, Cran-orange juice

**Shelf Stable:** Eggs (dehydrated, BIB), Hash browns, Assorted oatmeal (indiv. packets), Strawberry jam, Cocoa, Hot sauce, Ketchup, Maple syrup, Minced onions

**MENU 7**

**Frozen:** Bacon, Cheddar sausage gravy, Buttermilk biscuit, Cinnamon bagel w/maple flavored cream cheese

**Shelf Stable:** Eggs (dehydrated, BIB), Blueberry Frosted Pop Tarts®, Hash browns, Assorted oatmeal (indiv. packets), Strawberry jam, Grape drink, Cocoa, Hot sauce, Ketchup, Mined onions, Vegetable oil

**PRODUCT PHOTOS:**



**COOK PREPARING BIB EGGS**



**UGR-A™ LUNCH/DINNER MENU 13 ITEMS**

**LUNCH/DINNER:****MENU 1****Frozen:** Chicken parmesan, Italian lemon cake**Shelf Stable:** Spaghetti sauce, Ziti, Italian green beans, Chocolate pudding, Lemon Lime Gatorade®, Hot sauce, Italian seasoning, Parmesan cheese, Butter Buds®**MENU 2****Frozen:** Beef hamburgers, Hot dogs, Potato wedges**Shelf Stable:** Baked beans, Confetti cupcakes, Peaches, Pink lemonade, Sugar free peach iced tea tubes, Hot sauce, Steak seasoning, BBQ spice, Minced onions, Ketchup, Mustard, Relish**MENU 3****Frozen:** Pork in BBQ sauce, Beef brisket w/BBQ sauce, Cornbread (plain & jalapeño)**Shelf Stable:** Macaroni & cheese, Ranch beans, Reese's Pieces®, Orange Gatorade®, Hot sauce**MENU 4****Frozen:** Turkey cutlets w/gravy**Shelf Stable:** Herb & butter mashed potatoes, Sweet potatoes, Cornbread stuffing, Peas, White chocolate macadamia nut cookies, Mixed fruit, Cranberry sauce, Iced tea, Sugar free lemonade tubes, Hot sauce, Poultry seasoning, Vegetable seasoning, Butter Buds®**MENU 5****Frozen:** Chinese beef & vegetables, Chocolate cake w/ white frosting**Shelf Stable:** White rice, Corn, Pineapple, Mixed Berry Gatorade®, Hot sauce, Soy sauce, Vegetable seasoning, Butter Buds®**MENU 6****Frozen:** Shrimp scampi w/pasta, Chicken & broccoli w/ penne**Shelf Stable:** Peas, Oatmeal cookies, M&M's®, Fruit cocktail, Peach iced tea, Sugar free raspberry iced tea tubes, Hot sauce, Parmesan cheese, Vegetable seasoning, Butter Buds®**MENU 7****Frozen:** Grilled steak, Peppers & onions, Chocolate chunk brownie**Shelf Stable:** Mashed potatoes, Gravy, Green beans, Vanilla pudding, Lemon Lime Gatorade®, Steak sauce, Steak seasoning, Vegetable seasoning, Vegetable oil, Butter Buds®**MENU 8****Frozen:** Rotisserie chicken, Carrot cake**Shelf Stable:** Chicken gravy, Au gratin potatoes, Corn, Chocolate pudding, Grape drink, Sugar free peach iced tea tubes, Hot sauce, Paprika, Vegetable seasoning, Butter Buds®**MENU 9****Frozen:** Meatballs in marinara sauce, Pizza roll, White cake w/chocolate frosting**Shelf Stable:** Spaghetti, Italian style green beans, Butterscotch pudding, Fruit Punch Gatorade®, Parmesan cheese, Hot sauce, Italian seasoning, Vegetable seasoning, Butter Buds®**MENU 10****Frozen:** Chicken fajitas, Tortillas, Jelly roll**Shelf Stable:** Mexican rice, Corn, Pears, Peach iced tea, Sugar free lemonade tubes, Hot sauce, Salsa, Vegetable seasoning, Butter Buds®**MENU 11****Frozen:** Meatloaf w/BBQ sauce, Chocolate chunk cookies**Shelf Stable:** Mashed potatoes w/skins, Gravy, Peas, Cherry mixed fruit, Mixed Berry Gatorade®, Hot sauce, Paprika, Vegetable seasoning, Butter Buds®**MENU 12****Frozen:** Asian chili garlic chicken, Turtle brownie**Shelf Stable:** White rice, Corn, Pineapple, Iced tea, Sugar free raspberry ice tea tubes, Hot sauce, Soy sauce, Vegetable seasoning, Butter Buds®**MENU 13:****Frozen:** Pot roast, Apple pie slice**Shelf Stable:** Garlic mashed potatoes w/gravy, Peas & carrots, Vanilla pudding, Fruit Punch Gatorade®, Hot sauce, All purpose seasoning, Vegetable seasoning, Butter Buds®**MENU 14:****Frozen:** Pork chop w/apple cornbread stuffing, Chocolate caramel bar w/Snickers®**Shelf Stable:** Rice pilaf, Pork gravy, Green beans, Apple-sauce, Lemonade, Sugar free peach iced tea tubes, Hot sauce, Vegetable seasoning, Butter Buds®**PRODUCT NOTES:**

- **\*Indicates a Split Entrée Menu**
- **Breakfast Menus** include coffee, nondairy creamer, ketchup, hot sauce, vegetable oil, salt and pepper and are supplemented with two 8 oz. UHT milks 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 per individual. Odd number menus also include peanut butter, jam/jelly. Enhancements include two slices of bread, fresh fruit, and salad when possible.

**BREAKFAST:**

**MENU 1**

**Frozen:** Orange juice, Ranchero beef steak, Queso sauce, Egg taco w/cheese & vegetable, Cinnamon roll w/icing

**Shelf Stable:** Eggs (dehydrated, Boil-in-Bag), Chocolate toaster pastry sticks, French vanilla cappuccino, Grape jelly, Hot sauce, Minced onions, Ketchup, Salsa, Vegetable oil, Butter granules, Assorted oatmeal (indiv. packets)

**MENU 2**

**Frozen:** Apple juice, Pork chop, Creamed ground beef, Assorted mini Danish

**Shelf Stable:** Eggs (dehydrated, BIB), French toast cookie, Hash browns, Cocoa, Strawberry jam, Hot sauce, Grits, Ketchup, Vegetable oil, Butter granules, Caffeinated sugar free cranberry beverage

**MENU 3**

**Frozen:** Orange juice, Breakfast steak (peppers & onions), Southwest skillet potatoes, French toast sausage taquito, Chocolate chocolate chip muffin

**Shelf Stable:** Eggs (dehydrated, BIB), Irish cream cappuccino, Grape jelly, Hot sauce, Minced onions, Ketchup, Steak sauce, Steak seasoning), Vegetable oil, Assorted oatmeal (indiv. packets)

**MENU 4**

**Frozen:** Grape juice, Coffee cake muffin

**Shelf Stable:** Eggs (dehydrated, BIB), Shelf stable bacon, Strawberry waffle cookie, French vanilla cappuccino, Grape jelly, Hot sauce, Ketchup, Maple syrup, Butter granules, Vegetable oil, Assorted oatmeal (indiv. packets)

**MENU 5**

**Frozen:** Orange juice, Omelet kit (onions, peppers, ham & cheese), Blueberry pancake, Powdered sugar donut

**Shelf Stable:** Eggs (dehydrated, BIB), Shelf stable bacon, Hash browns, Cocoa, Strawberry jam, Hot sauce, Minced onions, Jalapeño ketchup, Vegetable oil, Grits, Butter granules

**MENU 6**

**Frozen:** Tropical juice blend, Maple sausage patty, Chorizo breakfast wrap, French toast, Blueberry muffin

**Shelf Stable:** Eggs (dehydrated, BIB), Strawberry toaster pastry sticks, Hash browns, Cocoa, Grape jam, Hot sauce, Minced onions, Ketchup, Maple syrup, Vegetable oil, Assorted oatmeal (indiv. packets)

**MENU 7**

**Frozen:** Grape juice, Sausage skillet potatoes, Cinnamon bagel with maple flavored cream cheese

**Shelf Stable:** Eggs (dehydrated, BIB), Shelf stable bacon, Frosted blueberry toaster pastry, Cocoa, Strawberry jam, Hot sauce, Ketchup, Vegetable oil, Caffeinated sugar free apple beverage, Assorted oatmeal (indiv. packets)

**PRODUCT PHOTO:**



**UGR-A™ BREAKFAST MENU 3 ITEMS**



**UGR-A™ BREAKFAST MENU 5 ITEMS**

**LUNCH/DINNER:****MENU 1**

**Frozen:** Southwest chicken pasta, Apple taquito

**Shelf Stable:** Italian green beans, Cinnamon roll cookies, Chocolate pudding, Lemon lime CHO electrolyte beverage, Hot sauce, Butter granules

**MENU 2**

**Frozen:** Beef hamburgers & hot dogs, Potato wedges, Apple cinnamon snack cake

**Shelf Stable:** Baked beans, Shelf stable chili, Crisp rice and marshmallow bar, Peaches, Pink lemonade, Sugar free peach iced tea tubes, BBQ spice, Hot sauce, Steak seasoning, Minced onions, Ketchup, Mustard, Relish, Vegetable oil

**MENU 3\***

**Frozen:** Pork in BBQ sauce & beef brisket w/ BBQ sauce, Cornbread (plain and jalapeño)

**Shelf Stable:** Ranch beans, Macaroni & cheese, Peanut butter pan coated disks, Applesauce, Orange CHO electrolyte beverage, Diet lemonade tubes, Hot sauce

**MENU 4**

**Frozen:** Turkey cutlets w/gravy

**Shelf Stable:** Peas, Herb & butter mashed potatoes, Sweet potatoes, Cornbread stuffing, Mixed fruit, Cranberry sauce, Iced tea, Sugar free lemon lime electrolyte beverage, Hot sauce, Poultry seasoning, Vegetable seasoning, Butter granules

**MENU 5**

**Frozen:** Chinese beef & vegetables

**Shelf Stable:** Corn, White rice, Pineapple, Mixed berry CHO electrolyte beverage, Hot sauce, Soy sauce, Vegetable seasoning, Butter granules

**MENU 6\***

**Frozen:** Shrimp scampi w/pasta, Chicken & broccoli w/penne, Lemon cooler cake

**Shelf Stable:** Peas, Bite-size chocolate chip cookies, Fruit cocktail, Peach iced tea, Sugar free raspberry iced tea tubes, Parmesan cheese, Hot sauce, Vegetable seasoning, Butter granules

**MENU 7**

**Frozen:** Grilled steak, Peppers & onions, Chocolate decadence cake

**Shelf Stable:** Green beans, Mashed potatoes w/gravy, Vanilla pudding, Lemon lime CHO electrolyte beverage, Steak sauce, Steak seasoning, Vegetable seasoning, Butter granules, Vegetable oil

**MENU 8**

**Frozen:** Rotisserie chicken, Strawberry cream cake

**Shelf Stable:** Corn, Au gratin potatoes, Chicken gravy, Chocolate pudding, Grape drink, Diet peach iced tea tubes, Hot sauce, Vegetable seasoning, Paprika, Butter granules

**MENU 9**

**Frozen:** Meatballs in marinara sauce, Pizza roll

**Shelf Stable:** Italian style green beans, Spaghetti, Butterscotch pudding, Fruit punch CHO electrolyte beverage, Diet lemonade tubes, Hot sauce, Parmesan cheese, Italian seasoning, Vegetable seasoning, Butter granules

**MENU 10**

**Frozen:** Chicken fajitas, Tortillas, Jelly roll

**Shelf Stable:** Corn, Mexican rice, Bite-size chocolate chip cookies, Pears, Peach iced tea, Sugar free fruit punch electrolyte beverage, Hot sauce, Salsa, Vegetable seasoning, Butter granules

**MENU 11\***

**Frozen:** Pollock w/mustard sauce, Pork chop w/enchilada sauce, Chocolate chunk cookie

**Shelf Stable:** Peas, Mashed potatoes w/ skins, Gravy, Cherry mixed fruit, Mixed berry CHO electrolyte beverage, Hot sauce, Vegetable seasoning, Butter granules

**MENU 12**

**Frozen:** Chicken nuggets (plain and buffalo), Turtle brownie

**Shelf Stable:** Corn, Pineapple, Iced tea, Hot sauce, Honey mustard, Vegetable seasoning, BBQ sauce, Butter granules, Sugar free raspberry iced tea tubes

**MENU 13**

**Frozen:** Pot roast, Apple pie slice

**Shelf Stable:** Peas & carrots, Garlic mashed potatoes w/ brown gravy, Vanilla pudding, Fruit punch CHO electrolyte beverage, Hot sauce, All purpose seasoning, Vegetable seasoning, Butter granules

**MENU 14**

**Frozen:** Pork chop w/apple cornbread stuffing, Chocolate caramel bar w/Snickers®

**Shelf Stable:** Green beans, Rice pilaf, Pork gravy, Applesauce, Lemonade, Hot sauce, Vegetable seasoning, Butter granules, Sugar free peach iced tea tubes

**PRODUCT NOTES:**

- \*Indicates a Split Entrée Menu
- **Breakfast Menus** include coffee, nondairy creamer, ketchup, hot sauce, vegetable oil, salt and pepper and are supplemented with two 8 oz. UHT milks 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 per individual. Odd number menus also include peanut butter, jam/jelly. Enhancements include two slices of bread, fresh fruit, and salad when possible.

## BREAKFAST:

### MENU 1

**Frozen:** Orange juice, Ranchero beef steak, Bacon & egg quesadilla, Cinnamon roll w/ icing

**Shelf Stable:** Eggs (dehydrated, Boil-in-Bag), Frosted blueberry toaster pastry, Cappuccino (French vanilla), Grape jelly, Hot sauce, Minced onions, Ketchup, Salsa, Vegetable oil, Butter granules, Oatmeal (individ. packets, golden brown maple)

### MENU 2

**Frozen:** Apple juice, Ham slice, Creamed ground beef, Buttermilk biscuit, Variety pack muffins

**Shelf Stable:** Eggs (dehydrated, BIB), French toast cookie, Hash browns, Cocoa, Strawberry jam, Hot sauce, Grits, Ketchup, Vegetable oil, Butter granules, Caffeinated sugar free cranberry beverage

### MENU 3

**Frozen:** Orange juice, Breakfast steak, Peppers & onions, French toast sausage taquito, Assorted mini Danish

**Shelf Stable:** Eggs (dehydrated, BIB), Cappuccino (Irish cream), Grape jelly, Hot sauce, Minced onions, Ketchup, Steak seasoning, All-purpose sauce, Vegetable oil, Maple syrup, Oatmeal (individ. packets, apple cinnamon)

### MENU 4

**Frozen:** Grape juice, Pancake, Egg & sausage sandwich, Cheddar sausage, Buttermilk biscuit, Coffee cake muffin

**Shelf Stable:** Eggs (dehydrated, BIB), Assorted fruit filled cereal bars, Cocoa, Grape jelly, Hot sauce, Minced onions, Ketchup, Maple syrup, Butter granules, Vegetable oil, Oatmeal (individ. packets, raisin spice)

### MENU 5

**Frozen:** Orange juice, Omelet kit (onions, peppers, ham & cheese), Blueberry pancake, Powdered sugar donut

**Shelf Stable:** Eggs (dehydrated, BIB), Shelf stable bacon, Brown sugar frosted toaster pastry, Hash browns, Cocoa, Strawberry jam, Hot sauce, Minced onions, Jalapeño Ketchup, Maple syrup, Vegetable oil, Grits, Butter granules

### MENU 6

**Frozen:** Tropical juice blend, Maple sausage patty, Chorizo breakfast wrap, French toast (whole grain, cinnamon glazed), Variety pack muffins

**Shelf Stable:** Eggs (dehydrated, BIB), Assorted fruit filled cereal bars, Hash browns, Cappuccino (French vanilla), Grape jam, Hot sauce, Minced onions, Ketchup, Maple syrup, Vegetable oil, Oatmeal (individ. packets, golden brown maple)

### MENU 7

**Frozen:** Grape juice, Sausage skillet potatoes, Cinnamon bagel w/apple filling

**Shelf Stable:** Eggs (dehydrated, BIB), Shelf stable bacon, Frosted strawberry toaster pastry, Grits, Cocoa, Strawberry jam, Hot sauce, Ketchup, Maple syrup, Vegetable oil, Caffeinated sugar free apple beverage, Oatmeal (individ. packets, apple cinnamon)

## PRODUCT PHOTOS:



PREPARATION OF UGR-A™ LUNCH/DINNER MENU 7 ITEMS



UGR-A™ LUNCH/DINNER MENU 9 DESSERT



COOK PREPARING UGR-A™ ITEMS

**LUNCH/DINNER:****MENU 1\***

**Frozen:** Chicken fried steak, Fried chicken, Apple pie slice

**Shelf Stable:** Peas, Herb & butter mashed potatoes, Country gravy w/black pepper, Oatmeal raisin cookies, Chocolate pudding, Lemon lime CHO electrolyte beverage, Sugar free blueberry white tea tubes, Hot sauce, All-purpose sauce, Butter granules, Vegetable seasoning

**MENU 2**

**Frozen:** Beef hamburger & hot dogs, Potato wedges, Pecan praline snack cake

**Shelf Stable:** Baked beans, Shelf stable chili, Crisp rice marshmallow bar, Peaches, Pink lemonade, Sugar free peach ice tea tubes, BBQ spice, Hot sauce, Steak seasoning, Minced onions, Ketchup, Mustard, Relish, Vegetable oil

**MENU 3\***

**Frozen:** Pork w/BBQ sauce, Beef brisket w/BBQ sauce, Cornbread (plain & jalapeño)

**Shelf Stable:** Corn, Macaroni & cheese, Peanut butter pan coated discs, Confetti cupcakes, Applesauce, Orange CHO electrolyte beverage, Sugar free lemonade tubes, Hot sauce, Vegetable seasoning, Butter granules

**MENU 4**

**Frozen:** Turkey cutlets, Harvest pumpkin cake

**Shelf Stable:** Italian style green beans, Herb & butter mashed potatoes, Cornbread stuffing, Turkey gravy, Butterscotch pudding, Iced tea, Sugar free lemon lime electrolyte beverage, Cranberry sauce, Hot sauce, Poultry seasoning, Vegetable seasoning, Butter granules

**MENU 5**

**Frozen:** Chinese beef & vegetables, White chocolate macadamia nut cookie

**Shelf Stable:** Corn, White rice, chocolate pan coated discs, Pears, Mixed berry CHO electrolyte beverage, Sugar free cranberry pomegranate tubes, Hot sauce, Soy sauce, Vegetable seasoning, Butter granules

**MENU 6\***

**Frozen:** Shrimp scampi w/pasta, Chicken & broccoli w/penne, Amaretto cream cake

**Shelf Stable:** Peas, Chocolate chip cookies, Mixed fruit, Peach iced tea, Sugar free raspberry ice tea tubes, Parmesan cheese, Hot sauce, Vegetable seasoning, Butter granules

**MENU 7**

**Frozen:** Grilled steak, Peppers and onions, Potato wedges, Chocolate decadence cake

**Shelf Stable:** Green beans, Brown gravy, Vanilla pudding, Lemon lime CHO electrolyte beverage, Ketchup, Steak seasoning, Vegetable seasoning, Butter granules, Vegetable oil, All-purpose sauce

**MENU 8**

**Frozen:** Rotisserie chicken, Chocolate caramel bar w/Snickers®

**Shelf Stable:** Corn, Au gratin potatoes, Chicken gravy, Pears, Grape drink, Sugar free peach iced tea tubes, Hot sauce, Vegetable seasoning, Paprika, Butter granules

**MENU 9\***

**Frozen:** Meatballs in marinara sauce, Sausage scallopini, Pizza roll, Italian lemon cake

**Shelf Stable:** Italian style green beans, Spaghetti, Mixed fruit, Fruit punch CHO electrolyte beverage, Sugar free lemonade tubes, Hot sauce, Parmesan cheese, Italian seasoning, Vegetable seasoning, Butter granules

**MENU 10**

**Frozen:** Enchilada kit (chicken & beef), Tortillas, Apple taquito

**Shelf Stable:** Ranch beans, Mexican rice, Chocolate chip cookies, Chocolate pudding, Peach iced tea, Sugar free fruit punch electrolyte beverage, Hot sauce, Salsa, Butter granules

**MENU 11\***

**Frozen:** Blackened catfish, Chicken teriyaki thighs, Chocolate chunk cookies

**Shelf Stable:** Peas and carrots, Long grain and wild rice (garden vegetable blend), Cherry mixed fruit, Mixed berry CHO electrolyte beverage, Sugar free fruit punch tubes, Hot sauce, Vegetable seasoning, Butter granules

**MENU 12**

**Frozen:** Chicken nuggets (plain & buffalo), Potato wedges (coated), Turtle brownie

**Shelf Stable:** Corn, Peanut butter cookies, Applesauce, Iced tea, Sugar free raspberry iced tea tubes, Hot sauce, Honey mustard, Vegetable seasoning, BBQ sauce, Butter granules

**MENU 13**

**Frozen:** Prime rib, Pecan pie slice, Apple pie

**Shelf Stable:** Peas & carrots, Garlic mashed potatoes w/brown gravy, Vanilla pudding, Fruit punch CHO electrolyte beverage, Sugar free wild berry w/calcium tubes, Hot sauce, Vegetable seasoning, Horseradish sauce, Butter granules

**MENU 14**

**Frozen:** Chicken cordon bleu, Chocolate cappuccino cake, Chocolate caramel bar w/Snickers®

**Shelf Stable:** Green beans, Rice pilaf, Peaches, Lemonade, Sugar free peach iced tea tubes, Hot sauce, Vegetable seasoning, Butter granules

**PRODUCT NOTES:**

- **\*Indicates a Split Entrée Menu**
- **Breakfast Menus** include coffee, nondairy creamer, ketchup, hot sauce, vegetable oil, salt and pepper and are supplemented with two 8 oz. UHT milks 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 per individual. Odd number menus also include peanut butter, jam/jelly. Enhancements include two slices of bread, fresh fruit, and salad when possible.

**UGR-A™ IMPROVEMENTS, 2006-2007**

**2006 PRODUCTION**

**ITEMS IN:**

**Breakfast:** Maple sausage patty, Santa Fe steak con queso sauce, Egg patty w/cheese, Powdered sugar donut, Coffee cake muffin, Raspberry Danish, Butter Buds®

**Lunch/Dinner:** Shrimp scampi w/penne pasta, Chicken & broccoli w/penne pasta, Hot dogs, Mashed potatoes w/ skins, Italian style green beans, Corn muffin, Italian lemon cake, Confetti cupcakes, Reese's Pieces®, Chicken fajitas, Chocolate cake w/chocolate frosting, Gatorade® (Fruit Punch, Mixed Berry, Lemon Lime), Butter Buds®

**ITEMS OUT:**

**Breakfast:** Creamed ground sausage, Turkey sausage links, Fried egg patty, Bagel w/Spanish omelet, Banana nut loaf

**Lunch/Dinner:** Salmon in lemon herb sauce, Chicken strips, Peppers & onions, Rice pilaf, Peppermint patty brownie, Ranger cookie, Oatmeal cookie, Peanut butter chocolate chip cookies

**2007 PRODUCTION**

**ITEMS IN:**

**Breakfast:** Scrambled eggs (dehydrated, BIB), Chorizo breakfast wrap, Omelet kit (eggs, onions, peppers, ham), Cheddar sausage gravy, Breakfast chorizo (Mexican sausage) & diced potatoes, Ranchero steak, Assorted grits, Assorted oatmeal, Corned beef hash, Creamed ground beef, Creamed ground sausage, Waffles, Apple juice, Egg sausage & pancake sandwich, Cinnamon bagel, Cinnamon twists, Assorted Danish, Blueberry pancake & sausage stick, Frosted Blueberry Pop-Tarts®

**Lunch/Dinner:** Stuffed pork chop, BBQ beef brisket, BBQ pulled pork, Beef w/broccoli, Asian chili garlic chicken, Meatballs in marinara sauce, Sweet potatoes, Potato wedges, Herbed mashed potatoes, Garlic mashed potatoes, Turtle brownies, Cornbread (jalapeño & plain), White chocolate chunk macadamia nut cookie, Chocolate chunk cookies, Apple pie slices, Jelly roll, Snickers® brownie, Assorted iced teas

**ITEMS OUT:**

**Breakfast:** All frozen egg products (cheddar cheese omelet, fried egg patty, & frozen whole eggs), Santa Fe steak, Raspberry Danish, Bagel w/cream cheese, Sweet potato pancakes

**Lunch/Dinner:** Country style pork ribs, General Tso chicken, Blackened catfish, Meatballs (w/o sauce), Pork chops, Au gratin potatoes, Frosted banana cake, Shortbread cookies, Lemon glazed cupcakes, Peanut butter chocolate chip cookie, Chocolate chip cookie, Chocolate cake w/chocolate frosting



**PREPARATION OF GARLIC MASHED POTATOES ("IN" ITEM, 2007)**



**UGR-A™ "IN" BREAKFAST ITEMS: COFFEE CAKE MUFFIN (2006) & WAFFLES (2007)**



**UGR-A™ IMPROVEMENTS, 2008-2009**

**2008 PRODUCTION**

**ITEMS IN:**

**Breakfast:** Cinnamon roll w/icing, Chocolate toaster pastry sticks, Strawberry toaster pastry sticks, Chocolate chocolate chip muffin, Strawberry waffle cookie, French toast cookie, Blueberry pancake, Pork chop, French toast sausage taquito, Shelf stable bacon, Southwest skillet potatoes, Sausage skillet potatoes, Tropical juice blend, Caffeinated sugar free beverages (apple, cranberry)

**Lunch/Dinner:** Southwest chicken pasta, Shelf stable chili, Pollock w/mustard sauce, Pork chop w/enchilada sauce, Chicken nuggets (plain & buffalo), Apple taquito, Cinnamon roll cookies, Apple cinnamon snack cake, Crisp rice & marshmallow bar, Lemon cooler cake, Bite-size chocolate chip cookies, Chocolate decadence cake, Strawberry cream cake, Honey mustard BBQ sauce, Sugar free electrolyte beverages (fruit punch, lemon lime)

**ITEMS OUT:**

**Breakfast:** Raspberry Danish, Waffle, Buttermilk biscuit, Potatoes w/chorizo, Bacon, Roast beef hash, Cheddar sausage w/gravy, Minced onions, Cinnamon maple sprinkles, Cran-orange juice

**Lunch/Dinner:** Chicken parmesan w/spaghetti sauce, Ziti, Meatloaf w/BBQ sauce, Asian chili garlic chicken, White rice, Chocolate cake w/white frosting, Oatmeal cookies, Chocolate chunk brownie, White cake w/chocolate frosting, Italian seasoning, Parmesan cheese, Soy sauce



**HARVEST PUMPKIN CAKE, CHOCOLATE CAPPUCCINO CAKE ("IN" ITEMS, 2009)**

**2009 PRODUCTION**

**ITEMS IN:**

**Breakfast:** Variety pack muffins, Oatmeal (individ. packets; apple cinnamon, golden brown maple, raisin spice), Whole grain cinnamon glazed French toast, Cinnamon bagel w/apple filling, Bacon & egg quesadilla, Ham slice, Cheddar sausage w/gravy, All-purpose sauce

**Lunch/Dinner:** Chicken fried steak, Fried chicken, Sausage scaloppini, Enchilada kit (chicken & beef), Blackened catfish, Chicken teriyaki thighs, Prime rib, Potato wedges, Long grain & wild rice (garden vegetable blend), Country gravy w/black pepper, Oatmeal raisin cookies, Peanut butter cookies, Pecan praline snack cake, Harvest pumpkin cake, Amaretto cream cake, Chocolate cappuccino cake, Pecan pie slice, All-purpose sauce, Horseradish sauce, Sugar free tube beverages (blueberry white tea, cranberry pomegranate, fruit punch, wild berry w/calcium)

**ITEMS OUT:**

**Breakfast:** Chocolate chocolate chip muffins, Strawberry waffle cookie, French toast, Blueberry muffin, Cinnamon bagel w/maple cream cheese, Blueberry pancake & pork sausage stick, Egg taco w/cheese & vegetable, Pork chop, Creamed ground sausage, Southwest skillet potatoes, Queso sauce

**Lunch/Dinner:** Southwest chicken pasta, Sweet potatoes, Chicken fajitas, Pollock w/mustard sauce, Pork chop w/enchilada sauce, Pork chop w/apple cornbread stuffing, Macaroni & cheese, Pineapple, Cinnamon roll cookies, Jelly roll, Apple cinnamon snack cake, Carrot cake, Lemon cooler cake, Strawberry cream cake

**2010 PRODUCTION**

**ITEMS IN:**

**Breakfast:** Chicken breakfast fillet, Beef breakfast skillet, Sausage & egg quesadilla, Blueberry pancake & sausage, whole grain strawberry toaster pastry

**Lunch/Dinner:** Tomatillo pork, Pasta Alfredo w/chicken, Meatloaf, Cashew chicken, Loaded mashed potatoes, Poblano corn chowder, Collard greens, Cinnamon coffee cake, Caramel apple pecan coffee cake, Blueberry muffin (shelf stable), Whole grain strawberry toaster pastry, Dulce de leche mini cheesecake bites, Pineapple coconut cake, Almond pan coated chocolate discs, Ready-to-bake cookies w/chocolate discs, Red velvet cake, Dulce de leche cake, Peanut butter cookies

**ITEMS OUT:**

**Breakfast:** Sausage skillet potatoes, Creamed ground beef, Strawberry toaster pastry

**Lunch/Dinner:** Chicken nuggets (Buffalo & plain), Penne w/chicken & broccoli, Hamburgers & hot dogs

## GROUP RATIONS: UGR-B™ Ration

### 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. Marine cooks utilize the ingredients provided in the UGR-B™ to prepare a high quality, group serving meal following a standard recipe.

### CHARACTERISTICS:

The UGR-B™ consists of 5 breakfast and 14 lunch/dinner menus that incorporate a balance of dehydrates 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 (27°C).

- **Average Weight/Module:** 125 pounds (56.7 kg)
- **Cube/Module:** 5.25 cubic feet (.15 cubic meters)

### NUTRITIONAL DATA:

Each meal provides an average of 1,300 calories (15% protein, 30% fat, and 55% carbohydrate).

### PREPARATION REQUIREMENTS:

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

### 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 2008. These items include 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 w/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 w/ 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, Boil-in-Bag), Hominy grits, Pancakes, Biscuits, Hash browns, Fruit cocktail, Grape Juice, Maple Syrup, Cocoa

**MENU 2:**

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

**MENU 3:**

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

**MENU 4:**

Creamed sausage, Scrambled eggs (dehydrated, BIB), Farina, Pancakes, Biscuits, Hash browns, Peaches, Orange juice, Maple Syrup, Worcestershire sauce, Irish crème cappuccino

**MENU 5:**

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



**UGR-B™ LUNCH/DINNER MENU 9 ITEMS**

**PRODUCT NOTES:**

- **Breakfast Menus** include salt, pepper, hot sauce, shortening, ketchup, peanut butter and jelly/jam, coffee, and nondairy creamer.
- **Lunch/Dinner Menus** include salt, pepper, hot sauce, peanut butter and jelly/jam, coffee, tea and nondairy creamer.

**LUNCH/DINNER:**

**MENU 1**

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

**MENU 2:**

Creole chicken, Rice, Corn, Fruit cocktail, Cornbread, Oatmeal cookies, Butter Buds®, Ketchup, Grape drink

**MENU 3:**

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

**MENU 4:**

Chicken a la king, Rice, Peas, Fruit cocktail, Biscuits, Yellow cake w/chocolate frosting, Butter Buds®, Ketchup, Lemonade

**MENU 5:**

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

**MENU 6:**

Shepherd's pie (beef, potatoes, & corn), Carrots, Peaches, Biscuits, Sugar cookies, Butter Buds®, Grape drink

**MENU 7:**

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

**MENU 8:**

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

**MENU 9:**

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

**MENU 10:**

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

**MENU 11:**

Chicken & bread stuffing, Mashed potatoes, Carrots, Peaches, Biscuits, Oatmeal cookies, Butter Buds®, Ketchup, Grape drink

**MENU 12:**

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

**MENU 13:**

Creole shrimp, Rice, Peas, Peaches, Cornbread, Apple crisp, Cherry drink

**MENU 14:**

White bean and chicken chili, Rice, Green beans, Peaches, Cornbread, Brownies, Grape drink

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

### PURPOSE:

The UGR-E™ is designed to provide a complete, hot meal for up to 18 Warfighters in remote locations where group field feeding would not otherwise be possible. It is a compact, self contained module that does not require cooks or a field kitchen for preparation. With the simple pull of a tab, the food is heated in 30-45 minutes and is served in trays to Warfighters like a cook-prepared meal.

### CHARACTERISTICS:

One UGR-E™ module provides all of the items necessary for a complete meal to serve up to 18 Warfighters, including group serving polymeric trays, drink pouches, snacks/candies, compartmented dining trays, disposable eating and serving utensils, condiments, beverage bases, napkins, wet-naps, and trash bags. Like the UGR-H&S™, this "Kitchen in a Carton®" provides an entrée, starch, vegetable, and dessert, all of which use polymeric tray containers. The technology supporting this ration is a safe, exothermic chemical reaction similar to that of the Flameless Ration Heater for the MRE™. Heaters containing a magnesium-iron compound are sandwiched between the four polymeric trays. With the pull of a tab, a saline solution is distributed to the heaters and the reaction is initiated. A UGR-E™ module (including enhancement box) is shelf stable for a minimum of 18 months at 80°F (27°C). One pallet contains 18 UGR-E™ modules, with 3 layers of 6 modules per layer.

- **Average Weight/Module:** 43 pounds (20 kg)
- **Cube/Module:** 1.9 cubic feet (.05 cubic meters)

### NUTRITIONAL DATA:

Each meal provides an average of 1300 kilocalories (12% protein, 38% fat, 50% carbohydrate).

### PREPARATION REQUIREMENTS:

Warfighters simply follow the set-up instructions included in each module for arranging the heater trays and pull tab. Once set up is complete, the tab is pulled and the meal is ready in 30-45 minutes. After the food is ready, the heaters continue to provide heat, maintaining the food temperature.

### COMMENTS:

The UGR-E™ provides the capability for group field feeding when access to other UGRs™ is not available — it is not meant to take the place of the UGR-H&S™ or the UGR-A™. This ration is the result of innovative engineering aimed at providing the morale boosting benefits of a group meal to Warfighters when the logistics system does not provide for food service equipment and cooks or when it is impractical and unsafe to provide hot food to remote units via insulated food containers. 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. As with other UGRs™, the UGR-E™ is part of the Fielded Group Ration Improvement Project. Two new breakfast and two new lunch/dinner menus were added to the ration in 2008. Future improvements to this ration include alternative chemical heating technologies, activators, and heater tray materials. An enhancement box for the UGR-E™ will also be available, providing shelf stable supplements, like UHT milk and fruit cocktail, to the meal. A UGR-E™ Holiday Meal is also available for those Warfighters in remote locations during holiday months.

### PRODUCT PHOTOS:



### UGR-E™ PACKAGING & COMPONENTS



**BREAKFAST:**

**MENU 1**

Cream gravy w/ground beef, Sliced ham, Biscuit, Raspberry swirls w/icing, Caramel apple bar, Blueberry granola, Orange juice

**MENU 2**

Corned beef hash, Pork sausage links, Breakfast cake, Blueberry dessert, Mini First Strike® Bar (cran-raspberry), Dairy shake, Grape juice

**MENU 3**

Cream gravy w/ground beef, Turkey sausage links, Biscuit, Blueberry breakfast cake, Mini First Strike® Bar (apple-cinnamon), Blueberry granola, Orange juice

**MENU 4**

Cream gravy w/ground pork sausage, Corned beef hash, Apple-cinnamon breakfast cake, Apple dessert, Mini First Strike® Bar (mocha), Grape juice

**LUNCH/DINNER:**

**MENU 1**

Pasta & sausage, Peas, Spice cake w/icing, Twizzlers® Nibs® (Cherry Bits), Butter Buds®, Italian seasoning, Dairy shake, Sugar free beverage

**MENU 2**

Chicken breast w/gravy, Corn, Cornbread w/sausage stuffing, Devil's fudge cake w/icing, Dried cranberries, Butter Buds®, Drink pouch (asst. flavors)

**MENU 3**

Burgundy beef stew, Green beans, White rice, Walnut tea cake, M&Ms®, Vanilla pudding, Butter Buds®, Vegetable seasoning, Sugar free beverage

**MENU 4**

BBQ pulled pork, Macaroni & cheese, Corn, Dulce de leche cake, Reese's Pieces®, Butter Buds®, Drink pouch (asst. flavors)

**MENU 5**

Szechwan chicken, Brown rice, Carrots, Caramel chocolate chip cookie, Chocolate covered coffee beans, Butter Buds®, Drink pouch (asst. flavors), Sugar free beverage

**MENU 6**

Spaghetti w/meatballs, Green beans, Lemon cake w/icing, Raisin nut mix w/chocolate discs, Butter Buds®, Italian seasoning, Dairy shake, Sugar free beverage

**MENU 7**

Pork carnitas, Brown rice, Corn, Dulce de leche cake, Beef jerky, Vanilla pudding, Butter Buds®, Sugar free beverage

**MENU 8**

Chicken pot pie filling, Mashed potatoes w/poultry gravy, Green beans, Apple scone w/icing, Twizzlers® Nibs® (Cherry Bits), Butter Buds®, Vegetable seasoning, Dairy shake, Sugar free beverage

**HOLIDAY MEAL**

Turkey slices w/gravy, Mashed potatoes w/chicken gravy, Carrots, Cornbread w/sausage stuffing, Raisin nut mix w/chocolate discs, Cranberry jelly, Poultry seasoning, Drink pouch (asst. flavors)

**PRODUCT PHOTOS:**



**PRODUCT NOTES:**

- **Breakfast Menus** include ketchup, hot sauce, salt & pepper, coffee, creamers, shortening, paper trays, dining packets, cups, trash bags.
- **Lunch/Dinner Menus** include hot sauce, salt & pepper, tea, beverage base, coffee, creamers, paper trays, dining packets, cups and trash bags.

## GROUP RATIONS: Arctic Supplement to the UGR™

### PURPOSE:

The Arctic Supplement, when used in combination with the UGR™, provides additional beverage and snack calories for the Warfighter in a cold environment. The Arctic Supplement is designed to simplify and streamline the ordering process for these items. The Arctic Supplement is designed to be used specifically in conjunction with only the UGR™ family of rations.

### CHARACTERISTICS:

The Arctic Supplement assembly consists of soups, warming beverages, snacks, clamshell styrofoam trays and hot cups with covers. As with other rations, an emphasis is placed on including commercial products that are familiar and favorable to Warfighters. Each module serves 50 Warfighters and promotes the increased consumption of fluids and kilocalories required in cold environments. Each module is unitized into three shipping cartons; six shipping cartons fit on one tier of a standard pallet. There are four tiers per pallet (eight modules per pallet). The shelf life is 18 months at 80° F (27° C).

- **Average Weight/Module:** 60 pounds (27 kg)
- **Cube/Module:** 5 cubic feet (.14 cubic meters)

### NUTRITIONAL DATA:

The Arctic Supplement provides an additional 914 calories per meal per individual (7% protein, 63% carbohydrate and 30% fat).

### PREPARATION REQUIREMENTS:

Food service personnel prepare the Arctic Supplement for serving.

### COMMENTS:

The Arctic Supplement is part of the Fielded Group Ration Improvement Project.



ARCTIC SUPPLEMENT TO THE UGR™ —  
PACKAGING AND SAMPLE COMPONENTS



Old Favorites  
Balanced With  
Fresh New Tastes  
& Flexibility  
To Meet Fitness  
Goals



### 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.

### 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.

## GROUP RATIONS: Navy Standard Core Menu (NSCM)

### NSCM SAMPLE MENUS:

#### 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 (asst. flavors, low fat), Bread bar, Beverage bar, Table condiments

**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 (asst. flavors, low fat), Bread bar, Beverage bar, Table condiments

**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, Sandwich condiments

**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 (asst. flavors, low fat), Bread bar, Beverage bar, Table condiments

**LUNCH:** Knickerbocker soup, Sandwich (bacon, lettuce & tomato), Turkey pot pie, Oven browned potatoes, Boiled 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, Brussels sprouts, Corn on the cob, Strawberry shortcake, Creamy rice pudding, Salad bar, Fruit bar, Whole wheat rolls, Bread bar, Beverage bar





**PURPOSE:**

The First Strike Ration® (FSR®) is a compact, eat-on-the-move, assault ration intended to be consumed during the first 72 hours of intense conflict by forward deployed Warfighters. It is designed to increase Warfighter calorie consumption, nutritional intake, and tactical mobility while meeting the maneuver sustainment needs of the joint Warfighter during highly mobile, high intensity operations. The FSR® provides a new capability in terms of a 50% weight & cube reduction and logistics savings when compared to the use of the MRE™.

**CHARACTERISTICS:**

All components of this lightweight ration are comprised of a variety of calorically dense, eat-out-of-hand foods. Major components include shelf stable pocket sandwiches, shelf stable tuna and chicken, energy bars, high energy drinks, beef jerky, dessert bars, and Zapplesauce® (a carbohydrate applesauce that provides a source of energy to help the Warfighter maintain physical performance; registered trademark of the US Army).

To meet the needs of lighter, more mobile troops, one FSR® per day is issued to each Warfighter (replacing the need for three MREs™ per Warfighter). The FSR® has a minimum two year shelf life at 80°F (27°C) and has nine meals per shipping container. Each container consists of three each of three different menus.

- **Weight:** 25 lbs. (11 kg)/case; 2.5 lbs. (1 kg)/meal bag
- **Cube:** 1.0 cubic feet (.02 cubic meters)/case; .01 cubic feet (.3 cubic decimeters)/meal bag

**NUTRITIONAL DATA:**

Each FSR® provides an average of 2900 calories (13% protein, 34% fat, 53% carbohydrate).

**PREPARATION REQUIREMENTS:**

All components of this lightweight ration are familiar, eat-out-of-hand foods that require little or no preparation by the Warfighter. Innovative packaging enables the Zapplesauce® to be consumed directly from a spout pouch and the beverages to be reconstituted and consumed directly from the ergonomically designed drink pouch.

**COMMENTS:**

The FSR® takes advantage of major advancements in food processing, preservation and nutrient delivery, to include innovative methods in intermediate moisture foods, glucose optimization, and novel packaging designs. It has been extensively tested by Warfighters in theater during OEF/OIF on an asymmetric battlefield and has received highly positive feedback regarding both the weight savings and consumer acceptance of individual components. As a result of positive feedback, an Operational Needs Statement was generated as well as a Statement of Need from the Marine Corps and a request from USSOCOM. The FSR® was approved by the OTSG in FY08 as a restricted calorie ration and has been available for procurement since 3Q08. The FSR® is part of the Assault Special Purpose Improvement Program. Future improvements to this ration will include expansion to 9 menus using nutritionally optimized components that contain food enhancers such as carbohydrates, caffeine, vitamins, antioxidants and amino acids. These enhancements will be formulated to improve the physical and cognitive performance of Warfighters during sustained operations and under all climatic conditions.



## ASSAULT RATIONS: FSR® MENUS

### MENU 1:

Filled French toast pocket, Bacon cheddar pocket sandwich, Pepperoni pocket sandwich, Jalapeño cheese spread, Wheat snack bread (twin pack), Carb fortified beverage, Chocolate protein drink, Pretzel sticks, Mini First Strike™ Bar (chocolate), Peanut butter dessert bar, Sweet BBQ beef snack, Teriyaki beef snack, Cinnamon Zapplesauce®, Nut fruit mix, Stay Alert® gum (arctic mint), ACC PKT-B, Zip-lock pouch, Spoon

### MENU 2:

Brown sugar cinnamon toaster pastry, Italian pocket sandwich, Chunk chicken, tortillas, Peanut butter, Cracker, Carb fortified beverage (2), Mini First Strike™ Bar (apple cinnamon), Dried cranberries, Mocha dessert bar, Sweet BBQ beef snack, Teriyaki beef snack, Zapplesauce®, Smokehouse almonds, Stay Alert® gum (cinnamon), Fat free mayo, Hot sauce, ACC PKT-B, Zip-lock pouch, Spoon

### MENU 3:

Lemon poppyseed pound cake, BBQ beef pocket sandwich, Albacore tuna, Tortillas, Cheese spread, Cracker, Carb fortified beverage (2), Mini First Strike™ Bar (mocha), Mini First Strike™ Bar (cran-raspberry), Chocolate banana nut dessert bar, Sweet BBQ beef snack, Teriyaki beef snack, Zapplesauce®, Raisin nut mix, Foosh™ mints, Fat free mayo, Hot sauce, ACC PKT-A, Zip-lock pouch, Spoon

### MENU 4:

Cinnamon bun, Strawberry whole grain toaster pastry, Beef taco w/cheese tortilla wrap, BBQ chicken pouch, Wheat snack bread (twin pack), Jalapeño cheese spread, Cranberry beef jerky, Chunky Zapplesauce®, Mini First Strike™ Bar (mocha), Mixed berry gel, Cheddar filled pretzels, Raisins, Hot sauce, Carb fortified beverage (2), Stay Alert® Gum (arctic mint), ACC PKT-A, Zip-lock pouch, Spoon

### MENU 5:

Brown sugar whole grain toaster pastry, BBQ chicken sandwich, Mango chipotle salmon, Crackers, Fat free mayo, Toasted corn nuggets, Smoked turkey jerky, Cinnamon Zapplesauce®, Raisin nut mix w/chocolate disks, Mini First Strike™ Bar (cran-raspberry), Fig bar, Mixed berry gel, Carb fortified beverage, Chocolate protein drink, Foosh™ mints, ACC PKT-C, Zip-lock pouch, Spoon

### MENU 6:

Cherry turnover, Pork BBQ tortilla wrap, Garlic and herb chicken, Cheese spread, Bagel, Cranberry beef jerky, Dried cranberries, Cheddar filled pretzels, Caffeinated pudding, Mini First Strike™ Bar (apple cinnamon), Peanut butter dessert bar, Hot sauce, Carb fortified beverage, Strawberry banana dairy shake, Stay Alert® Gum (cinnamon), ACC PKT-C, Zip-lock pouch, Spoon

### MENU 7:

Blueberry turnover, Nacho beef stick sandwich, Chunk light tuna (sweet & spicy), Wheat snack bread (twin

pack), Fat free mayo, Raisins, Smoked turkey jerky, Potato cheddar bacon soup/spread, Crackers, Mini First Strike™ Bar (chocolate), Hot & spicy baked snack cracker, Chunky Zapplesauce®, Carb fortified beverage (2), Stay Alert® Gum (arctic mint), ACC PKT-A, Zip-lock pouch, Spoon

### MENU 8:

BBQ chicken sandwich, Filled French toast, Chunk light tuna (lemon pepper), Bagel, Dried cranberries, Sweet BBQ beef snack, Teriyaki beef snack, Chocolate dairy shake, Carb fortified beverage, Mini First Strike™ Bar (mocha), Filled crackers, Raisin nut mix w/chocolate disks, Cinnamon Zapplesauce®, Stay Alert® Gum (cinnamon), ACC PKT-A, Zip-lock pouch, Spoon

### MENU 9:

Italian pocket sandwich, Cinnamon bun, Garlic and herb chicken, Raisins, Tortilla, BBQ sauce, Jalapeño cheese spread, Cranberry beef jerky, Potato cheddar bacon soup/spread, Crackers, Mini First Strike™ Bar (cran-raspberry), Toasted corn nuggets, Carb fortified beverage, Chocolate protein drink, Caffeinated pudding, Foosh™ mints, ACC PKT-B, Zip-lock pouch, Spoon

### ACCESSORY PACKET A:

Apple cider, Towelette, Salt, Matches, Tissue

### ACCESSORY PACKET B:

Lemon tea, Towelette, Salt, Matches, Tissue

### ACCESSORY PACKET C:

Coffee, Cream substitute, Sugar, Towelette, Salt, Matches, Tissue



### PURPOSE:

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

### CHARACTERISTICS:

The ration is lightweight and includes ready-to-eat components and a freeze-dried entrée that can be eaten dry if necessary. Meal bags for each of the 12 menus contain the dehydrated entrée and a variety of spreads, crackers, cookies, sports bars, nuts, candy and powdered beverages with an accessory packet and plastic spoon. Extra drink mixes are included to encourage water consumption. 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 beige color bag, as displayed on the next page.

- **Weight:** 15 lbs. (7 kg)/case, 1 lb. (.5 kg)/packet
- **Cube:** .99 cubic feet (.03 cubic meters)/case, .04 cubic feet (1.1 cubic decimeters)/packet

### NUTRITIONAL DATA:

Each menu provides an average of 1540 calories (14% protein, 34% fat, 52% carbohydrate). The MCW, if used for three meals, 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. The LRP is a restricted calorie ration that is approved for use at an issue of one packet per man per day for up to 10 days. The MCW/LRP is compatible with other operational ration feeding systems like the UGR™ and the MRE™ and can be used as a separate meal, especially in cold weather scenarios.

### PREPARATION REQUIREMENTS:

The individual Warfighter prepares the food. The water requirement is 16 ounces for the meat entrées, 16 ounces for the egg/cereal menus and 12-24 ounces for the beverages. The water requirement is 16 ounces (.5 l) for the meat entrées, 16 ounces (.5 l) for the egg/cereal menus, and 12 – 24 ounces (.35 - .7 l) for the beverages. Total water required ranges from 28-40 ounces (.8 – 1.2 l) per menu if all the components are rehydrated. In addition to the items listed in the menus on the next page, coffee, creamer and sugar packets are provided.

### COMMENTS:

The MCW/LRP is part of the Assault Special Purpose 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. Future improvements for this ration are planned, including removal of less acceptable components based on Warfighter feedback and refinement of the primary packaging system. Additionally, drink pouches for all beverages, except coffee, are planned to be converted to ergonomically designed zippered foil drink pouches.

The MCW/LRP is often referred to as the “Winter MRE™”.



**PRODUCT PHOTOS:**



**MCW/LRP PACKAGING**



**MCW/LRP ENTRÉE, MENU 9**



**MENU 1**

Spicy oriental chicken, Fig bar, Ice cream sandwich, Dairy shake, Sports drink, Coffee, Creamer, Sugar

**MENU 2**

Beef stroganoff, Chocolate sports bar, Chocolate covered coffee beans, Trail mix, Sports drink, Coffee, Creamer, Sugar

**MENU 3**

Chili macaroni, Ramen noodles, MRE™ cracker, Cheese spread, Peanut butter pan coated discs, Cappuccino, Coffee, Creamer, Sugar

**MENU 4**

Turkey tetrazzini, Mocha dessert bar, MRE™ cracker, Cheese spread, Orange beverage, Cappuccino, Coffee, Creamer, Sugar

**MENU 5**

Chicken & rice, Chocolate covered cookie, Corn nuts, First Strike™ Bar (cran-raspberry), Cappuccino, Coffee, Creamer, Sugar

**MENU 6**

Seafood chowder, Shortbread cookie, Chocolate covered coffee beans, Trail mix, MRE™ cracker, Sports drink, Coffee, Creamer, Sugar

**MENU 7**

Beef stew, Pound cake, Corn nuts, Chocolate covered cookie, Sports drink, Coffee, Creamer, Sugar

**MENU 8**

Spaghetti & meat sauce, Trail mix, MRE™ cracker, Chocolate peanut butter spread, Chocolate pan coated discs, Sugar free beverage, Coffee, Creamer, Sugar

**MENU 9**

Mexican chicken & rice, Shortbread cookie, Smoked almonds, Dried cranberries, Banana walnut dessert bar, Sports drink, Coffee, Creamer, Sugar

**MENU 10**

Western omelet, Granola w/blueberries, Chocolate sports bar, Filled pretzels, Orange beverage, Cocoa, Coffee, Creamer, Sugar

**MENU 11**

Eggs w/bacon, Flavored oatmeal, Trail mix, Fig bar, Orange beverage, Cocoa, Coffee, Creamer, Sugar

**MENU 12**

Western omelet, Flavored oatmeal, Toaster pastry, Starch jellies, Dairy shake, Coffee, Creamer, Sugar

**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 Dhabihah 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 cubic feet (40 cubic decimeters)/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 and 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 and 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

## SPECIAL PURPOSE RATIONS: Meal, Religious, Kosher for Passover

### 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 w/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 (8 oz./226 g), Dried fruit (1.5 oz./43 g), Raisins (1.5 oz./43 g), Nuts (e.g. walnut, almond, 1.5 oz./43 g), Jelly/jam (1.0 oz./28 g), Cookies (2.25 oz./64 g), Coffee, Tea, Sugar, Salt, Toilet tissue, Spoon, Moist towelette, Matches, FRH

#### MENU 2

Salmon (3.75 oz./106 g), Dried fruit (1.5 oz./43 g), Raisins (1.5 oz./43 g), Nuts (e.g. walnut, almond, 1.5 oz./43 g), Jelly/jam (1.0 oz./28 g), Cookies (2.25 oz./64 g), Coffee, Tea, Sugar, Salt, Toilet tissue, Spoon, Moist towelette, Matches, FRH

#### MENU 3

Bone-in chicken (12 oz./340 g), Dried fruit (1.5 oz./43 g), Raisins (1.5 oz./43 g), Nuts (e.g. walnut, almond, 1.5 oz./43 g), Jelly/jam (1.0 oz./28 g), Cookies (2.25 oz./64 g), 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 will aid 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 cubic feet (.03 cubic meters)/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.



## SPECIAL PURPOSE RATIONS: TOTM Menus

### AMERIQUAL:

#### MENU 1

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Penne pasta, MRE™ fruit\*, Fig bar (pkgd), Potato sticks, Chocolate covered disks – p’nut butter, Cappuccino (French vanilla), FRH, Dining kit\*\*

#### MENU 2

---

Cheese tortellini, MRE™ fruit\*, Crackers, Peanut butter, Chocolate covered disks, Tea (instant), FRH, Dining kit\*\*

#### MENU 3

---

Spaghetti, MRE™ fruit\*, Crackers, Peanut butter, Chocolate covered disks, Tea (instant), FRH, Dining kit\*\*

#### MENU 4

---

Cajun rice w/beans & sausage, MRE™ fruit\*, Fig bar (pkgd), Potato sticks, Tootsie Roll®, Chocolate covered disks – p’nut butter, Tea (instant), FRH, Dining kit\*\*

#### MENU 5

---

Chicken w/noodles, MRE™ fruit\*, Fig bar (pkgd), Pretzels, Tootsie Roll®, Chocolate covered disks, Cappuccino (French vanilla), FRH, Dining kit\*\*

#### MENU 6

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Chicken salsa, MRE™ fruit\*, Fig bar (pkgd), Pretzels, Tootsie Roll®, Chocolate covered disks - p’nut butter, Cappuccino (French vanilla), FRH, Dining kit\*\*

#### MENU 7

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Beef ravioli, MRE™ fruit\*, Fig bar (pkgd), Potato sticks, Chocolate covered disks, Tea (instant), FRH, Dining kit\*\*

#### MENU 8

---

Chili mac, MRE™ fruit\*, Crackers, Peanut butter, Chocolate covered disks - p’nut butter, Tea (instant), FRH, Dining kit\*\*

#### MENU 9

---

Chili w/beans, MRE™ fruit\*, Fig bar (pkgd), Potato sticks, Chocolate covered disks, Tea (instant), FRH, Dining kit\*\*

#### MENU 10

---

Pork rib, MRE™ fruit\*, Fig bar (pkgd), Potato sticks, Tootsie Roll®, Chocolate covered disks - p’nut butter Cappuccino (mocha), FRH, Dining kit\*\*

#### MENU 11

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Beef stew, MRE™ fruit\*, Fig bar (pkgd), Pretzels, Tootsie Roll®, Chocolate covered disks, Cappuccino (mocha), FRH, Dining kit\*\*

#### MENU 12

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Beef enchilada, MRE™ fruit\*, Fig bar (pkgd), Pretzels, Tootsie Roll®, Chocolate covered disks - p’nut butter, Cappuccino (mocha), FRH, Dining kit\*\*

### SOPACKO:

#### MENU 1

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Vegetable manicotti, Fruit\*, Cracker, Peanuts (salted), Chocolate covered disks, Beverage base, FRH, Dining kit\*\*

#### MENU 2

---

Cheese tortellini, Rice (yellow & wild), Cookie (various), Chocolate covered disks, Beverage base, FRH, Dining kit\*\*

#### MENU 3

---

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

#### MENU 4

---

Chili macaroni, Mashed potatoes, Cracker, Chocolate covered disks, Ground red pepper, Beverage base, FRH, Dining kit\*\*

#### MENU 5

---

Chicken cavatelli, Mashed potatoes, Cracker, Peanut butter, Chocolate covered disks, Beverage base, FRH, Dining kit\*\*

#### MENU 6

---

BBQ pork ribs, Wheat snack bread-two, Fruit flavored disks, BBQ sauce, Ground red pepper, Beverage base, FRH, Dining kit\*\*

#### MENU 7

---

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

#### MENU 8

---

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

#### MENU 9

---

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

#### MENU 10

---

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

#### MENU 11

---

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

#### MENU 12

---

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



**WORNICK:**

**MENU 1**

Spaghetti, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Chocolate covered disks\*, Beverage base, FRH, Dining Pkt B

**MENU 2**

Chicken cavatelli, Mango-peach apple sauce, Nut raisin mix, Chocolate covered disks\*, Beverage base, FRH, Dining Pkt B

**MENU 3**

Pork rib, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Cracker pkt, Chocolate covered disks\*, Beverage base, FRH, Dining Pkt A

**MENU 4**

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

**MENU 5**

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

**MENU 6**

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

**MENU 7**

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

**MENU 8**

Chicken w/salsa, Nut raisin mix, Cinnamon Imperial candies, Chocolate covered sports bar, Beverage base, FRH, Dining Pkt A

**MENU 9**

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

**MENU 10**

Beef enchilada, Osmotic fruit (raisins or cranberries), Peanuts (dry roasted, salted), Chocolate covered disks\*, Beverage base, FRH, Dining Pkt A

**MENU 11**

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

**MENU 12**

Cajun rice w/beans & beef sausage, Mango-peach applesauce, Peanuts (dry roasted, salted), Chocolate covered disks\*, Beverage base, 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

**SOPACKO:**

- \*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, kremsicle, fig bar)
- \*\*\*A variety of at least one per case (vanilla, chocolate, strawberry)

## SPECIAL PURPOSE RATIONS: Go-To-War (GTW) Ration

### 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 pounds (15 kilograms)/case; 2.26 pounds (1 kilogram)/meal
- **Cube:** 1.24 cubic feet (.04 cubic meters)/case; .09 cubic feet (2.5 cubic decimeters)/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 the Defense Logistic Agency's (DLA) Defense Supply Center Philadelphia (DSCP) 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 will be finalized.

The GTW Ration database, menus and packaging requirements were updated and provided to DSCP during Operation Iraqi Freedom.

The GTW Ration is not readily accessible. DSCP can only provide it when authorized to do so in situations where the MRE™ is not available.

### 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 pounds (8 kilograms)/case; 11.4 ounces (.3 kilograms)/packet
- **Cube:** 0.520 cubic feet (.02 cubic meters)/case; 24 cubic inches (.4 cubic decimeters)/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)

## SPECIAL PURPOSE RATIONS: Food Packet, Survival, Abandon Ship

### PURPOSE:

The Food Packet, Survival, Abandon Ship is used by the Navy to sustain personnel who must abandon ship. It is 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 pounds (22 kg)/case; 20 ounces (.5 kg)/packet maximum
- **Cube:** 1.36 cubic feet (39 cubic decimeters)/case; 36.6 cubic inches (.6 cubic decimeters)/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 TYPE I FOOD PACKET & COMPONENTS**



**PROPOSED TYPE I 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, candy coated chewing gum and twine (Type I) or two to six survival food bars (Type II). Both Type I and Type II are overwrapped in flexible laminated foil pouches. An instruction sheet is included in Type I food packet explaining the use of the product (one day supply) and the twine as an aid in storing and protecting the food products after the packet is opened. 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). The Type II item is a generic off-the-shelf commercial item, including packaging. No storage data is available for this product. The shelf life requirement is verified by certificate of compliance from the manufacturer.

■ **Weight:**

Type I: 8 lbs. (3.6 kg)/case; 3.5 oz. (99 grams)/packet  
 Type II: 14-16 ounces (.4-.5 grams)/packet

■ **Cube:**

Type I: .24 cubic feet (6.8 cubic decimeters)/case; 12 cubic inches (.2 cubic decimeters)/packet  
 Type II: 36.6 cubic inches (.6 cubic decimeters)/packet

**NUTRITIONAL DATA:**

Each Type I packet provides approximately 300 calories (100% carbohydrate). It is strictly a short-term survival food. Type II packet provides 400 calories per bar (two to six bars per packet). The Type II product is required to meet tolerances for maximum 8% protein, 0.5% salt and 45% minimum carbohydrate. 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.

**PREPARATION REQUIREMENTS:**

No preparation is necessary.

**COMMENTS:**

The Navy only requires small quantities of this product, and procurement is limited but purchased regularly.

Future redesign of the packaging is planned. Redesign is aimed at removing the twine included in the current packet (used to close the packet between uses). Plans for the new packet propose using a re-sealable zip-lock pouch.

## SPECIAL PURPOSE RATIONS: Humanitarian Daily Ration (HDR)

### 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 Defense Logistic Agency's (DLA) Defense Supply Center Philadelphia (DSCP). The HDR is composed of ready-to-eat thermostabilized entrées, and complementary components and is packaged in materials structurally 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 pounds (11 kg)/case; 1,237 pounds (561 kg)/pallet
- **Cube:** 1.02 cubic feet (.03 cubic meters)/case; 58.1 cubic feet (1.6 cubic meters)/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, Strawberry jam, Flat bread, Accessory pack

**MENU 1B:**

Barley stew, Lentil stew, Vegetable biscuits, Fruit bar, Peanut butter, 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, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

**MENU 2A:**

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

**MENU 2B:**

Barley stew, Peas in tomato sauce, Vegetable biscuits, Fruit bar, Peanut butter, 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, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

**MENU 3A:**

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

**MENU 3B:**

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

**MENU 3C:**

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

**MENU 4A:**

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

**MENU 4B:**

Rice & vegetables in sauce, Peas in tomato sauce, Vegetable biscuits, Fruit bar, Peanut butter, 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, Strawberry jam, Fruit pastry (2 pack), Shortbread (1 bar), Accessory pack

**MENU 5A:**

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

**MENU 5B:**

Lentil stew, Peas in tomato sauce, Vegetable biscuits, Fruit bar, Peanut butter, 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, 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

## SPECIAL PURPOSE RATIONS: Meal, Alternative Regionally Customized (MARC)

### 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 DSCP and the U.S. Navy food service personnel at GTMO, the salient performance characteristics and calorie requirements 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 pounds (8 kg)
- **Cube/Case:** .63 cubic feet (18 cubic decimeters)

### 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)





**PRODUCT PHOTOS:****PURPOSE:**

Tube foods are often referred to as high-altitude rations, or “foods with altitude.” The purpose of tube food is to feed U2 pilots in the U.S. Air Force (USAF) during reconnaissance missions that last for periods up to 12 hours. Due to the flying height of U2 jets during such missions, pilots must wear pressurized suits and helmets that cannot be removed, making it impossible for them to consume food with their hands or utensils. Instead, tube food is designed to attach directly to a feeding tube that extends from the outside of the helmet to the inside where the pilot is able to sip the food from a 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.

**CHARACTERISTICS:**

Each tube contains approximately 4.75-5.0 ounces (134-141 grams) of product and has a shelf life of 3 years at 80°F (27°C) and 6 months at 100°F (38°C). Menu varieties consist of the following:

- **Entrées:** Beef & Gravy, Beef Stew, Sloppy Joe, Chicken a la King, Vegetarian, Manhattan Clam Chowder
- **Fruits:** Applesauce, Peaches, Pears
- **Puddings & Desserts:** Butterscotch, Toffee, Caramel, Chocolate, Apple Pie, Cherry Dessert, Caffeinated Chocolate Pudding

**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.

**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 specific amino acid/tyrosine additives, nutrient supplementation and carbohydrate/electrolyte products.

## SPECIAL PURPOSE RATIONS

### ULTRA HIGH TEMPERATURE (UHT) MILK

#### 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 pounds (7.4 kg)/case
- **Cube:** 0.33 cubic feet (9.3 cubic decimeters)/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).

### WATER, DRINKING, EMERGENCY AND WATER, DRINKING, STERILE

#### PURPOSE:

These items, packaged in commercially acceptable containers, are suitable for emergency situations where water and resupply is not available.

#### CHARACTERISTICS:

Both items are commercially sterile water, ready for consumption. They are potable, colorless, odorless and hermetically sealed in the following two types of containers: (1) Water, Drinking, Emergency is packaged in four-fluid ounce (.12 liters) trilaminate disposable flexible pouches designed with a spout. Each intermediate box contains 24 pouches; there are two intermediate boxes per shipping carton; (2) Water, Drinking, Sterile is hermetically sealed in 16.9-fluid ounce (.5 liter) rigid plastic bottles with screw-on closures (caps). There are 24 bottles per shipping carton. Expected shelf life in both packages is 60 months (5 years).

#### PRODUCT PHOTOS:



ULTRA HIGH TEMPERATURE (UHT) MILK

#### PRODUCT PHOTOS:



TOP: EMERGENCY DRINKING WATER  
BOTTOM: STERILE DRINKING WATER

#### COMMENTS:

Finished products meet sterilization requirements of the U.S. Pharmacopoeia and are produced under commercial good manufacturing practices as regulated by the Food and Drug Administration (FDA) under the Food, Drug and Cosmetic Act. The pH range may be 6.0 – 8.0, maximum sodium content 160 mg/L and maximum chloride 250 ml/L.

**PRODUCT PHOTOS:**



**HCP TYPE I**



**HCP TYPE II**

**PACKAGE CONTENTS:**

**TYPE I**

Toothbrush, Toothpaste, Dental floss, Razors (twin blade disposables), Shaving cream, Soap (bar), Food powder, Tissues, Shampoo, Deodorant stick, Lip balm, Personal hygiene body wipes, Plastic bags (self seal), Sunscreen lotion, Toilet paper, Eye drops

**TYPE I (SUPPLEMENTAL ITEMS)**

Laundry detergent, Military sewing kit, Band Aids®

**TYPE II (FEMALE)**

Sanitary napkins (regular), Sanitary napkins (super), Tampons (regular), Tampons (super), Panty shields, Plastic bags (self seal, 1 gallon), Ponytail holders, Hair brush, Comb, Bobby pins, Personal hygiene body wipes

**TYPE III (MALE & FEMALE)**

Personal hygiene body wipes

**PURPOSE:**

Health & Comfort Packs (HCP) provide forward area troops everyday necessities required for their health and comfort when the Post Exchange system or local stores are not available.

**CHARACTERISTICS:**

The Type I HCP contains articles used by both males and females. It supplies 10 individuals for approximately 30 days. Each shipping container contains 10 prepackaged polyethylene bags (resealable) containing a designated quantity of 17 items for issue to 10 individuals. Each shipping container also contains other items intended as general supply for replacement or issue as needed

The Type II HCP is for females only and contains articles for feminine hygiene. It supplies 10 females for approximately 30 days. The contents of Type I and Type II HCPs are indicated in the accompanying photos. Expected shelf life of all components in Type I and Type II HCPs at the time of assembly is two years at 50-72° F (10-22° C).

The Type III HCP consists of a personal body wipe packet, bulk packed with 40 packets per box. Each packet contains 10 washcloth-size body wipes. Contents of each box are intended for 10 individuals. Expected shelf life at time of assembly is two years at 50-72° F (10-22° C).

■ **Weight/Case:**

- Type I: 58 pounds (26 kg)
- Type II: 18 pounds (8 kg)
- Type III: 25 pounds (11 kg)

■ **Cube/Case:**

- Type I: 2.91 cubic feet (.08 cubic meters)
- Type II: 1.86 cubic feet (.05 cubic meters)
- Type III: 1.86 cubic feet (.05 cubic meters)

**COMMENTS:**

The Health & Comfort Pack is managed by the Army Center of Excellence, Subsistence (ACES). The DoD Combat Feeding Directorate is not involved in the design or logistics planning of this item. Like other products in this pamphlet, however, this item undergoes field testing with Warfighters, and changes are made based on their feedback. If changes are made, they are usually in the size of a component or due to the popularity of a new item, but the basic list of items generally remains the same. The DoD CFD makes no endorsements of the commercial products and brand names depicted in the product photos, and those products are not necessarily those included in the Type I HCP or Type II HCP. All items are subject to change based on contractor discretion, commercial availability, and user acceptance.

## NEW DESIGNS FOR MRE™ MEAL BAGS

We know that the sensory quality of a product is determined by how the product looks, smells, feels, and tastes. When it comes to how a product looks, the packaging is the first thing Warfighters will notice, even before they see the actual food inside. As such, the outside appearance of a ration's packaging plays a psychological role in forming a Warfighter's opinion of the food inside. As part of the CPI process, the DoD CFD looks into new graphics for depiction on MRE™ meal bags in order to ensure that the first glimpse a Warfighter has of an MRE™ is a positive one. Similar to the evaluation process for rations, a sensory evaluation test, LAM (Labeled Affective Magnitude), has been utilized to collect Warfighter feedback on new designs for the MRE™ meal bag. With the collected data, 18 initial designs were narrowed down to the three highest rated designs based on surveys from Warfighters in OIF. Ration assemblers began using these new designs during MRE™ production in 2008.

## NUTRITIONALLY OPTIMIZED FIRST STRIKE RATION® (NOFSR®)

The Nutritionally Optimized First Strike Ration® is the next generation of the currently fielded First Strike Ration®. Like its predecessor, the NOFSR® will be a lightweight, highly modular ration that is calorically dense and intended for use during the first 72 hours of intense conflict. Setting the NOFSR® apart from other rations will be its utilization of performance optimizing ration components that carry a balance of food enhancers such as carbohydrates, caffeine, vitamins, antioxidants, and amino acids. These enhancers will allow for faster recovery of Warfighters from physical and mental fatigue, ultimately extending their physical and cognitive endurance on the battlefield. The NOFSR® will be used during sustained operations and under all climatic conditions.

In order to leverage the high acceptability and consumption rates of the FSR®, many of the NOFSR® components will be similar to those of the FSR®. Such components include shelf stable sandwiches, tortilla wraps, First Strike™ Bars and dessert bars. The primary difference in the NOFSR® components is that they will be formulated to serve as carriers for newly added food enhancers while still maintaining quality of taste and eat-on-the-move capability. Various types of food enhancers are being considered for inclusion in these performance optimizing components. Studies have shown that powerful anti-inflammatory compounds, such as quercetin and curcumin, have the potential to improve physical performance by increasing endurance, mitigating recovery time, and bolstering immune function. The amino acid tyrosine, a precursor to essential brain neurotransmitters, is also linked to improved cognitive performance. Ongoing research indicates that tyrosine has significant potential to enhance the decision making abilities of Warfighters operating in extreme and stressful environmental conditions. Other enhancers will encompass a more holistic approach to optimized performance, such as probiotics and prebiotics, which have been shown to improve gastrointestinal health.

## PRODUCT PHOTOS:



NEW MEAL BAG GRAPHICS



POTENTIAL NOFSR® FOOD ENHANCERS

PRODUCT PHOTOS:



**MODULAR OPERATIONAL RATION ENHANCEMENT (MORE)**

The Modular Operational Ration Enhancement (MORE) is being developed for the purpose of augmenting daily operational rations with scenario specific enhancement packs. Three types of MOREs will target high altitude, cold weather and long duration/extreme exertion operational environments. The technology concept behind the MORE is similar to the Nutritionally Optimized First Strike Ration® (see NOFSR® description) in that it will include food components enhanced with phytonutrients and micronutrients that are essential to improving the nutritional status and mental and cognitive abilities of Warfighters in demanding, extreme conditions.

Depending on the specific scenario for which the type of MORE is intended, performance enhancing ingredients such as tyrosine for cold weather operations, quercetin for extreme exertion, and caffeine and high carbohydrate supplementation for long duration and high altitude environments will be integrated into the food components. Developmental and commercial items compose the MORE, including such products as caffeinated pudding, energy gels and drinks, First Strike™ Bars, carbohydrate dense nut mixes, crackers, and Zapplesauce®. All components are eat-on-the-move and easy to prepare, hydrate, consume and digest. The MORE is lightweight and low in cube, providing only the essential enhancements that are imperative to maintaining Warfighter mental awareness and physical stamina.

Unlike the NOFSR®, the MORE is not intended to replace any individual ration under any circumstances. Rather, it will be used by Warfighters in addition to their daily operational ration in order to provide the extra calories and nutritional enhancements needed to combat weight loss and decreased physical and cognitive abilities in high stress, extreme environmental scenarios.





Today's 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 to the current cornerstone operational rations seen in this book, such as the Meal-Ready-To-Eat™ (MRE™), Unitized Group Ration™ (UGR™), First Strike Ration® (FSR®) and UGR-Express™ (UGR-E™). The evolution of rations has been possible because of the tremendous work performed by the early ration pioneer researchers that laid the groundwork for today's cutting edge technology performed by the Combat Feeding Directorate. This evolutionary work has been performed at various locations, beginning with the Quartermaster Subsistence School in the 1920s to the Chicago Quartermaster Depot in the 1930s and culminating with the revolutionary work at the state-of-the-art Natick Soldier Research Development and Engineering Center (NSRDEC) located in Natick, Massachusetts.

## 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 1-pt (.47 l) or Indian meal per week
- 1-pt of milk per day
- 1-lb of flour per day or hard bread, once a 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." Said one soldier: "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)

### WORLD WAR ONE

Characterized by trench warfare, this war was the first time hot food and drinking water were delivered to troops in the trenches. A Trench Ration consisted of:

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

Also available was the Reserve Ration (canned meat, canned bread, instant coffee), which contained the same food as the Trench Ration but acknowledged the need for protection from gas, spoilage, and dampness by being hermetically sealed in galvanized tins, which were only opened if no other food was available.



### WORLD WAR TWO

The US Military now had 23 different rations for a much varied force with different operational needs. One of the most infamous 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.



# HISTORICAL LOOK AT RATIONS

## KOREAN WAR

Research was starting to be put towards developing more nutritionally advanced rations, but Soldiers were forced to continue eating C-rations due to the surplus from WWII. Additional variety was attempted by including canned fruits, cakes, and bread.

## 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. Thus began the start of the MRE™:

- **1956:** requirement established
- **1961:** DA approval
- **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



## THE 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, vegetarian meals, and commercial items.

**Individual and group rations for American Warfighters have certainly come a long way!**



**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). Attached is the link for AR 40-25 ([http://www.army.mil/usapa/epubs/pdf/r40\\_25.pdf](http://www.army.mil/usapa/epubs/pdf/r40_25.pdf)).

**Can I purchase MREs™ at USA NSRDEC?**

No. The Combat Feeding Directorate is an RD&E organization. MREs™ are developed at NSRDEC and purchased by the Defense Supply Center Philadelphia. Their policy however, is not to sell rations to individuals, whether members of the Armed Services or civilians. Their customer eligibility policy can be viewed at <http://www.dscp.dla.mil/subs/rations/index.asp>.

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

No. The FSR® provides fewer calories than a day's supply of MREs™. It is a restricted-use ration that is designed for use as an eat-on-the-move assault ration during initial 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 comprising the operational ration.

**What is the shelf life of MREs™?**

The MREs™ have a 3-year shelf life when stored @ 80°F (27°C) for 3-years and 100°F (38°C) for 6-months. The shelf life can be longer if stored at cooler temperatures or shorter if stored at hotter temperatures. If you do not know the date of manufacture or the conditions in which they were stored, it is best to discard them. Military scenarios often involve extreme temperature environments and it is recommended that veterinary inspectors examine the MREs™ for quality and remaining shelf life prior to consumption.

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

Feedback from Operation Desert Shield / Desert Storm suggested that Warfighters would consume more if their preferences were taken into consideration. As part of DoD's focus on improved quality and customer satisfaction, the MRE™ and its components/packaging/packing undergoes continuous product improvement under the Fielded Individual Ration Improvement Process to enhance individual rations, increase ration variety, improve quality, and provide state-of-the-art food technology and packaging. The ultimate goal is to increase Warfighter acceptance and ultimately Warfighter performance.

New combat ration menus and components are introduced each year as a direct result of Warfighter input. Each year a list of candidate new menus is developed in compliance with OTSG nutritional requirements of an entrée, starch, beverage, snack/candy, condiments, and accessory pack. The new items must also fit in the set dimensions of the

meal bag and be adequately packaged in the meal case and meet the shelf life requirements of a minimum of 3-years at 80°F and 6-months at 100°F. New candidate items are field tested with Warfighters and rated on a Hedonic Scale of 1 to 9. In addition, questionnaires are included to ask what items the Warfighter would like to add or delete from the MRE™. Each field test is conducted approximately three years ahead of the procured menu cycle. For example the field test conducted in 2005 determined which items went into MRE™ XXVIII (2008 DOP). This time allows for all approved field tested items to be put into long term storage for data on each item's ability to fulfill the 3-year shelf life requirement. The Warfighter's input and acceptability scores determine which new items go into the MRE™ and which items are slated to come out. Once the scores are tabulated, the highest scoring items are recommended to the Joint Service Operation Ration Force (JSORF) as replacement items of those items that received the lowest overall scores. As of MRE™ XXX (2010), 216 new items have been approved and 66 items removed.

**Are MREs™ gluten free?**

No. A gluten free operational ration would be one in which barley, rye, wheat and oats are excluded and would result in major changes in the manufacturing and processing procedures and Government procurement and acquisition of our rations. Beginning in 1996 military specifications were replaced by performance specifications. Because of this, combat ration manufacturers have been able to use their own formulations as long as the end product meets military needs, based on performance-based contract requirements. In addition, in the past eight years, numerous commercial foods have been added to combat rations and it is the responsibility of the vendor to identify products containing gluten. It is extremely important that all of our Warfighters with gluten intolerance carefully read the ingredient label provided on all combat rations to ensure that no ingredients contain gluten and consult with their physician and/or registered dietitian regarding a gluten free diet. (Allergen fact sheet can be viewed at <http://nsrdec.natick.army.mil/media/fact/food/Allergens.pdf>)

**Are Kosher rations available for Warfighters observing Passover?**

Yes. Kosher rations are available for purchase via DSCP (Meal, Religious, Kosher for Passover). 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 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. The contents of one meal bag shall provide a minimum of 1200 calories. 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 a particular brand or manufacturer when purchasing

## FREQUENTLY ASKED QUESTIONS

ration components. After evaluation of a product, CFD writes performance based contract requirements that the military procurement agency (Defense Supply Center Philadelphia) subsequently incorporates into a request for proposal. Typically, even when specifying a recommended formula with macronutrient and micronutrient content, those technical documents are generic enough to allow anybody with the appropriate capabilities to produce the product. Brand name companies/products certainly have the right to bid on the contracts/solicitations regarding the procurement of operational ration components such as the MRE™. However, factors such as price, volume, and stringent/unique military packaging shelf life requirements often factor into a company's decision to contract with the government.

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

Supplement products is a fast growing, highly marketable industry and a new area of study for military rations. CFD is inundated with a host of nutritional supplements from companies that make health claims for physical and cognitive improvement. Until such time as sufficient research, data, and validation of clinical trials can be reviewed thoroughly and products are proven to be effective, the government cannot include them in operational rations. While our program does evaluate functional food additives and ingredients for military rations, we are prevented at this time from the incorporation of nutritional supplements which make health claims unless those products are first studied and approved by the Department of Defense Nutrition Committee.

### **Why aren't energy drinks provided in operational rations?**

Because of the weight and volume restrictions placed on a Warfighter's carrying load, popular energy drinks are not included as prepositioned operational rations. Many companies are referred to the Army Air Force Exchange Service (AAFES) to market their products and make them available to Warfighters ([http://www.aafes.com/pa/selling/suplr\\_hb3.pdf](http://www.aafes.com/pa/selling/suplr_hb3.pdf)).

### **What are the number markings on cases of MREs™?**

Those numbers are called the date of pack markings. Every case of MRE™ is required to bear 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 5010 would represent the date as January 10, 2005 (the 10th day of 2005). Lot code 6365 would represent December 31, 2006 (the 365th day of 2006).

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 is extended well beyond the inspection test date, but that is when it is best to have trained personnel inspect the rations.

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



### **TIME TEMPERATURE INDICATOR (TTI) LABELS**

The orange circles are called Time Temperature Indicator (TTI) Labels. TTIs are special labels that have been placed on almost every case of MREs™ produced in the last three years. 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 "bull's-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. The quality of products is highly dependent on the time and temperature of storage. Therefore, the darkening of the inner circle is related to the quality of food. Because the change is predictable and correlates with storage temperatures, the TTI will look the same at all time-temperature combinations that are equivalent to three years at 80° F (27°C). For instance, a TTI exposed to 110°F for one month, a TTI exposed to 100°F (38°C) for six months, and a TTI exposed to 80°F (27°C) for three years will all have the same appearance. The change in TTI appearance does not rely on a constant temperature, but actually reflects an aggregate temperature over the storage life of the product. This consistent and predictable change allows, at a glance, an estimate of whether the MRE™ has reached or exceeded its expected shelf life. Gross observation can also be used to quickly determine whether the product has some 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, they should be inspected by trained veterinary food inspectors or medical health personnel.





### 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.

- <http://hotchow.natick.army.mil>

### HAVE FEEDBACK ON RATIONS?

Please submit your comments, questions, and ideas to:

- [nati-amsrd-nsc-ad-b@conus.army.mil](mailto:nati-amsrd-nsc-ad-b@conus.army.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 DSCP 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**  
Defense Supply Center Philadelphia  
Directorate of Subsistence - Operational Rations  
DSCP-HR  
700 Robbins Avenue  
Philadelphia, PA 19111-5092

Commercial Phone: (215) 737-2952  
<http://www.dscp.dla.mil/subs/rations/index.asp>







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