

Meals Ready to Eat Nutrition Fact Sheet

INCREASED NEEDS DURING FIELD TRAINING:

- Most soldiers' nutrition needs are increased during a deployment due to increased activity during work (ie: setting up tents), carrying extra equipment and temperature changes.
- Eating (at least) three meals per day will supply you adequate energy (Table 2)
- Proper hydration is also important, as temperatures and work load increase so do fluid needs. (Table 1)

HYDRATION:

Symptoms of dehydration: fatigue, confusion, headache, lightheadedness, dry mouth, decreased appetite, dark urine, infrequent urination

TABLE 1: BASIC FLUID NEEDS BASED ON ACTIVITY LEVEL (FM 21-10)

Heat Category	WBGT Index Degrees F	Easy Work* Water Intake Qt/hr	Moderate Work** Water Intake Qt/hr	Hard Work*** Water Intake Qt/hr
1	78 – 81.9	½	¾	¾
2 (Green)	82 – 84.9	½	¾	1
3 (Yellow)	85 – 87.9	¾	¾	1
4 (Red)	88 – 89.9	¾	¾	1
5 (Black)	> 90	1	1	1

* Easy Work – Weapon Maintenance, Walking on hard surface w/ < 30 lb load, guard duty

**Moderate Work – walking loose sand w/ no load, walking hard surface w/ < 40 lb load, physical training

***Hard Work – walking on hard surface w/ ≥ 40 lb load, walking on loose sand w/ load, field assaults

Tips to increase fluids:

Drink by schedule, not by thirst

Drink cooler water

Take water everywhere you go, (ie: camel back, water bottle, and canteen)

Fluids are also in foods (fruits and vegetables)

Remember: Fluids include juices/sports drinks/water/etc... (anything without caffeine)

Warning

Hourly fluid intake should not exceed 1 ½ quarts.

Daily fluid intake should not exceed 12 quarts.

NUTRIENT NEEDS:

Type of Training	Calories Burned per Day Women	Calories Burned per Day Men
Military Basic Training	2000-3000	3000-4000
Combat Support Hospital Staff in Garrison	2000-2500	3000-3500
Combat Support Hospital Staff in Field	2500-3000	3700-4200

TABLE 2: BASIC NUTRIENT CONTENT OF GENERAL PURPOSE RATION MEALS:

Nutrient	UGR Breakfast*	UGR*** Lunch/Dinner**	MRE
Energy (calories)	1500	1500	1250
Protein	14 % (52 grams)	16% (60 grams)	13% (41 grams)
Carbohydrate	59% (221 grams)	55% (206 grams)	52% (163 grams)
Fat	27% (45 grams)	33% (55 grams)	38% (53 grams)

* Nutrient content reflects the entire meal to include mandatory supplement of 2 slices of bread, 2 (8oz) Milk and 1 Box Cold Cereal

** Nutrient content reflects the entire meal to include mandatory supplement of 2 slices of bread and 8 oz Milk

***Optional enhancements of fresh fruit and salad are not included in the nutrient contents.

Nutrient Fortification of MRE

:	Vitamin C	Calcium	Iron
Beverage Base	X	X	
Cocoa	X		
Cheese Spread	X		
Jalapeno Cheese Spread	X		
Peanut Butter	X		
Crackers	X	X	
Oatmeal Cookie Bar			X
Choc. Covered Bar	X		X
Fruits	X		

**these foods are chosen because flavor is not affected by fortification

Nutrient	MDRI (women-men)	MRE	UGR
Vitamin C	75-90 mg	110 mg	100 mg
Calcium	1000 mg	450 mg	600 mg
Iron	10-15 mg	7 mg	15 mg
Sodium	3600-5000 mg	1940 mg	2600 mg

Sodium:

MRE's are within MDRI (military dietary reference intakes) guidelines for sodium content (minus the salt packet)

Average sodium content per ration: 1940-2600 mg (5820-7800 mg/day)

Average sodium intake in garrison: 3000-7000 mg/day

Increased sodium in rations insures adequate sodium replacement for sweat losses

Functions of Nutrients:

Protein	Build and maintain tissue, energy source
Carbohydrates	Primary energy source
Fat	Provide energy
Calcium	Build and maintain teeth and bones
Iron	Help blood supply oxygen to cells
Sodium	Regulate body fluid volume and blood acidity
Vitamin C	Aid in fighting off illness

Nutrition Advice for Military Operations in Hot Environment:

POSITIVES	NEGATIVES
DO coordinate drinking and work/rest cycles	DO NOT allow soldiers to become dehydrated
DO maintain and enforce routing work and food discipline	DO NOT eat foods that are salty or high in protein if water is not available
DO provide adequate quantities of potable, palatable water	DO NOT use the deployment to a hot environment as an opportunity to start a diet
DO instruct soldiers to monitor the color and relative volume of their urine	DO NOT skip meals
DO monitor weight loss if possible	DO NOT consume unsanitary (untreated) ice
DO eat slightly more food than usually eaten in garrison	DO NOT eat uncooked or unpeeled fresh fruits and vegetables that have not been sanitized during operations in developing countries
DO encourage consumption of at least 2-3 meals per day to replace the salt lost in sweat	
DO encourage consumption of complex carbohydrate food and beverages	
DO establish specific meal times and have soldiers continue to consume snack foods throughout the day as time permits	

NUTRITION RELATED PROBLEMS OFTEN ENCOUNTERED IN THE FIELD:

1. CONSTIPATION:

Factors:

- Lack of water (Table 1)
- Lack of fiber

- Lack of exercise/activity
- Stress

Ways to increase fiber:

- Substitute peanut butter for cheese in MRE's.
- Choose MRE/UGR components such as vegetables
- fruits, beans, crackers & breads
- Choose cereals with higher fiber contents (Raisin Bran)

2. DIARRHEA:

- Hydration is key (Table 1)
- Proper sanitation, wash hands thoroughly after using restroom and before eating.

3. LACK OF ENERGY/WEIGHT LOSS:

- Take advantage of the 3 meals offered per day to keep energy needs up. (Table 2), eat at least part of the ration
- Promote ration consumption and monitory ration consumption
- Include carbohydrate rich sources at every meal and snack

SPECIAL NEEDS:

- **VEGETARIANS (to include those who don't eat Pork and Beef)**

4 vegetarian MRE meals available (2 per box)

8 poultry MRE meals available

Meat substitutes: peanut butter, milk, beans and nuts

Other UGR meal components that contain meat: rice and beans, baked beans, pasta

- **KOSHER & MUSLIM MEALS:**

Coordinate with unit Chaplin and dining hall

- **DIABETICS:**

Eat ½ to 2/3 of the meal to aid in better blood sugar control

Remember to eat a carbohydrate food/drink source every 3-5 hours