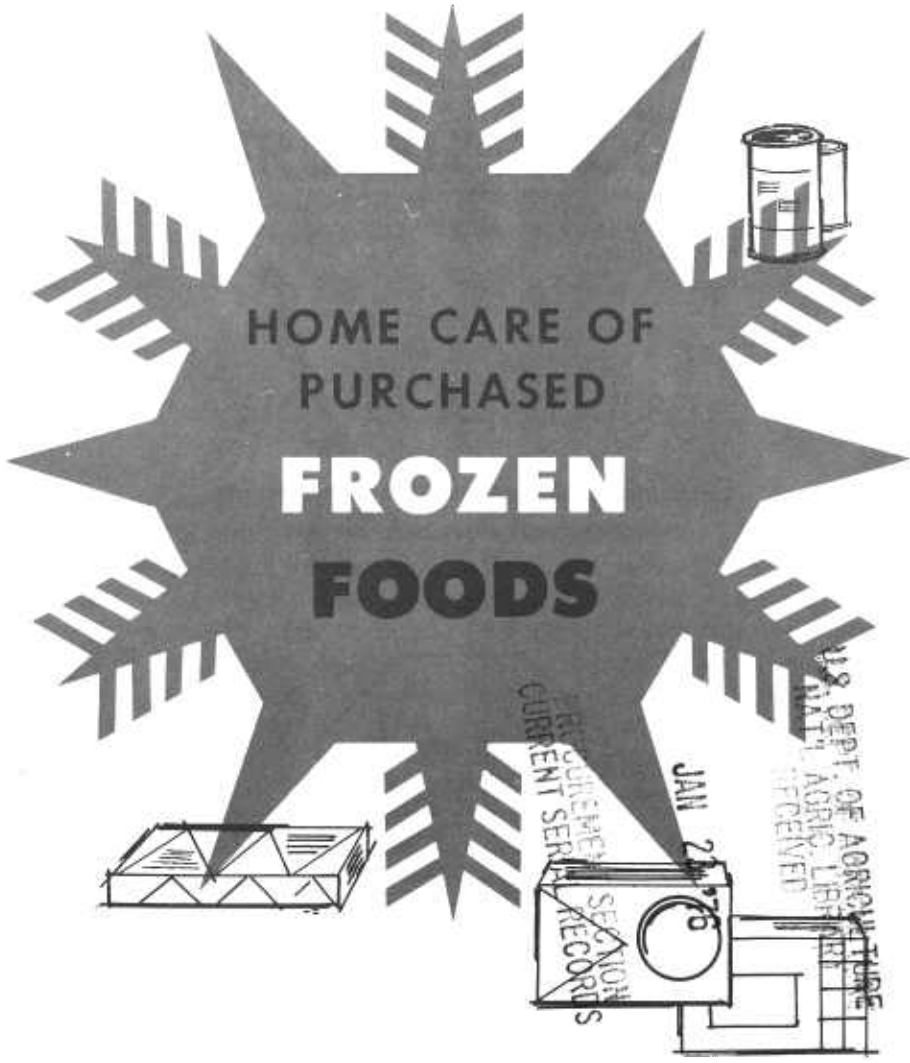


184 Hg
Ag. cy 2
Reserve

69

CORE LIST



Home and Garden Bulletin No.69

U.S. Department of Agriculture

CONTENTS

	Page
Storage temperature.....	1
Storage time.....	2
Buying frozen foods.....	2
Managing freezer storage.....	2
Storage table.....	3
Refreezing.....	4
Defrosting the freezer.....	4
Care of food in emergencies.....	5

Consumer and Food Economics Institute Agricultural Research Service



Acknowledgment is made to the Western and Eastern Regional Research Centers, Agricultural Research Service, and to the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, for advice and for contributions to the subject matter.

Washington, D.C.

Revised July 1973
Slightly revised May 1975

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 25 cents
Stock Number 001-000-03410-3
Catalog Number A 1.77:69/6

HOME CARE OF PURCHASED FROZEN FOODS

Protect the quality of the frozen foods you buy. Keep the foods cold enough; use them soon enough.

STORAGE TEMPERATURE

The most common cause of loss of quality in frozen foods is storage at temperatures that are too high. Severe loss of quality can result from a single exposure to excessively high temperature, or from repeated exposures—days or weeks apart—to temperatures only a few degrees too high.

Temperature recommended

A storage temperature of 0° F. or lower is needed to maintain the best quality in frozen foods. Freezer temperatures of 0° F. or below do not kill the bacteria in food, but simply stop their multiplication.

Unfavorable changes in eating quality take place more rapidly in food stored at temperatures above 0° F. Slow growth of micro-organisms may occur at temperatures above 10° F., causing foods to lose color, flavor, characteristic texture and nutritive value.

The rate at which certain chemical reactions take place in frozen foods determines how fast foods lose quality. At 0° F. these reactions are slow; below this temperature they are even slower. As the temperature rises above 0° the reactions speed up rapidly. At 15, for example, many of them take place several times as fast as at 0°.

Temperature check

Find out if the storage space you have for frozen foods provides the recommended temperature—or, if not, how close it comes to it. You'll need to know this temperature to help determine how long to store the foods.

To check, use an accurate thermometer and take the temperature in several locations. Regulate the temperature control to maintain the warmest spot at 0° F., if possible.

STORAGE TIME

How long commercially frozen food will retain good quality in the home at 0° F. or lower depends on (1) the kind of food it is, and (2) how long and at what temperature it was stored before you bought it.

The table on the opposite page gives suggested maximum home-storage periods for frozen foods that are of good quality when purchased. Recommended periods are

approximate. They are for foods that have been subject to good commercial freezing, handling, and storage before you purchased them. If there is any question about the quality of the frozen food, reduce the storage time.

If your equipment does not maintain a temperature of 0° F. or lower, plan to hold frozen foods only a few days before you use them.

BUYING FROZEN FOODS

Buy from a reputable dealer who will vouch for the quality of his merchandise.

Note the condition of the cabinet—whether it is clean and the way foods are stacked in it. There is a line on the inner side of many cabinets above which food should not be stacked. Select packages only from clean cabinets in which foods are stacked no higher than the proper fill level.

Select foods that are solidly frozen. If food has softened, you can be sure it has already lost quality. Fruits and vegetables frozen in individual pieces, whether in bags or boxes, should still be separate.

Observe the color of foods pack-

aged in transparent plastic bags. Fruits and vegetables that have a bright natural color will taste better than those with poor color.

Make sure packaging material is not torn, crushed, or juice stained. Frozen food that is exposed or poorly packaged dries out and develops off-flavors quickly.

If you are shopping for numerous groceries, select frozen food last—to shorten the time the food is without refrigeration. During the trip home it's a good idea to protect the food with an insulated bag or a double paper bag. Be sure to put food in your freezer promptly after you arrive home.

MANAGING FREEZER STORAGE

During the transfer from store to home, the temperature of frozen food may rise somewhat. To lower the temperature quickly, place the packages in contact with a refrig-

erated surface in the freezer or freezing compartment. Leave space on other sides of packages for air to circulate. After temperature of the food has been lowered to proper

Suggested Maximum Home-Storage Periods To Maintain Good Quality in Purchased Frozen Foods

Food	Approximate holding period at 0° F.	Food	Approximate holding period at 0° F.
<u>Fruits and vegetables</u>		<u>Meat—Continued</u>	
Fruits:	<i>Months</i>	Cooked meat:	<i>Months</i>
Cherries.....	12	Meat dinners.....	3
Peaches.....	12	Meat pie.....	3
Raspberries.....	12	Swiss steak.....	3
Strawberries.....	12		
Fruit juice concentrates:		<u>Poultry</u>	
Apple.....	12	Chicken:	
Grape.....	12	Cut-up.....	9
Orange.....	12	Livers.....	3
Vegetables:		Whole.....	12
Asparagus.....	8	Duck, whole.....	6
Beans.....	8	Goose, whole.....	6
Cauliflower.....	8	Turkey:	
Corn.....	8	Cut-up.....	6
Peas.....	8	Whole.....	12
Spinach.....	8	Cooked chicken and turkey:	
		Chicken or turkey dinners	
<u>Baked goods</u>		(sliced meat and gravy).....	6
Bread and yeast rolls:		Chicken or turkey pies... ..	6
White bread.....	3	Fried chicken.....	4
Cinnamon rolls.....	2	Fried chicken dinners... ..	4
Plain rolls.....	3		
Cakes:		<u>Fish and shellfish</u>	
Angel.....	2	Fish:	
Chiffon.....	2	Filletts:	
Chocolate layer.....	4	Cod, flounder, had-	
Fruit.....	12	dock, halibut,	
Pound.....	6	pollack.....	6
Yellow.....	6	Mullet, ocean perch,	
Danish pastry.....	3	sea trout, striped	
Doughnuts:		bass.....	3
Cake type.....	3	Pacific Ocean perch.....	2
Yeast raised.....	3	Salmon steaks.....	2
Pies (unbaked):		Sea trout, dressed.....	3
Apple.....	8	Striped bass, dressed.....	3
Boysenberry.....	8	Whiting, drawn.....	4
Cherry.....	8	Shellfish:	
Peach.....	8	Clams, shucked.....	3
		Crabmeat:	
<u>Meat</u>		Dungeness.....	3
Beef:		King.....	10
Hamburger or chipped		Oysters, shucked.....	4
(thin) steaks.....	4	Shrimp.....	12
Roasts.....	12	Cooked fish and shellfish:	
Steaks.....	12	Fish with cheese sauce... ..	3
Lamb:		Fish with lemon butter	
Patties (ground meat).....	4	sauce.....	3
Roasts.....	9	Fried fish dinner.....	3
Pork, cured.....	2	Fried fish sticks, scallops,	
Pork, fresh:		or shrimp.....	3
Chops.....	4	Shrimp creole.....	3
Roasts.....	8	Tuna pie.....	3
Sausage.....	2		
Veal:		<u>Frozen desserts</u>	
Cutlets, chops.....	9	Ice cream.....	1
Roasts.....	9	Sherbet.....	1

storage temperature, pack containers close together to save space.

Avoid unnecessary opening of freezer doors to help maintain constant freezer temperature.

Label the packages with the date stored. Store like foods together; place the most recently purchased products underneath or behind foods that were already in the freezer.

It's a good idea to keep a record

of the frozen foods that are in storage. One way to do this is to keep an inventory notebook using a separate page for each kind of food. When you put a container into the freezer, enter it in the notebook. Record date of purchase and date by which it should be used. When you take out a container, cross out the entry for it.

Keep this record close to your freezer. Refer to it when you plan purchases and meals.

REFREEZING

Occasionally, frozen foods are partially or completely thawed before it is discovered that the freezer is not operating or that the door has been left open for a time.

The basis for safety in refreezing foods is the temperature at which thawed foods have been held and the length of time they were held after thawing. You may safely refreeze frozen foods that have thawed if they still contain ice crystals or if they are still cold—below 40° F.—and have been held no longer than 1 or 2 days at refrigerator temperature after thawing. In general, if a food is safe to eat, it is safe to refreeze.

Thawed ground meats, poultry, or fish that have *any* off-odor or off-color should not be refrozen and should not be eaten. Thawed ice cream should be discarded. If the odor or color of any food is poor or questionable, get rid of it. The food may be dangerous to eat.

Even partial thawing and refreezing reduce the eating quality of foods, particularly fruits, vegetables, and prepared foods. The eating quality of red meats is affected less than that of many other foods. Use refrozen foods as soon as possible to save as much of their eating quality as you can.

DEFROSTING THE FREEZER

A collection of frost on freezer walls or shelves reduces storage space and makes the freezer inconvenient to use. It may also cause storage temperature to rise several degrees.

If thin layers of frost are scraped

off as they form, complete defrosting of the freezer need be done less frequently. Just move the packages of frozen food to another shelf or side of the freezer so you can scrape off the frosted surfaces.

Defrost completely before frost

reaches a depth of one-half inch over a large area of the refrigerated surfaces. Defrost also whenever frost begins to accumulate on packages that have been stored in the freezer only a few hours. If possible, defrost completely when the amount of food in the freezer is low because all food will have to be removed from the freezer during defrosting.

Follow the manufacturer's general directions for defrosting the type of equipment you have. Some of the following suggestions may help you do the job quickly with the least damage to the food.

To get the food as cold as possible before defrosting, set the temperature control of the freezer at its lowest setting for a few hours, or overnight. If freezer space can accommodate large cartons, put the food in large cartons during this period. (Food can be left in these cartons after you take it out of the freezer.)

Disconnect the freezer. Remove the food from the freezer. Setting the cold cartons in larger cartons will help keep the food from warm-

ing up too fast. Place several layers of newspapers on the cartons if they have no tops.

Work quickly. Scrape as much of the light frost from the freezer walls or shelves as you can. Placing pans of hot water in the freezer speeds defrosting.

Work at the edges of the ice so you can remove it in chunks as it comes free. Use a thick, flexible spatula or similar tool. Don't use sharp or rigid instruments, which might damage the walls.

When all ice and water have been removed, wipe the surfaces dry.

Close the freezer and connect it. Set the control at its coldest setting. Run the freezer at least 10 minutes before replacing the food; if defrosting has taken over an hour, run the freezer 15 to 20 minutes.

Wipe or scrape each food package quickly to remove any frost or moisture and replace it in the freezer. Run the freezer with the control at its coldest position long enough to be sure the food is thoroughly frozen. Then turn the control to the position that will maintain 0° F. in the warmest part of the freezer.

CARE OF FOOD IN EMERGENCIES

If you know or suspect that power will be off in your house, set the freezer control at its coldest setting right away. The lower temperature of freezer and food will delay thawing if power does go off.

If the freezer stops operating because of power failure or any other reason, try to find out how long it will be inoperative.

A fully loaded freezer usually will stay cold enough to keep foods frozen for 1 or 2 days; in one with half a load, food may not stay frozen for more than a day.

If normal operation will not be resumed before the food will thaw, use dry ice to keep the food cold or transfer the food in insulated boxes to a locker plant or other low-tem-

perature storage space. If the trouble is freezer breakdown, your neighbors may have enough space in their freezers to solve your problem.

If dry ice is put in the freezer soon after it goes off, 50 pounds should keep the temperature of food in a 20-cubic-foot cabinet below freezing for 3 to 4 days if the door is not opened; in a cabinet with half a load or less, for 2 or 3 days.

Work quickly when you put in dry ice. Place it on thick cardboard

or boards on top of the frozen food or on shelves—not directly on the packages. *Handle dry ice with care. Be sure the room is well ventilated when you use it. Never touch dry ice with bare hands. Do not put your head into the freezer and breathe the carbon dioxide gas from the dry ice.*

Do not open the freezer door while the freezer is not operating except as a part of food-saving procedure.

If you are interested in freezing food at home, the USDA publications listed below will be helpful. Single copies may be obtained by sending your request on a post card to the Office of Communication, U.S. Department of Agriculture, Washington, D.C. 20250. Include your ZIP Code with your return address.

	<i>Order No.</i>
Home Freezing of Fruits and Vegetables.....	G 10
Freezing Meat and Fish in the Home.....	G 93
