



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND
NATICK SOLDIER CENTER
KANSAS STREET
NATICK, MA 01760-5018
7 June 2004

Food Engineering Services Team

MEMORANDUM FOR Defense Supply Center Philadelphia
Directorate of Subsistence, Bldg. 6
ATTN: DSCP-FTSL
700 Robbins Avenue
Philadelphia, PA 19111-5092

SUBJECT: ES04-077, Nutrition Labels for Inclusion in the Meal, Ready-to-Eat (MRE)

1. Four nutrition labels for inclusion in the MRE have been approved by the Joint Services Operational Rations Forum (JSORF), which was held February 2003, at Fort Lee, VA.
2. The Natick Soldier Center (NSC) has prepared graphic drawings and electronic files (".jpeg" and ".ppt") of the nutrition labels that shall replace the label information entitled, "Military Rations Are Good Performance Meals", on the chipboard cartons of the following MRE Entrees:

For Chili and Macaroni, PCR-C-027, Delete "Military Rations Are Good Performance Meals" and Insert "Food, Water, and Exercise are Tactical Weapons".

For Beef Stew, PCR-B-020, Delete "Military Rations Are Good Performance Meals" and Insert "WHAT'S IN AN MRE".

For Spaghetti w/ Meat Sauce, PCR-S-0002, Delete "Military Rations Are Good Performance Meals" and Insert "Basic Heat Injury Prevention".

For Beef Enchiladas, PCR-B-010 Delete "Military Rations Are Good Performance Meals" and Insert "Do's and Don'ts for Cold Weather Nutrition".

3. NSC requests the Defense Supply Center Philadelphia (DSCP) provide the four nutrition labels to the MRE Assemblers for inclusion in the MRE XXV procurement (2005 Date of Pack). (Enclosed)



Food, Water, and Exercise are Tactical Weapons

- Drink 16-24 ounces of water or sports drinks before exercise, not a drink high in sugar (juice, soda, etc.)
- Consume some carbohydrates as soon as you finish exercising to replenish your glycogen stores in the muscles.
- Don't consume large meals within 90 minutes of exercise.
- Spread your meals throughout the day if possible. Eating more than three times a day will keep up your brain and muscle power.
- Breakfast is the most important meal of the day. It allows you to refill your carbohydrate stores from nightly growth and repair.

WHAT'S IN A MRE

Each MRE provides an average of 1250 kilocalories. The percent of calories from protein is 13%, fat 35%, carbohydrates 52%.



NUTRIENT FUNCTIONS AND RATION SOURCES

NUTRIENT	FUNCTION	MRE
PROTEIN	Build and maintain tissue; regulate water balance; formation of hormones, enzymes, and antibodies; excess intake used as energy	Entrees, meats, cheese, peanut butter
CARBOHYDRATE	Primary energy source; dietary fiber (non-digestible) assists the digestion system	Desserts, fruits, cocoa, candy, crackers, rice beverage base (sugar sweetened)
FAT	Provide energy; supply fatty acids for cell membranes; absorption of fat soluble vitamins	Peanut butter, entrees, cheese

BASIC HEAT INJURY PREVENTION

Consider water a tactical weapon. Drink frequently. Be aware that dark yellow colored, infrequent urination is a sign of dehydration. Perform heavy work in the cooler hours of the day, such as early morning or late evening, if possible. Minimize heat stress by decreasing work pace and/or increasing rest periods. Be aware that heat acclimatization takes 1-2 weeks.

HEAT CRAMPS

SYMPTOMS: Muscle cramps of arms, legs and/or stomach. Heavy sweating (wet skin) and extreme thirst may occur.

FIRST AID: Move the soldier to a shady area and loosen clothing. Have the soldier drink at least 1 canteen of water mixed with a packet of salt or sport drink.



HEAT EXHAUSTION

SYMPTOMS: Heaving sweating with pale, moist, cool or hot skin, weakness, dizziness, and/or fatigue.

FIRST AID: Move the soldier to a shady area and loosen clothing. Pour water on the soldier and fan to permit cooling effect. Have the soldier slowly drink at least one canteen of water. Elevate the soldier's legs.

HEATSTROKE

SYMPTOMS: Hot, disoriented, delirious, or unconscious. May have any of the heat exhaustion symptoms (including increased sweating) but the signs and symptoms are more severe.

FIRST AID: HEAT STROKE IS A MEDICAL EMERGENCY. EVACUATE to a medical facility.

HYPONATREMIA ("Water Intoxification")

SYMPTOMS: Confusion, disorientation, headache, nausea, vomiting, and muscle weakness. This condition is rare, however it can result from sodium losses in sweat, excessive water intake, or both.

FIRST AID: Consume salty snacks to offset the loss of salt in sweat—more serious symptoms may indicate a medical emergency.

Do's and Don'ts for Cold Weather Nutrition

- Do eat 25-50% more calories than usually eating in garrison.
- Do heat food and beverages at every opportunity, prior to eating.
- Do drink more than thirst indicates.
- Do eat snacks between meals.
- Don't eat snow or ice for moisture.
- Don't adopt bizarre dietary habits (such as eating only meat and butter) just because of being in the cold.
- Don't take multivitamin tablets or consume alcohol to ward off cold stress.
- Don't eat food cold because of being too busy to eat it when it's hot or too busy to stop and heat MRE's
- Don't use field training exercises in cold weather as an opportunity to lose weight.