



Preparing an Emergency Food Supply, Long Term Food Storage

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Flash floods, tropical storms, blizzards...whatever the disaster, it pays to be prepared. Emergency items should be stored in a disaster supply kit.

Putting Together a Disaster Supply Kit

Items to include in a disaster supply kit:

- Medical supplies and first aid manual*
- Hygiene supplies
- Portable radio and extra batteries**
- Flashlights and lanterns with extra batteries**
- Camping cookstove and fuel
- Sterno cans
- Matches in a waterproof container
- Fire Extinguisher**
- Blankets and extra clothing
- Shovel and other useful tools
- Money in a waterproof container
- Infant and small children's needs (if appropriate)*
- Can opener, utensils, cookware

** Check periodically.

In a crisis, it will be most important that you maintain your strength. Eating nutritiously can help you do this. Here are some important nutrition tips.

- Plan menus to include as much variety as possible.
- Eat at least one well-balanced meal each day.
- Drink enough liquid to enable your body to function properly (two quarts a day).
- Take in enough calories to enable you to do any necessary work.

- Include vitamin, mineral and protein supplements in your stockpile to assure adequate nutrition.

When deciding what foods to stock, use common sense. Consider what you could use and how you could prepare it. Storing foods that are difficult to prepare and are unlikely to be eaten could be a costly mistake.

One approach to long term food storage is to store bulk staples along with a variety of canned and dried foods.

Bulk Staples

Wheat, corn, beans and salt can be purchased in bulk quantities fairly inexpensively and have nearly unlimited shelf life. If necessary, you could survive for years on small daily amounts of these staples. The following amounts are suggested per adult, per year:

Item	Amount*
Wheat	240 pounds
Powdered Milk	75 pounds
Corn	240 pounds
Iodized Salt	5 pounds
Soybeans	120 pounds
Fats and Oil	20 pounds**
Vitamin C***	180 grams

* Best to buy in nitrogen-packed cans

** 1 gallon equals 7 pounds

*** Rotate every two years

Stocking Foods for Infants

Special attention would need to be paid to stocking supplies of foods for infants. Powdered formula would be the least expensive form of infant formula to stock. Commercially canned liquid formula concentrate and ready-to-feed formula may also be stored. Amounts needed would vary, depending on the age of the infant. Infant formula has expiration dates on the packages and should not be used past the expiration date. Parents should also plan to have a variety of infant cereals and baby foods on hand. Amounts needed will vary depending on the age of the infant.

Other Foods to Supplement Your Bulk Staples

You can supplement bulk staples which offer a limited menu with commercially packed air-dried or freeze-dried foods, packaged mixes and other supermarket goods. Canned meats are a good selection. Rice and varieties of beans are nutritious and long-lasting. Ready-to-eat cereals, pasta mixes, rice mixes, dried fruits, etc. can also be included to add variety to your menus. Packaged convenience mixes that only need water and require short cooking times are good options because they are easy to prepare. The more of these products you include, the more expensive your stockpile will be.

The following is an easy approach to long-term food storage:

1. Buy a supply of the bulk staples listed previously.
2. Build up your everyday stock of canned goods until you have a two-week to one-month surplus. Rotate it periodically to maintain a supply of common foods that will not require special preparation, water or cooking.
3. From a sporting or camping equipment store, buy commercially packaged, freeze-dried or air-dried foods. Although costly, this is an excellent form of stored meat, so buy accordingly. (Canned meats are also options.) Another option is to purchase dry, packaged mixes from the supermarket.

Consider stocking some of the items listed as examples below. Amounts are suggested quantities for an adult for one year.

Flour, White Enriched	17 lbs
Corn Meal	42 lbs
Pasta (Spaghetti/Macaroni)	42 lbs
Beans (dry)	25 lbs
Beans, Lima (dry)	1 lb
Peas, Split (dry)	1 lb
Lentils (dry)	1 lb
Dry Soup Mix	5 lbs
Peanut Butter	4 lbs
Dry Yeast	1/2 lb
Sugar, White Granulated	40 lbs
Soda	1 lb
Baking Powder	1 lb
Vinegar	1/2 gal

All dry ingredients or supplies should be stored off the floor in clean, dry, dark places away from any source of moisture. Foods will maintain quality longer if extreme changes in temperature and exposure to light are avoided.

Grains

If you purchase bulk wheat, dark hard winter or dark hard spring wheat are good selections. Wheat should be #2 grade or better with a protein content from 12 - 15% and moisture content less than 10%. If wheat is not already in nitrogen-packed cans, it can be stored in sturdy 5 gallon food-grade plastic buckets or containers with tight fitting lids. If the wheat has not already been treated to prevent insects from hatching, wheat may be treated at the time of storage by placing one-fourth pound of dry ice per 5 gallon container in the bottom and then filling with wheat. Cover the wheat with the lid, but not tightly, for five or six hours before tightening the lid to be air tight. Other grains to consider storing include rye, rice, oats, triticale, barley and millet. Pasta products also satisfy the grain component of the diet. Milled rice will maintain its quality longer in storage than will brown rice. Many of the grains may require grinding before use. Some health food stores sell hand-cranked grain mills or can tell you where you can get one. Make sure you buy one that can grind corn. If you are caught without a mill, you can grind your grain by filling a large can with whole grain one inch deep, holding the can on the ground between your feet and pounding the grain with a hard metal object such as a pipe.

Non-fat Dry Milk/Dairy Products

Store dry milk in a tightly covered air-tight container. Dry milk may be stored at 70oF for 12 - 24 months. If purchased in nitrogen packed cans, storage time for best quality will be 24 months. Other dairy products for long term storage may include canned evaporated milk, pasteurized cheese spreads and powdered cheese.

Other Foods or Ingredients

Iodized salt should be selected and stored in its original package. Dried beans, peas, lentils, etc. provide an inexpensive alternative to meat and are easy to store in glass or plastic containers tightly covered. Those purchased from the grocery shelf are normally the highest quality.

Open food boxes or cans carefully so that you can close them tightly after each use. Wrap cookies and crackers in plastic bags, and keep them in air-tight storage containers. Empty opened packages of sugar, dried fruits and nuts into screw-top jars or airtight food storage containers to protect them from pests. Inspect all food containers for signs of spoilage before use. Commercially canned foods are safe to eat after long periods of storage unless they are bulging, leaking or badly rusted. Quality, however, will diminish with long term storage. Changes in flavor, color and texture may be observed and nutritional value will decrease. For best quality, use within one year. If stored longer than one year, rotate canned goods at least every two to four years.

Vitamin and Mineral Supplements

To help compensate for possible deficiencies in the diet in emergency situations, families may wish to store 365 multi-vitamin/mineral tablets per person. Careful attention should be paid to expiration dates on packages.

Shelf Life of Foods for Storage (Unopened)

Here are some general guidelines for rotating common emergency foods to ensure the best quality of the products.

- *Use within six months:*
 - Powdered milk (boxed)
 - Dried fruit (in metal container)
 - Dry, crisp crackers (in metal container)
 - Potatoes
- *Use within one year:*
 - Canned condensed meat and vegetable soups
 - Canned fruits, fruit juices and vegetables
 - Ready-to-eat cereals and uncooked instant cereals (in metal containers)
 - Peanut butter
 - Jelly
 - Hard candy, chocolate bars and canned nuts
- *May be stored indefinitely* (in proper containers and conditions):*
 - Wheat
 - Vegetable oils
 - Corn
 - Baking powder
 - Soybeans
 - Instant coffee, tea
 - Cocoa
 - Salt
 - Noncarbonated soft drinks
 - White rice
 - Bouillon products
 - Dry pasta
 - Vitamin C
 - Powdered milk (in nitrogen-packed cans)

*Two to three years

FIRST, use perishable food and foods from the refrigerator. THEN use the foods from the freezer. To minimize the number of times you open the freezer door, post a list of freezer contents on it. In a well-filled, well-insulated freezer, foods will usually still have ice crystals in their centers. Consume the foods only if they have ice crystals remaining or if the temperature of the freezer has remained at 40 degrees F or below. Covering the

freezer with blankets will help to hold in cold. Be sure to pin blankets back so that the air vent is not covered. FINALLY, begin to use non-perishable foods and staples.

References:

1. Federal Emergency Management Agency. June 16, 1998 Update. Emergency Food and Water Supplies (FEMA-215). Washington, DC.
2. Church of Jesus Christ of Latter-Day Saints. 1998. Emergency Preparedness Manual.