

TDOC
Z TA245.7
B873
NO.5031
1999

TEXAS STATE DEPOSITORY

LIBRARY
TEXAS A&M UNIVERSITY
B-5031
5-99

Agricultural Extension Service

The Texas A&M University System

JUL 28 1999

TEXAS STATE
DOCUMENTS

Safe Home Food Storage



BLANK PAGE IN ORIGINAL



Safe Home Food Storage

Peggy Van Laanen
Associate Professor and Extension Nutrition Specialist
The Texas A&M University System

How important is proper food storage? It can help you:

- ◆ Preserve food quality, including nutrients, flavor and texture;
- ◆ Make the most of your food dollar by preventing spoilage; and
- ◆ Prevent food-borne illness caused by harmful bacteria.

To store food properly, you need to know not only how to store foods, but also how long they will be safe and of high quality.

The quality of fresh meat or produce when it is acquired greatly affects how long it can be stored without spoilage or loss of quality. The storage times in this publication assume that foods are fresh and desirable when acquired. Remember that stored foods are never fresher than when first put into storage.

When grocery shopping, choose perishable items last, go straight home and store them properly in the refrigerator or freezer.

A good policy to follow is "first in, first out," meaning that you rotate items so that you use the older items first. Also, buy foods in reasonable amounts so that you can use them while they are still of good quality. Excess food may become waste.

Here are some general guidelines for proper food storage.

Pantry

Pantry storage conditions should be dry, cool and dark. Ideally, the temperature in the pantry should be 50 to 70 °F. Higher temperatures speed up deterioration. Always store foods in the coolest cabinets away from the range, oven, water heater, dishwasher or any hot pipes. For example, the area under the sink is not a good place to store potatoes or onions.

Although many staples and pantry items have a long shelf life and may be advertised at special prices, buy only what you expect to use within the recommended storage times.

To prevent foods from deteriorating in the pantry, store them in metal, glass or plastic containers. Keep these containers, as well as commercially canned foods, clean and free of dust, which can drop into them when opened. Treat storage areas for pests and clean the pantry periodically to remove food particles.

Refrigerator

Maintain the refrigerator temperature at 40 °F or below. Use an appliance thermometer at various points in the refrigerator to monitor tempera-

tures. Always store the most perishable items, including meats, poultry, fish, eggs and dairy products, in the coldest sections of the refrigerator.

Do not overload the refrigerator, which can reduce the temperature inside. Air must be able to circulate freely to cool foods adequately.

Clean the refrigerator to remove spills and spoiled foods. These provide a medium for bacteria to grow in and possibly contaminate other foods. Refrigerator temperatures only slow bacterial growth; they do not prevent it.

To maintain the quality of refrigerated foods, store them in airtight wraps or containers. This prevents foods from drying out, and odors or flavors from transferring from one food to another. Avoid using plastic bags or containers not made for storage. Do not reuse plastic bags that originally contained raw meats, poultry or fish.

Store raw meats, poultry and fish so that juices do not drip onto and contaminate other foods. Wrap them securely. Therefore, it's also a good idea to set them on a plate or other container.

Freezer

Maintain a freezer temperature of 0 °F or below. Food quality deteriorates at temperatures above 0 °F. Monitor the temperature with an appliance thermometer. A good rule of thumb is that if the freezer can't keep ice cream brick-solid, the temperature is not cold enough.

Remember: Freezer temperatures stop or prevent bacteria from growing, but do not kill them. Thus, as foods thaw, they can become unsafe because bacteria that cause food-borne illness may be able to grow. Therefore, it's best to thaw foods in the refrigerator.

Package items for the freezer in moisture- and vapor-proof wraps or containers. Use only freezer-grade foil, plastic wrap or bags, or use freezer paper or freezer containers. If necessary, use freezer tape to make sure the package is airtight. If the packaging is torn or develops holes, freezer burn may result.

Label all freezer foods with the date, type of food and weight or number of servings.

Partially thawed food may be refrozen as long as it still has ice crystals. Refreezing, however, may lower the quality. Do not refreeze combination dishes such as stews, soups and casseroles.

Food freshness — check the label

Consumers can judge the freshness of food when the manufacturer uses "open dating" on food packages. "Open dating" means that the manufacturer uses a calendar date (for example, Mar 12) to help store managers determine the length of time a food should be offered for sale. These dates are usually found on perishable foods.

With "open dating," there are four types of dates that may be found on a food package:

- ◆ **"Sell by" or "Pull date"** — This date tells the store how long to display the food for sale. Foods eaten after this date are usually safe to eat as long as they are stored for no longer than recommended time, and handled and prepared safely. See the Food Storage Timetable for recommendations.
- ◆ **"Best if used by (before) date"** — This date means that the food will be of its highest quality or flavor if consumed before the date on the package. Foods may be safely consumed after the date indicated on the package, if they are stored for no longer than recommended, are handled and prepared properly and show no signs of spoilage.
- ◆ **"Expiration date"** — This is the last day the food should be eaten. Except for eggs, discard foods not consumed by this date.

EGGS: The expiration date is the last date a store can sell the eggs and still refer to them as "fresh." Buy eggs before the expiration date and use them within 30 days. After 30 days, discard the eggs. Do not buy eggs if the expiration date on the package has passed.

- ◆ **"Pack date"** — This is the date the food was packaged or processed. Consumers may be able to determine the age of the product by looking at this date.

What about leftovers?

The charts in this publication give storage times for many leftover foods. Planning and using leftovers carefully can save money and time. To prevent food-borne illness, it is important to prepare and handle foods properly:

- ◆ Wash your hands before handling foods, and use clean utensils and surfaces.
- ◆ Refrigerate or freeze foods in covered, shallow (less than 3 inches deep) containers within 2 hours after cooking. Leave air space around the containers or packages to allow cold air to circulate and to help ensure rapid, even cooling.
- ◆ Label food storage containers with the date so that the foods can be used within a safe time. Avoid tasting old leftovers. Plan to use any cooked foods within safe refrigerator or freezer storage times.
- ◆ Before serving, cover and reheat leftovers to 165 °F. Reheat soups, sauces, gravies and other “wet” foods to a rolling boil.
- ◆ If in doubt, throw it out. To prevent outdated, obviously spoiled or possibly unsafe leftovers from being eaten by people or animals, discard them in the garbage disposal or in tightly wrapped packages.

A new generation of foods—convenient, prepared and packaged

New food-packaging techniques are making it possible for processors to offer prepared foods that have extended refrigeration times. These longer storage times are made possible by

vacuum packaging or modified atmosphere packaging, which replaces oxygen in the package with gases such as carbon dioxide or nitrogen. These packaging techniques slow spoilage, discoloration and bacterial growth.

The packaging is being used for many products, including fully cooked roast chicken, tuna spread and ravioli. Although it offers many advantages to consumers, the foods must be handled properly because:

- ◆ Foods may be processed 4 to 6 weeks before the “sell by” or “use by” date. These dates assume that the product is refrigerated properly throughout its shelf life.
- ◆ Some bacteria that cause food-borne illness, such as *Listeria* and *Yersinia*, can grow slowly under refrigeration.
- ◆ Many of these foods require little or no additional cooking or heating before they are eaten. Therefore, any bacteria that may have been introduced during packaging would not be destroyed.

Take these precautions when using refrigerated, prepared foods:

- ◆ Make sure the food is cold before you buy it.
- ◆ Check the “sell by” or “use by” date on the package.
- ◆ Read the label and carefully follow the storage, cooking and heating instructions.
- ◆ Use these foods within the recommended length of time.
- ◆ When freezing these products, do so as soon as possible after purchase.

The recommendations in this publication are for maintaining the maximum safety and quality of foods that are stored when of high quality. Quality or safety will not be improved by storage.

Food Storage Timetable

Food	Refrigerator	Pantry	Freezer	Special handling
Breads/Cereals/Grains: In general, keep cool and dry. For maximum storage time once opened, store in airtight containers. Refrigeration may increase shelf life for some items.				
Bread, rolls (commercial)		3-5 days	2-3 months	Homemade breads may have shorter shelf life due to lack of preservatives.
Biscuit, muffin mixes		9 months		
Cereals				
Ready-to-eat (unopened)		6-12 months		
(opened)		2-3 months		
Ready-to-cook oatmeal, etc.		12 months		
Cornmeal		6-12 months		Keep tightly closed. Refrigeration may prolong shelf life.
Flour				
White		6-8 months		
Whole wheat	6-8 months			
Yeast (dry)		Expiration date on package		Keep dry and cool.
Grits		12 months		
Pancake mixes		6-9 months		
Pasta		1-2 years		
Rice				
White		2 years		
Brown		1 year		
Mixes		6 months		
Refrigerated biscuit roll, pastry and cookie dough	Expiration date on label			
Tortillas				Storage times may vary depending on ingredients. Best if refrigerated once opened. May be frozen.
Corn	2 weeks	1-2 weeks		
Flour	2 weeks	1-2 weeks		
Dairy Products: Store in coldest part of refrigerator (40 °F), never on door.				
Butter	2-3 weeks		6-9 months	Wrap or cover tightly. Hold only 2-day supply in keeper.
Buttermilk	10-14 days			Cover tightly. Flavor not affected if buttermilk separates.
Cheese				Keep all cheese tightly packaged in moisture-proof wrap. If outside of hard cheese gets moldy, trim off mold and 1/2 inch below mold. Do not eat moldy cottage or ricotta cheese. Hard cheese may be frozen but becomes crumbly. Better if grated. Cottage cheese becomes mushy.
Cottage	10-15 days			
Cream, Neufchatel	4 weeks			
Hard and wax coated				
Cheddar, Edam, Gouda, Swiss, brick, etc.				
(unopened)	3-6 months		6 months	
(opened)	2 months			

Food	Refrigerator	Pantry	Freezer	Special handling
Parmesan, Romano (unopened) (opened)	2-4 months	10 months		Refrigerate after opening for prolonged storage. If cheese picks up moisture, mold may develop.
Ricotta Process cheese products	5 days 3-4 weeks		4 months	Refrigerate after opening. Close or wrap tightly.
Cream Half and half, light and heavy (ultra pasteurized, unopened) Sour Dips (commercial)	7-10 days 21-30 days 2 weeks 2 weeks		2 months	Cover tightly. Don't return leftover cream to original container. This may spread bacteria to remaining cream. Frozen cream may not whip. Use for cooking.
Ice cream, ice milk, sherbet			1-2 months	
Milk Fresh pasteurized and reconstituted nonfat dry milk Evaporated or condensed (unopened) (opened) Nonfat dry, not reconstituted (unopened) (open)	1 week (or a few days after sell-by date) 1 week	12 months 12 months 6 months	1 month	Keep tightly covered. Don't return leftover milk to original container. This may spread bacteria to remaining milk. Frozen milk may undergo some quality change. Invert can every 2 months. Cover tightly. Refrigeration may prolong quality.
Whipped topping In aerosol can From prepared mix	3 months 3 days			
Yogurt Frozen	10-14 days		2 months	Keep covered.
Note: Thaw all frozen dairy products in refrigerator. Some products may lose emulsion and separate, but are still adequate for cooking.				
Eggs				
Fresh In shell Whites Yolks (unbroken and covered with water)	3-4 weeks 3 days 2 days		No 12 months 12 months	Store eggs in original carton in coldest part of refrigerator. Uncooked whites can be frozen as they are. To freeze uncooked yolks or whole eggs, add 1/8 teaspoon salt or 1 1/2 teaspoons corn syrup per 1/4 cup (4 yolks or 2 whole eggs). Thaw in refrigerator.
Hard-cooked	1 week			
Deviled	2-3 days			
Leftover egg dishes	3-4 days			
Fish and Shellfish: Refrigerator storage times are for optimum temperature of 32 to 38 °F. Higher temperatures may decrease safe storage times.				
Fish Fatty fish mackerel, trout, salmon, etc.	1-2 days		2-3 months	For refrigerator, keep wrapped in original wrap. Store in coldest part of refrigerator (32 to 38 °F). Package for freezer in moisture- and vapor-proof wrap.

Food	Refrigerator	Pantry	Freezer	Special handling
Lean fish cod, flounder, etc.	1-2 days		6 months	Keep solidly frozen at 0 °F. Thaw in refrigerator or under cold running water.
Breaded, frozen			3 months	
Shellfish				Refrigerate live clams, scallops and oysters in container covered with clean, damp cloth—not airtight. Shells will gape naturally, but close when tapped if alive. If not alive, discard.
Clams shucked in shell	1 day 2 days		3 months	
Crab in shell meat (cooked)	2 days 3-5 days		10 months	Cook only live crawfish. Do not keep airtight. To prolong freezer storage, remove fat to prevent rancidity. Cook lobster only if still alive.
Crawfish in shell tail meat (cooked)	3-5 days		6 months 6 months	
Lobster in shell (live) tail meat (cooked)	2 days 4-5 days		6 months	
Oysters (shucked) Scallops	1 day		4 months 3 months	
Shrimp (uncooked)	1-2 days		12 months	Remove heads and freeze shrimp tails in shell. Freeze in water in an airtight container of appropriate size for one meal.
Cooked fish or shellfish	2-3 days		3 months	
Canned fish or shellfish (unopened) (opened)		12 months		
Surimi seafood	2 weeks		9 months	
Fruits				
Fresh				Do not wash fruit before storing—moisture encourages spoilage—but wash before eating. Store in crisper or in moisture-resistant bags or wraps. Wrap cut fruits to prevent vitamin loss.
Apples	1 month			
Apricots, avocados, melons, nectarines, peaches, pears	5 days			
Bananas		2-3 days (until ripened, then refrigerate)		
Berries, cherries	3 days			
Citrus fruit	2 weeks			
Grapes, plums	5 days			
Pineapple	2 days			
Canned (all kinds and juices) (unopened) (opened)		12 months		Keep tightly covered. Transfer canned fruit to glass or plastic container.
	1 week			
Juices				Keep tightly covered once open to prevent vitamin loss. Transfer canned juice to glass or plastic container.
Fresh	6 days			
Canned (after opening) Frozen (concentrated) (reconstituted)	6 days 6 days		12 months	

Food	Refrigerator	Pantry	Freezer	Special handling
Frozen (Home frozen or purchased frozen)			12 months	Freeze in moisture- and vapor-proof container.
Dried		6 months		Keep cool in airtight container. If foods gain moisture, they may become unsafe and allow bacterial growth. Best if refrigerated after opening.
Meats: Beef, pork, lamb, veal and game				
*Fresh, uncooked				Store in colder part of refrigerator (36 to 40 °F). Freeze immediately if not planning to use in a day or two. Wrap in moisture- and vapor-proof wrap for freezing. Label with date and freeze rapidly at 0 °F. Freezer storage times for veal may be less. Pork is best if used within 6 months after freezing. Actual storage time of meat depends on the freshness of meat when purchased.
Chops	2-4 days		6-12 months	*Vacuum-packed fresh meats have a recommended storage time of 2 weeks in the refrigerator.
Ground	1-2 days		2-3 months	
Roast	2-4 days		6-12 months	
Sausage	1-2 days		1-2 months	
Steaks	2-4 days		6-9 months	
Stew meat	1-2 days		2-3 months	
Variety meats	1 day		1-2 months	
Casseroles, meat pies, TV dinners, stews			2-3 months	
Cooked meats (including leftovers)				
Cooked meat and meat dishes	1-2 days		2-3 months	
Gravy, broths	1-2 days		1-2 months	
Cured and smoked meats (including lunch meats)				Keep wrapped. Store in coldest part of refrigerator or in meat keeper. Freezing cured or smoked meats is generally not recommended because salty meats will rapidly turn rancid and lunch meats and frankfurters will weep. However, it is possible, so limited freezer storage times are given. If meats are vacuum packaged, check manufacturer's date.
Bacon	5-7 days		1 month	Do not freeze canned hams. Refrigerate after opening.
Frankfurters (unopened)	2 weeks**		1-2 months	
Frankfurters (opened)	1 week			
Ham (fully cooked)				
Whole	5-7 days		1-2 months	
Slices	3-4 days			
Canned (unopened)	6-9 months			
Canned (shelf stable, unopened)		2 years		
Country style (unsliced) (cooked, sliced)	7 days	1 year	1 month	
Lunch meats (unopened)	2 weeks**		1-2 months	
Lunch meats (opened)	3-5 days			
Sausage				Freezing alters sausage flavor. Leave frozen no more than 1 month.
smoked links	7 days		1 month	
dry and semidry (like salami)	2-3 weeks			
				**Unopened lunch meats and frankfurters should not be kept more than 1 week after "sell by" date.

Food	Refrigerator	Pantry	Freezer	Special handling
Game birds	2 days		6-12 months	
Venison	3-5 days		6-12 months	
Poultry				
Chicken or turkey				Store in coldest part of refrigerator. Do not let raw juices drip onto other foods. For freezing, use moisture- and vapor-proof wrap or container.
Fresh				
whole	2-3 days		12 months	
pieces	2-3 days		6-9 months	
giblets	1-2 days		3-4 months	
Cooked				
leftover pieces	1-2 days		4-6 months	
covered with broth, gravy	1-2 days		6 months	
Canned				
(unopened)		12 months		
(opened)	1 day			
Casseroles, TV dinners			3 months	
Duck, goose	2 days		6 months	
Staples				
Baking powder, soda		8-12 months		Keep dry and covered.
Bouillon cubes, granules		1 year		Keep dry and covered.
Catsup, chili sauce, barbecue sauce (unopened)		12 months		Refrigerate after opening for longer storage time. Will keep for several months.
Chocolate				Keep cool.
Premelted		12 months		
Semi-sweet		2 years		
Unsweetened		18 months		
Chocolate syrup (unopened) (opened)		2 years		
	6 months			
Cocoa mixes		8 months		
Coffee				Coffee may remain fresher if refrigerated after opening. May also be frozen.
Cans				
(unopened)		2 years		
(opened)	4-6 weeks			
Instant				
(unopened)		1-2 years		
(opened)		2 weeks		
Coffee creamers, nondairy (unopened) (opened)		9 months 6 months		Keep tightly closed to keep out moisture.
Cornstarch		18 months		
Gelatin		18 months		
Honey		12 months		Cover tightly. If it crystallizes, warm the jar in pan of hot water or heat on low in microwave.
Jams, jellies		12 months		Cover tightly; refrigerate after opening to prolong storage.

Food	Refrigerator	Pantry	Freezer	Special handling
Margarine	4-6 months			Use airtight container.
Marshmallows Creme		2-3 months 2-3 months		Refrigerate after opening.
Mayonnaise (unopened) (opened)	3 months	3-4 months		Refrigerate after opening.
Molasses (unopened) (opened)		12 months 6 months		Refrigerate to extend storage life.
Mustard, prepared yellow (unopened) (opened)		2 years 6-8 months		Refrigerate for best storage.
Oils (unopened) (opened)		18 months 6-8 months		Store in cool place away from heat source to prevent deterioration.
Pectin Liquid Dry		18 months 3 years		Look for expiration date. Recap and refrigerate.
Peanut butter (unopened) (opened)		6-9 months 2-3 months		Refrigeration prolongs storage time and helps prevent rancidity.
Salad dressing Bottled (unopened) Bottled (opened) Made from mix	3 months 2 weeks	10-12 months		
Shortening		1 year		Store away from heat source to prevent rancidity.
Spices and herbs Whole spices Ground spices Herbs		1 year 6 months 6 months		Store in airtight containers in dry place away from heat or light. Replace if aroma fades. May be refrigerated or frozen for longer storage.
Sugar Brown Confectioner's Granulated		4 months 18 months 2 years		For best storage, keep in airtight container.
Sweetener, artificial		2 years		
Syrup		12 months		Keep tightly closed. Refrigerate to extend life.
Tea Bags Instant Loose		18 months 3 years 2 years		Keep in airtight containers.
Vanilla (unopened) (opened) Other extracts (opened)		2 years 12 months 12 months		Keep tightly closed; volatile oils escape.

Food	Refrigerator	Pantry	Freezer	Special handling
Vinegar (unopened) (opened)		2 years 12 months		Keep tightly closed. Distilled vinegar lasts longer than cider vinegar. Vinegar in glass containers has a longer storage time. If "mother" develops (refers to appearance of cloudy mass) in opened vinegar, do not use.

Vegetables: In general, keep in crisper or moisture-proof wrapping.

Fresh

Artichokes	2-3 days			Refrigerate in plastic. Wrap base of stalks with damp cloth or paper towel.
Asparagus	2-3 days			Refrigerate in plastic. Wrap base of stalks with damp cloth or paper towel. Do not wash green beans until just before use.
Beans green or waxed lima (unshelled)	1-2 days 3-5 days		8 months	
Beets	1-2 weeks			
Broccoli	5 days			
Brussel sprouts	5 days			
Cabbage	1 week			
Carrots	5 days			
Celery	1 week			Celery may keep longer if wrapped with moist towel.
Corn (in husks)	1-2 days			
Cucumbers	1 week			
Eggplant	2-3 days			
Garlic		5-8 months		Keep in cool, dry, ventilated area. Rinse and drain greens before refrigerating. Do not allow to freeze.
Greens, spinach, leafy greens, etc.	3-4 days			
Lettuce, iceberg vacuum packed	5-7 days 2-3 weeks (if unopened)			
Mushrooms	1-2 days			Do not wash mushrooms before refrigerating. Do not store in airtight container.
Onions dry green		2-4 weeks		Store at room temperature in cool, ventilated area. Keep dry. Keep refrigerated in plastic bag.
Parsley	2-4 weeks			Store with stems in water and covered with plastic wrap.
Peas (unshelled)	3-5 days	1 week		
Peppers chile	7-10 days			Keep chile peppers refrigerated in paper bag.
bell	3-4 days		6 months	Freeze for extended use.
Potatoes white, fresh sweet, fresh white, instant (unopened)		1 week 2-3 weeks 6-12 months		Keep fresh potatoes dry and away from sun. For longer storage keep at 50 to 60 °F. Warmer temperatures encourage sprouting. Don't refrigerate fresh potatoes.
Radishes	1-2 weeks			
Rhubarb	2 weeks			
Rutabagas	2 weeks	1 week		

Food	Refrigerator	Pantry	Freezer	Special handling
Squash summer varieties winter varieties	2-4 days	6 months		Summer varieties of squash include zucchini and yellow crookneck. Winter or hard-shelled squash include pumpkin, acorn, spaghetti and butternut squash.
Tomatoes, ripe Turnips	2-3 days 2 weeks			Do not refrigerate until ripe.
Canned All kinds		1 year		
Dried All kinds		6-12 months		Keep cool and dry in airtight container. If possible, refrigerate. If moisture is present, foods may become unsafe because moisture allows bacterial growth.
Frozen Commercially frozen Home frozen			8 months 1 year	
Miscellaneous: Snacks, condiments, mixes, prepared foods, etc.				
Baby food, canned (unopened) (opened)		1 year 2-3 days		
Cakes, purchased Angel food Chiffon sponge Cheese Chocolate Fruit cake Yellow pound Frosted Home frozen		1-2 days	2 months 2 months 2-3 months 4 months 12 months 6 months 8-12 months 3 months	If cake contains butter, cream, whipped cream, cream or custard frosting or filling, refrigerate.
Cake, cookie mixes		1 year		
Canned goods (miscellaneous, unopened)		1 year		
Cookies (commercial, unopened) (homemade)		4 months 2-3 weeks		
Crackers		3 months		
Metered caloric products		6 months		
Nuts In shell (unopened) Nut meats, packaged (unopened) Party nuts (salted) (unsalted)		4 months 6 months 2 weeks	3 months 6-8 months 9-12 months	
Pickles, olives (canned, unopened)		1-3 months		Refrigerate once opened for 2 to 3 months.

Food	Refrigerator	Pantry	Freezer	Special handling
Pies and pastries		2-3 days		Those with whipped cream, custard or chiffon fillings should be refrigerated.
Fruit baked unbaked			1-2 months 8 months	
Popcorn (unpopped)		2 years		
Prepared, packaged shelf stable foods (unopened)		1 year		
Pudding mixes		1 year		
Sauces, condiments, etc. (commercial)				Fresh homemade salsa has a shorter refrigerator storage time depending upon ingredients (4 to 7 days). Homemade canned products have a shelf life of up to 1 year, unopened, if adequately processed.
Hot sauce, Worcestershire, etc.		2 years		
Salsa (unopened) (opened)	1-2 months	12-18 months		
Liquor				
Hard liquors		Indefinitely		
Cream liqueurs (unopened)		6-8 months		

References

- "Focus on Food Labeling," 1993. FDA Consumer Magazine, Food and Drug Administration, Rockville, Maryland.
- "Focus on: Food Product Dating," 1995. Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, D.C.
- "Home Food Storage," B-1345, 1981. Texas Agricultural Extension Service, The Texas A&M University System, College Station, Texas.
- "Lessons on Meat," 1991. National Livestock and Meat Board, Chicago, Illinois.
- "Maintaining Food Quality in Storage." Cooperative Extension Service, The University of Georgia, Athens, Georgia.
- "Safe Food Handling for Occasional Quantity Cooks," 1993. Cooperative Extension Service, University of Illinois at Urbana-Champaign, Urbana, Illinois.
- "Safe Storage of Meat and Poultry: The Science Behind It," 1997. Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, D.C.
- "Seafood Source," Spring 1990. National Fisheries Institute, Arlington, Virginia.
- "The Food Keeper." Food Marketing Institute, Washington, D.C.

Information also provided by:

- American Egg Board
1460 Renaissance Drive
Park Ridge, Illinois 66068
- American Seafood Institute
Seafood Hotline (1-800-EAT FISH)
406-A Main Street
Wakefield, Rhode Island 02879
- H.J. Heinz Company
P.O. Box 57
Pittsburg, Pennsylvania 15230
- Institute of Shortening and Edible Oils
1750 New York Ave., N.W.
Washington, D.C. 20006
- United Fresh Fruit and Vegetable Association
727 N. Washington St.
Alexandria, Virginia 22314
- U.S. Food Safety and Inspection Service
Meat and Poultry Hotline (1-800-535-4555)
1165 South Bldg.
Washington, D.C. 20250

The author acknowledges the following people for their contributions and review of this publication: Daniel S. Hale, associate professor and Extension meat specialist; Ronald L. Richter, professor, animal science; and Jenna Anding, assistant professor and Extension nutrition specialist.

Produced by Agricultural Communications, The Texas A&M University System
Extension publications can be found on the Web at: <http://agpublications.tamu.edu>

Educational programs of the Texas Agricultural Extension Service are open to all people without regard to race, color, sex, disability, religion, age or national origin.

Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Chester P. Fehlis, Deputy Director, Texas Agricultural Extension Service, The Texas A&M University System.

10,000 copies, Revised

F&N 3