Meal, Ready-to-Eat

From Wikipedia, the free encyclopedia
(Redirected from MRE)
"MRE" redirects here. For other uses, see MRE (disambiguation).

Two MRE packets: beef teriyaki and meatloaf with gravy

The Meal, Ready-to-Eat – commonly known as the MRE – is a self-contained, individual field ration in lightweight packaging bought by the United States military for its service members for use in combat or other field conditions where organized food facilities are not available. The MRE replaced the canned MCI, or Meal, Combat, Individual rations, in 1981,[1] and is the intended successor to the lighter LRP ration developed by the United States Army for Special Forces and Ranger patrol units in Vietnam.

Contents

- **1 History**
  - 1.1 Development
- **2 Requirements**
  - 2.1 Resale status
- **3 MRE contents**
  - 3.1 MRE menus over time
- **4 MRE Date Codes**
- **5 Criticisms**
- **6 Variants and similar rations**
- **7 See also**
- **8 References**
- **9 External links**

History
The first soldier ration established by a Congressional Resolution, during the Revolutionary War, consisted of enough food to feed a man for one day, mostly beef, peas, and rice. During the Civil War, the military moved toward canned goods. Later, self-contained kits were issued as a whole ration and contained canned meat, pork, bread, coffee, sugar and salt. During the First World War, canned meats were replaced with lightweight preserved meats (salted or dried) to save weight and allow more rations to be carried by soldiers carrying their supplies on foot. At the beginning of World War II, a number of new field rations were introduced, including the Mountain ration and the Jungle ration. However, cost-cutting measures by Quartermaster Command officials during the latter part of World War II and the Korean War again saw the predominance of heavy canned C rations issued to troops, regardless of operating environment or mission. The use of canned wet rations continued through the Vietnam War, with the improved MCI field ration.

Development
Flameless ration heater

After repeated experiences dating from before World War II, Pentagon officials ultimately realized that simply providing a nutritionally balanced meal in the field was not adequate. Service members in various geographic regions and combat situations often required different subsets of ingredients for food to be considered palatable over long periods. Moreover, catering to individual tastes and preferences would encourage service members to actually consume the whole ration and its nutrition. Most importantly, the use of specialized forces in extreme environments and the necessity of carrying increasingly heavy field loads while on foot during extended missions required significantly lighter alternatives to standard canned wet rations.

In 1963, the Department of Defense began developing the "Meal, Ready to Eat", a ration that would rely on modern food preparation and packaging technology to create a lighter replacement for the canned Meal, Combat, Individual ration. In 1966, this led to the Long Range Patrol, or LRP ration, a dehydrated meal stored in a waterproof canvas pouch. However, just as with the Jungle ration, its expense compared to canned wet rations, as well as the costs of stocking and storing a specialized field ration, led to its limited usage and repeated attempts at discontinuance by Quartermaster Command officials. In 1975, work began on a dehydrated meal stored in a plastic retort pouch. It went into special issue starting in 1981 and standard issue in 1986, using a limited menu of twelve entrées.
The MRE has been in continual development since 1993. In an array of field tests and surveys, service members requested more entrée options and larger serving sizes. By 1994, commercial-like graphics were added to make the packets more user-friendly, while biodegradable materials were introduced for inedible components, such as spoons and napkins.

The number of entrées expanded to 16 by 1996 (including vegetarian options), 20 entrées by 1997 and 24 entrées by 1998. Today, service members can choose from up to 24 entrées, and more than 150 additional items. The variety allowed service members from various cultures and geographical regions to find something palatable. In 1990, a Flameless Ration Heater (FRH), a water-activated exothermic reaction product that emits heat, allowed a service member in the field to enjoy a hot meal.

The ration originally came in a dark brown outer bag from 1981 to 1995 because it was designed for service in the temperate forests and plains of Northern Europe. It was replaced in 1996 with a tan outer bag that was better suited for service in the deserts of the Middle East.

In 2006, "Beverage Bags" were introduced to the MRE, as service members have begun to depend more on hydration packs than on canteens, thus denying them the use of the metal canteen cups (shaped to fit in a canteen pouch with the canteen) for mixing powdered beverages. In addition to having measuring marks to indicate levels of liquid for precise measurement, they can be sealed and placed inside the flameless heater.

Most recently, MREs have been developed using the Dietary Reference Intake, created by the Institute of Medicine (IOM). The IOM indicated servicemembers (who were classified as highly active men between the ages of 18 and 30) typically burn about 4,200 Calories (kcal) a day, but tended to only consume about 2,400 Calories a day during combat, entering a negative energy balance. This imbalance occurs when servicemembers fail to consume full portions of their rations. Although manipulations to the food items and distribution of macronutrients to help boost the amount of kilocalories per MRE have been made, more studies are showing many servicemembers still do not meet today's standards of daily consumption, often trading and discarding portions of the ration. Researchers continue to study the habits and eating preferences of servicemembers, making constant changes that encourage servicemembers to eat the entire meal and thus get full nutritional value.
In addition, the military has experimented with new assault ration prototypes, such as the First Strike Ration and the HOOAH! Bar, designed with elite or specialized forces in mind. Lighter than the typical MRE, they require no preparation and allow service members to eat them while traveling.[6]

In July 2009, 6,300 dairy shake packets of varying flavors were recalled due to evidence of Salmonella contamination.[7]

Requirements


Each meal provides about 1,200 Calories (1,200 kcal or 5,000 kJ). They are intended to be eaten for a maximum of 21 days (the assumption is that logistics units can provide fresh food rations by then), and have a shelf life of three years (depending on storage conditions).[8]

Packaging requirements are strict. MREs must be able to withstand parachute drops from 380 metres (1,250 ft), and non-parachute drops of 30 metres (98 ft). The packaging is required to maintain a minimum shelf life of three and a half years at 27 °C (81 °F), nine months at 38 °C (100 °F), and short durations from −51 °C (−60 °F) to 49 °C (120 °F) must be sustainable. New forms of packaging are being considered to better meet these requirements including the use of zein to replace the foil, which can be easily punctured, conducts heat, and is reflective (which may give away a service member's position).[9]

Each MRE weighs 510 to 740 grams (18 to 26 oz), depending on the menu.[5] Since MREs contain water, they weigh more than freeze-dried meals providing equivalent calories.

Resale status

As a result of earlier unauthorized sales to civilians, the Department of Defense requires that

U.S. Government Property, Commercial Resale is Unlawful

be printed on each case of MREs.[10] Despite the disclaimer, there are no laws that forbid the resale of MREs, except by military personnel.[11] Although the government has attempted to discourage sellers from selling MREs,[12] auction sites such as eBay have continued to allow auctions of the MREs because the Department of Defense has been unable to show them any regulations or laws specifically outlawing the practice. According to a spokesman for eBay, "until a law is passed saying you can't sell these things, we're not going to stop them from being sold on the site."[13] While MREs are not prima facie contraband, the procurement and sale of MREs by military personnel for personal profit is illegal under the Uniform Code of Military Justice Article 108.[14]
An investigation done in 2006 for the US Government Accountability Office determined multiple instances where sellers on eBay may have improperly obtained MREs and sold them to the public for private gain. As military MREs are procured using taxpayer dollars, they are intended to be consumed by individuals from authorized organizations and activities. Consequently, "if military MREs are sold to the general public on eBay, then they are clearly not reaching their intended recipients and represent a waste of taxpayer dollars and possible criminal activity." Further, MREs found on eBay are typically older and closer to their expiry date, having been sourced in "neighborhood yard sales" and "Marine base dumpsters."

The recent growth of MREs listed on eBay (2005) has resulted in a government investigation of whether they were intended for Hurricane Katrina victims, and the news media nickname "Meals Ready for eBay." Some cases are being sold from Louisiana, Mississippi, Florida and other Gulf states affected by Katrina. The internal cost of a 12 pack case of MREs is $86.98 (approx. $7.25 a meal) to the government, much higher than what is actually paid to vendors. That said, MREs can be purchased by civilians directly from the contractors who supply MREs to the United States Government. These MREs are very similar to genuine US Government MREs, differing only in minor details (i.e. design of case and bag or type of spoon).

**MRE contents**

An MRE contains a main course, side dish, bread, dessert, and flameless ration heater

General contents may include:

- Main course (*entree*)
- Side dish
- **Dessert** or *snack* (often commercial candy, fortified pastry, or *Soldier Fuel Bar*.)
- **Crackers** or **bread**
- Spread of **cheese, peanut butter**, or **jelly**
- Powdered **beverage** mix: fruit flavored drink, cocoa, **instant coffee** or **tea, sport drink**, or **dairy** shake.
- **Utensils** (usually just a plastic **spoon**)
- **Flameless ration heater** (FRH)
- Beverage mixing bag
- Accessory pack:
  - Xylitol chewing gum
  - Water-resistant **matchbook**
  - Napkin / toilet paper
  - Moist towelette
  - **Seasonings**, including **salt, pepper, sugar, creamer**, and/or **Tabasco sauce**

Many items are fortified with nutrients. In addition, **DoD** policy requires units to augment MREs with fresh food and **A-rations** whenever feasible, especially in training environments.

**MRE menus over time**

In an effort to make MREs more palatable to service members and match ever-changing trends in popular tastes, the military is constantly seeking feedback to adjust MRE menus and ingredients. In the following list, only main entrees are listed. Vegetarian menus are marked on their first appearance. (see [17])

**MRE Date Codes**

The cases of MREs usually are marked with the production date in the American fashion: 2-digit Month / 2-digit Day / 4-digit Year (e.g., March 9, 2001 would be rendered as 03/09/2001).

This is followed by the **Lot Number**, a 4-digit date code that is also repeated on the contents. The first digit is the last digit of the Year (e.g., 0 is equal to 2000 or 2010, 1 is equal to 2001 or 2011, and 9 is equal to 1999 or 2009). The next 3 digits are equal to the day of the year (i.e., 001 to 365). "1068" would be equal to the 68th day of 2001 or 2011, for example March 9, 2001.

The **Date Packed** on the box is the 2-digit Month / 2-digit Year (e.g., October 1991 would be rendered as "10/91").

Cases are inspected and tasted 3 years from production. Cases that pass inspection are stamped with the **Inspection / Test Date**, which is in the same format as the Packing Date (e.g., October 1994 would be rendered as "10/94").

Rations optimally must be kept in a cool, dry place during storage. Rations are discarded after 5 years.

**Criticisms**

Some of the early MRE main courses were not very palatable, earning them the nicknames "Mr. E" (mystery), "Meals Rejected by Everyone", "Meals, Rarely Edible", "Meals Rejected by the Enemy", "Morsels, Regurgitated, Eviscerated", "Mentally Retarded Edibles", "Meal Ready to Expel", "Meal Ready to Expel".
"Meal, Ready to Excrete", "Meals Rejected by the Emaciated", "Materials Resembling Edibles", "Morale Reducing Elements", and even "Meals Rejected by Ethiopians" (in reference to the 1983-1985 famine in Ethiopia). Some meals got their own nicknames. For example, the frankfurters, which came sealed in pouches of four, were referred to as "the four fingers of death". Although quality has improved over the years, many of the nicknames have stuck. MREs were sometimes called "Three Lies for the Price of One": it's not a Meal, it's not Ready, and you can't Eat it.

Some meals got their own nicknames. For example, the frankfurters, which came sealed in pouches of four, were referred to as "the four fingers of death". Although quality has improved over the years, many of the nicknames have stuck. MREs were sometimes called "Three Lies for the Price of One": it's not a Meal, it's not Ready, and you can't Eat it.

New Orleans Mardi Gras revelers in 2006 dressed in coats made from MRE packaging

Their low dietary fiber content could cause constipation in some, so they were also known as "Meals Requiring Enemas", "Meals Refusing to Exit", "Meals Refusing to Excrete", or "Massive Rectal Expulsions". While the myth that the gum found in MREs contains a laxative is false (however, they are sweetened with xylitol, which has a mild laxative effect), the crackers in the ration pack do contain a higher than normal vegetable content to facilitate digestion. In December 2006, comedian Al Franken (on his 8th USO tour at the time) joked to troops in Iraq that he had had his fifth MRE so far and "none of them had an exit strategy".

A superstition exists among troops about the Charms candies that come with some menus: they are considered bad luck, especially if actually eaten. Some attribute this to a case of a dislike becoming a superstition (i.e. not eating them 'just in case' or because it might make one's comrades uneasy).

In March 2007, The Salt Lake Tribune invited three gourmet chefs to taste-test 18 MRE meals. None of the meals rated higher than a 5.7 average on a scale of 1-to-10, and the chicken fajita meal, in particular, was singled out for disdain, rating an average score of 1.3.

The National Guard has provided MREs to the public during national disasters, such as Hurricanes Katrina, Ike, and Sandy, and The April 2011 Tornadoes. The large number of civilians exposed to MREs prompted several jokes during the recent New Orleans Mardi Gras, with revellers donning clothing made of MRE packets with phrases such as "MRE Antoinette" and "Man Ready to Eat".

The use of rations for noncombat environments has been questioned. While the nutritional requirements are suitable for a combat environment where servicemembers will burn many calories and lose much sodium through sweat, it has been provided as emergency food or even as a standard meal. The high-fat (averaging about 52 grams of fat, 5 grams trans fats) and high-salt content are less than ideal for sedentary situations. The HDR and TOTM account for this nutritional need.
Variants and similar rations

Halal ration

Humanitarian daily ration

Tailored Operational Training Meal
Aircrew Build to Order Meal Module

The MRE has led to the creation of several similar field rations.

Aircrew Build to Order Meal Module (ABOMM) are a special variant consisting of repacking existing MRE food elements into a form that provide military flight crews and tank operators with a meal designed to be eaten on the go or while operating their aircraft/ground vehicle without the use of utensils, and packaged for use in confined spaces.[28]

For servicemembers with strict religious dietary requirements, the military offers the specialized Meal, Religious, Kosher/Halal. These are tailored to provide the same nutritional content, but will not contain offending ingredients.[29] The entrees come in distinct stylized packaging with a color picture of the prepared entree on it (like civilian pre-made meals) and the food accessories come in commercial packaging. Kosher entrees are marked "Glatt Kosher" in Hebrew and English, while Halal entrees are marked "Dhabiba Halal" in Arabic and English. The meals come in cases of 12 that weigh 18 lbs. and have a volume of 1.4 cubic feet. To keep with dietary laws, the Entree and Accessory packets are packed in two separate inner boxes in an outer case and come in Kosher or Halal only (the two special ration types are never mixed in a shipping case).

The entrees come in Beef, Lamb, Chicken, Vegetarian, and Pasta dishes. The entrees are a mixture of traditional Middle-Eastern and Southwest-Asian dishes (like Lamb & Vegetable Jalfrezi or Curried Chicken with Basmati Rice, Lentils, and Vegetables) and Western dishes (like Vegetable Ratatouille, Florentine-style Vegetable Lasagna, or New Orleans Gumbo with Chicken). Each menu contains an average of 1200 calories and has a shelf life of 3 to 10 months.

There is also a special Kosher meal certified for Passover requirements.[30] The "Passover Ration" (officially called the Meal, Religious, Kosher for Passover) contains packages of Matzoh Crackers and has Beef, Chicken (served on the bone), or Salmon entrees. Each meal is in its own packet and come 12 packets to a case.

The Humanitarian Daily Ration (HDR) is a self-contained Halal meal designed to be given to refugees and other displaced people. It is designed to feed a single person for a full day, and the menus were intended to be palatable to many religious and cultural tastes around the globe. To meet this goal, no animal products or by-products, no alcohol or alcohol-based products, and minimal dairy products are used in their production. It is otherwise created and packaged much like MREs; feedback from the Afghanistan campaign led to the interior packing being reinforced to withstand being air-dropped, as the packets sometimes ruptured on impact. The outer bag is tinted a high-visibility red or yellow and has an American Flag and a picture of a person eating out of the bag with a spoon. There are usually instructions printed on it in English and one or more local languages as well.

In extreme cold temperatures, the packaged wet food in MREs can freeze solid, rendering the food inedible and the heating packet insufficient. The Meal, Cold Weather provides a ration similar to the MRE designed for lower temperatures than the MRE can withstand. Clad in white packaging, it offers a freeze-dried entree designed to be eaten with heated water, the same side ingredients as the standard MRE, and additional drink mixes to encourage additional hydration. The caloric and fat content of the meals is also increased.[31] The MCW replaced the Ration, Cold Weather (RCW).[32]

The Meal, Long Range Patrol (LRP) is essentially the same as the MCW, but with different accessory packs. The MLRP is designed for troops who may receive limited or no resupply, and weight of the ration is critical.[31] The similar First Strike Ration is along the same lines, but requires no preparation and may be eaten on the go.

The Tailored Operational Training Meal (TOTM) first entered service in May, 2001. It provides a lower calorie count (an average of 997 calories) for less intensive training environments, such as classroom instruction. It replaces the earlier mess-hall bagged lunches, catered meals or field kitchens for field
instruction. The TOTM allows troops to become familiar with the MRE and its contents without providing an excessive amount of calories to troops who will not necessarily burn them. It uses an opaque outer plastic bag with commercial markings rather than the MRE's tan plastic bag with standard markings. There are currently 3 different lists of twelve menus, making a total of 36 different meals. Each TOTM ration case is packed with a full menu of 12 assorted meals, weighs about 20 lbs., and is 0.95 cubic feet. The TOTM has a more limited shelf-life than the MRE, with a duration of only 12 to 18 months.

The Unitized Group Ration (UGR) is a ration much like the MRE, but expanded to feed large groups. It comes packed in sealed metal trays that are heated and then opened.

The Food Packet, Survival, General Purpose, Improved (FPSGPI) is given to pilots and other service members that may require a small, extremely portable food ration for emergencies. It contains food bars and a drink mix. Similarly, the Food Packet, Survival, Abandon Ship (FPSAS) and Food Packet, Survival, Aircraft, Life Raft (FPSALR) are fitted into the storage areas on lifeboats.

References

4. Institute of Medicine, Dietary Reference Intake
7. Dairy shake recall notices
9. Food & Beverage Packaging – Market Insights to Packaging Solutions
11. GAO-06-410R Investigation: Military Meals, Ready-To-Eat Sold on eBay
12. MREInfo – US Govt. vs. eBay Auctions
13. eBay sales of military rations scrutinized | Tech News on ZDNet
24. Al Franken delivers message and entertainment for deployed troops
26. Word of mouth on Ready-to-Eat (with video) – Salt Lake Tribune
27. YouTube – Salt Lake chefs rate the MRE
29. Meal, Religious, Kosher/Halal factsheet by the Defense Logistics Agency
30. Meal, Religious, Kosher for Passover factsheet by the Defense Logistics Agency
31. Meal, Cold Weather/Long Range Patrol factsheet by the Defense Logistics Agency
32. Ration, Cold Weather
33. Food Packet, Survival, General Purpose, Improved factsheet by the Defense Logistics Agency
34. Food Packet, Survival, Abandon Ship factsheet by the Defense Logistics Agency
35. Food Packet, Survival, Aircraft, Life Raft factsheet by the Defense Logistics Agency