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Refrigerator Storage

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Storing certain foods in the refrigerator is a sensible way to extend the quality, safety, and nutritional value of your groceries.

Remember safety first with refrigerator storage. Microorganisms cause over 76 million cases of foodborne illness each year in the United States. The three microorganisms responsible for most cases are Norovirus, *Campylobacter*, and *Salmonella*. Improper food storage can cause these normally minor bacteria to multiply and cause foodborne illness. Most bacterial growth will happen when food is kept in the Danger Zone. The Danger Zone refers to food at a temperature between 41 degrees Fahrenheit and 135 degrees Fahrenheit. Perishable food kept at these temperatures for 2 or more hours has a higher chance for microorganism to multiply to a level that can cause foodborne illness.

To keep food safe, be sure to keep your refrigerator below 41 degrees Fahrenheit. Do not over-pack your refrigerator or air will not be able to circulate properly, making it difficult to cool down the food. The warmest area of your refrigerator is the shelf space in the door and the coldest area is in the back.

How long should you keep food in the refrigerator?

The length of time you can safely store food in the refrigerator depends on whether or not the food is fresh, unpackaged food, or packaged food. It also matters if the package has been opened, or if the food has been cooked. The chart in this fact sheet provides information to help you decide how long to keep foods, whether fresh, cooked, packaged, or if the package has been opened. With some exceptions,

fresh foods, opened foods, and cooked foods should not be kept in the refrigerator longer than 4 to 7 days. If you think you will keep these foods longer, the recommendation is to freeze the food for later use. Refer to the Ohio State University Extension fact sheet, Freezer Storage (HYG-5402-94-R10) for information on how to freeze food.

A common question when it comes to refrigerator storage is what does the date mean? The date does not refer to the safety of the food. According to the United States Department of Agriculture Food Safety and Inspection Service (USDA FSIS) there are four types of dates that will appear on refrigerated foods: Sell-By, Best-if-Used-By (or Before), Use-By, and closed or coded dates. A Sell-By date tells the store how long the product should be on display. Be sure to buy a product before this date. A Best-if-Used-By (or, Before) date is recommended for the best quality of the food. That means that the flavor, color, or texture of the food may have some deterioration after that date. A Use-By date is the last date that the manufacturer recommends that the product is at its peak quality. A closed or coded date includes packing numbers, not a calendar date, for use by manufacturers. The only perishable foods that by federal law require a date are baby formula and some baby foods. State regulations, however, may require dates on certain foods such as eggs. Packages of eggs that have the USDA grade shield on them means that they must have the stamped "pack date." This is a three-digit code that correlates to the Julian Date, or consecutive day of the year (for example, January 1 is 001).

When choosing foods, purchase items before the Sell-By date has passed and select packages with the longest time until the Best-if-Used-By date has passed. At home, store food below 41 degrees Fahrenheit, or freeze. Once properly stored, refer to the storage chart to determine how long food can be stored for safety, regardless of the date on the package.

Tips for Storing Food in the Refrigerator

- While there are many products that claim to extend the life of vegetables and greens in the refrigerator, few are actually able to stop the decay caused by the natural release of gasses from the vegetables. The original bags that spinach and produce come in from the grocery are specially designed to release the gasses. It is therefore better to store leftovers in the original packaging and tape the bag shut to ensure freshness.
- Don't cut fruit or vegetables until you are ready to prepare for a meal.
- Just before preparation, thoroughly rinse fresh fruits and vegetables under cool running water before eating. Do not use soap, dish detergent, bleach, or commercial vegetable and fruit washes.
- Prepare only the amount of produce you can eat in one meal.
- Don't store wet fruit and vegetables—wash just before preparation or dry thoroughly before placing in the refrigerator.
- If you have too much to eat in one meal, store the vegetable or fruit that you don't prepare in the refrigerator. When you are ready to eat this food,

- make a "fresh cut" where the vegetable or fruit is bruised, cut, or damaged and throw that part away.
- Avoid eating raw sprouts.
- Don't wrap mushrooms in a paper bag because they will turn spongy and wrinkly. Don't cover them with a wet paper towel as this will only speed up the decaying process. Do store loose mushrooms in a zipper-lock bag partially opened to allow for proper air circulation. Whenever possible, store mushrooms in their original container. Even after opening the package and using some, store the reminder back in the container covering with plastic wrap.
- Fish stored at 32 degrees Fahrenheit will keep twice as long as fish stored at 41 degrees Fahrenheit. In order to achieve this desired atmosphere, place fish in a zipper-lock bag on ice and store at the back of the refrigerator (the coldest part). Remember, chill fish immediately upon returning home.
- Keep eggs in their original container and store in the coldest part of the refrigerator, not the door. Since eggs can be sold up to 2 months after packaging, store in the refrigerator for only 3 to 5 weeks, depending on when you purchased them.
- Butter can pick up odors in the refrigerator and become rancid after only a month. If you do not use butter often, store it in a zipper-lock bag in the freezer and thaw as needed. Butter will stay safe in the freezer for up to 4 months.
- Once maple syrup is opened, store in the refrigerator for 6 months to a year to reduce the chance of yeast, bacteria, and mold growth.

Refrigerator Storage Chart

Here is a chart with information on the appropriate length of storage in the refrigerator for various foods.

Food	Recommended Storage Time for Safety at 33–41°F	Handling Hints
Dairy Products		
Butter	1 to 2 weeks	Wrap or cover tightly.
Margarine	4 to 5 months	Hold only two-day butter supply or two-week margarine supply in butter keeper.
Buttermilk	3 to 5 days	Cover tightly. Flavor not affected if buttermilk separates; remix before serving.

Food	Recommended Storage Time for Safety at 33–41°F	Handling Hints
Cottage or ricotta cheese	5 days	
Neufchatel, cream cheese	1 to 2 weeks	Keep all cheese tightly packaged in moisture- resistant wrap. If outside of hard cheese gets
Unopened packages of hard or wax coated (such as Cheddar, Edam, Gouda, Swiss, brick) cheese	4 to 6 months	moldy, remove 1 inch of cheese under and around the mold before eating.
Opened packages of hard and wax coated (such as Cheddar, Edam, Gouda, Swiss, brick) cheese	3 to 4 weeks	Hard cheese may be frozen for longer storage.
Sliced or grated hard cheese	2 weeks	
Soft cream cheese	5 to 6 days after opening	
Parmesan, Romano—grated (opened)	2 months	Refrigerate after opening.
Processed cheese, food products (loaf, slices)	3 to 4 weeks	Refrigerate slices of process cheese and cheese food. Refrigerate loaves and jars after opened. Most squeeze packages and aerosol cans don't need refrigeration (check label).
Commercial dips, such as sour cream	2 weeks	Keep tightly covered.
Homemade dips	2 days	Keep tightly covered.
Cream—light, heavy, half and half	3 days	Cover tightly. To prevent bacteria spreading into leftover cream, do not return unused cream to original container.
Coffee lightener (liquid)	3 weeks	Do not return unused portion to original container.
Cream—whipped, ultra pasteurized (unopened)	1 month	
Cream—whipped, sweetened	1 day	
Whipped cream in aerosol can	3 months	
Whipped topping prepared from mix	3 days	Keep covered.
Whipped topping bought frozen (once thawed)	2 weeks	Keep covered.
Milk evaporated (opened)	4 to 5 days	Keep covered.
Milk	5 days	Keep container tightly closed. Don't return unused milk to original container.
Milk sweetened, condensed (opened)	4 to 5 days	Transfer to non-metal container. Keep covered.
Mayonnaise	2 months	Refrigerate after opening.
Pudding	2 days after opening	Keep covered.
Yogurt	7 to 10 days	Keep covered.
Eggs		
Eggs in-shell	3 to 4 weeks	Store covered. Keep small end down to center yolks.
Egg whites	3 days	Store in covered container.
Egg yolks	3 days	Cover yolks with water; store in covered container.
Hard cooked eggs	1 week	
Egg-containing products: custards, custard-filled pastries, cream pies	1 to 2 days	

Food	Recommended Storage Time for Safety at 33–41°F	Handling Hints
Liquid or pasteurized eggs or egg substitutes opened	3 days	
Liquid or pasteurized eggs or egg substitutes unopened	10 days	
Fruits and Vegetables		
Bananas	See handling hints to the right.	Refrigerate only when fully ripe.
Apples	1 to 3 weeks	
Berries, cherries, peaches, pears, pineapple, etc.	1 to 2 days	Discard bruised or decayed fruit. Do not wash before storing—moisture encourages spoilage. Store in crisper or moisture-resistant bag or wrap.
Citrus fruit	3 weeks	Wrap cut surfaces of citrus fruit to prevent Vitamin C loss.
Juices—canned, bottled or reconstituted	6 days	Keep fruit juice tightly covered. Transfer
Juices in cartons, fruit drinks, punch opened	7 to 19 days	canned juice to glass or plastic container if not
Juices in cartons, fruit drinks, punch unopened	3 weeks	used up in one day. Thaw frozen juice in the refrigerator.
Pre-mixed, full strength fruit juice	See handling hints to the right.	Keep refrigerated. Do not use after the "use by" date on the carton.
Bottled lemon or lime juice	12 months	
Cranberry juice cocktail	5 to 6 days	
Melons	1 week	Wrap uncut cantaloupe and honeydew to prevent odor spreading to other foods. Wrap cut surfaces melon to prevent Vitamin C loss.
Other fruit	3 to 5 days	Before serving leftovers, slice off ¼ inch of the surface and discard. Bacteria accumulate in the cut surface.
Asparagus	1 to 2 days	
Corn in husks	1 to 2 days	
Beans, green or wax	1 to 2 days	Keep in crisper or moisture-resistant wrap or bag.
Beets, carrots, radishes	1 to 2 weeks	Remove leafy tops; keep in crisper.
Cabbage, celery	1 to 2 weeks	Keep in crisper or moisture-resistant wrap or bag.
Lettuce head	5 to 7 days	Store away from other vegetables and fruits to prevent russet spotting.
Mushrooms	1 to 2 days	Do not wash before storing.
Shredded cabbage, leaf and bibb lettuce, salad greens	1 to 2 days	Keep in moisture-resistant wrap or bag.
Tomatoes, ripe	1 to 2 days	Ripen tomatoes at room temperature away from direct sunlight; then refrigerate. Refrigerate all cut tomatoes.
Unshelled peas, limas, spinach	3 to 5 days	Keep in crisper or moisture-resistant wrap or bag.

Food	Recommended Storage Time for Safety at 33–41°F	Handling Hints
Meat, Fish, and Poultry		
Ground beef, lamb	1 to 2 days	
Ground veal	1 to 2 days	
Beef, lamb, veal, and pork roasts	2 to 4 days	
Beef, lamb, veal, and pork steaks	2 to 3 days	
Beef, lamb, veal, and pork chops	2 to 3 days	
Variety meats	1 day	
Pre-stuffed, uncooked pork chops, lamb chops, or chicken breast stuffed with dressing	1 day	
Poultry, including chicken, duck, or turkey	1 to 2 days	
Chicken livers	1 to 2 days	
Fish and shellfish, fresh cleaned fish, including steaks and fillets	1 day	
Seafood including shucked clams, oysters, scallops, shrimp	1 day	Store in coldest part of refrigerator.
Clams, crab, lobster in shell	2 days	Cook only live shellfish.
Cured or Smoked Meats		
Bacon	7 days	
Bologna loaves, liverwurst	4 to 6 days	
Corned beef	5 to 7 days	Keep wrapped. Store in coldest part of the refrigerator. Times are for opened packages.
Dried beef	10 to 12 days	Terrigerator. Times are for opened packages.
Dry and semi-dry sausages	4 to 5 days	
Frankfurters opened	4 to 5 days	
Frankfurters unopened	2 weeks	
Ground pork, ham, and picnic cured	1 to 2 days	
Canned ham opened	3 to 5 days	
Canned ham unopened	6 months	
Liver sausage	4 to 5 days	
Fully cooked, vacuum sealed ham	2 weeks	
Fully cooked, whole ham	1 week	
Fully cooked, half ham	3 to 5 days	
Sliced fully cooked ham	3 to 4 days	
Luncheon meat opened	3 to 5 days	Store in refrigerator unless label indicates
Luncheon meat unopened	2 weeks	refrigeration is not needed.
Sausage, fresh or smoked	2 to 3 days	
Sausage, dry and semi-dry	4 to 5 days	1
Smoked breakfast links, patties	7 days	
Summer sausage—labeled "Keep refrigerated," opened	3 weeks	
Summer sausage—labeled "Keep refrigerated," unopened	3 months	

Food	Recommended Storage Time for Safety at 33–41°F	Handling Hints
Other Foods		
Canned fruits, opened	1 week	Transfer to glass or plastic container to avoid metallic taste. Cover and refrigerate.
Canned vegetables, opened	2 to 3 days	
Unbaked rolls and bread	2 to 3 weeks	
Fruit pie, unbaked	1 to 2 days	
Baked fruit pies	2 to 3 days	
Pumpkin or chiffon pies	2 to 3 days	
Refrigerated biscuits, rolls, pastries, cookie dough	Use by date on label	
Meat, fish, poultry pies and casseroles	3 to 4 days	
Gravy and meat broth leftovers	1 to 2 days	Keep covered.
Cooked poultry with broth, gravy or nuggets/ patties	1 to 2 days	
Pizza	3 to 4 days	
Cooked stuffing	3 to 4 days	
Soups or stews	3 to 4 days	

References

FDA/CFSAN. *Food safety A to Z reference—refrigerator and freezer storage chart.* Retrieved June 1, 2009, from http://vm.cfsan.fda.gov/~dms/fttstore.html

Food safety education: Chill. Cold storage chart. (2004). Retrieved June 1, 2009, from http://www.foodsafety.gov/~fsg/f01chart.html

FSIS, USDA. *Food product dating.* (2007). Retrieved May 28, 2010, from http://www.fsis.usda.gov/factsheets/food_product_dating/index.asp

Garden-Robinson, J. (2007). *Food storage guide: Answers the question*. Retrieved June 1, 2009, from http://www.ag.ndsu.edu/pubs/yf/foods/fn579-1.htm

Kimball, C. (2004–2010). Cook's Illustrated, volumes 66–103.

K-State Research and Extension. *Cupboard storage chart*. Retrieved June 1, 2009, from http://www.oznet.ksu.edu/dp_fnut/hrap/storage/cupstor.htm

K-State Research and Extension. *Freezer storage chart*. Retrieved June 1, 2009, from http://www.oznet.ksu.edu/dp_fnut/storage/freezsto.htm

K-State Research and Extension. *Refrigerator storage chart*. Retrieved June 1, 2009, from http://www.oznet.ksu.edu/dp_fnut/hrap/storage/frigstor.htm

National Restaurant Association. (2001). *Cold storage chart*. Educational Foundation's International Food Safety Council. Mead, P. S., L. Slutsker, V. Dietz, L. F. McCaig, J. S. Bresee, C. Shapiro, P. M. Griffin, and R. V. Tauxe. (1999). Food-related illness and death in the United States. *Emerg. Infect. Dis.* 5:607–625.

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