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Home Canning
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HOME CANNING

MICHIGAN STATE COLLEGE :: EXTENSION DIVISION
EAST LANSING

GENERAL DIRECTIONS

1. Check equipment. See that sealing edges of glass jars and tops are not chipped or dented. The porcelain inset of screw tops should not be cracked or loose. Tighten any loose wire clamps.

Rubbers should not crack when pressed firmly in a fold between the fingers. After being twisted several times, they should lie perfectly flat.

Clean the opening of the gauge of a pressure cooker with a toothpick. Check the safety valve. If it is a ball and socket type, wash it each time after using.

2. Wash jars, tops, and tin cans in soapy water and rinse. Place in a pan of warm water, bring to a boil and keep hot until filled. Jar caps with a sealing composition and rubber rings should also be allowed to stand in water. Never place tops of tin cans with paper gaskets in water, merely wipe with a damp cloth.

3. Always can firm, sound, fresh products. Two hours from the garden to the can is a good rule. Wash thoroughly and grade for size and ripeness.

4. Precooking. Most vegetables and some fruits are precooked before packing. When packed raw, they are covered with boiling hot liquid or syrup.

5. Packing. Four or five jars are enough to pack at once. Place new, wet rubber rings on jars. Work rapidly and keep jars hot. Do not pack products densely; use a knife blade to work out air bubbles. Leave one-half inch head space in glass jars and one-fourth to one-half inch in tin cans. (**Exceptions:** Leave one inch head space in jars of corn, peas and lima beans and one or one and one-half inches in jars to be processed in the oven.)

6. Adjusting covers. Wipe sealing surface of jars carefully.

(a) Turn screw tops down until tight, then back one-fourth inch.

(b) With wire-clamp jars, snap the top clamp into place, but leave side clamp up.

(c) With vacuum seal jars, screw the metal band down firmly.

(d) Tin cans are completely sealed with a special sealing machine while food is steaming. If foods are packed cold, the cans should be exhausted before sealing. To exhaust, place open, filled cans in a boiling water bath to within two inches of the tops of the cans. Cover the bath and keep the water boiling gently for 5 minutes, beginning to count time when the space above the cans is filled with steam.

7. Processing. Always process **immediately** after packing.

(a) Hot water bath. (Suitable for fruits and tomatoes.) Be sure there is free circulation of water under, around, and over the jars. They should be covered with one to two inches of water during the entire processing time. Have the water boiling before placing the jars in the canner. Count time as soon as the water boils vigorously. Be sure the water is kept boiling.

(b) Pressure cooker. (Recommended for non-acid vegetables and meats.) Pour boiling water in cooker to a level of about one inch or until it is just below the

rack. Add more water after each processing so cooker will not boil dry. Leave space between containers to allow for circulation of steam. Adjust the cover and fasten it securely. (Tighten opposite clamps gradually, a pair at a time.)

Allow the petcock to remain open until the steam escapes from it in a steady stream for 7 minutes. Then close the petcock and allow the pressure to rise to the desired point. (See table.) Count time from the moment the desired pressure is reached. Regulate heat so that the pressure will not fluctuate, since this causes loss of liquid from glass jars. At end of processing time, remove canner from heat but do not place on cold surface.

Let the canner cool until the gauge registers zero before opening petcock and then open it gradually. Remove the cover, tilting it so that the steam is directed away from one's face. Remove jars with a jar lifter after 2 or 3 minutes.

(c) Oven. (Suitable for fruits and tomatoes.) Do not use the oven for processing unless it is heat-controlled. Set the control at 275° and preheat the oven. Place hot, partially sealed glass jars (never tin cans) on a grate located near the center of the oven, leaving at least two inches between them. (When an electric oven is used, only the lower unit is turned on.)

8. Sealing. Completely seal all glass jars as soon as any violent bubbling within the jar has ceased. Screw tops are turned down firmly. The side clamps of wire-clamp jars are clicked into place. Vacuum seal jars should require no final seal unless the top has loosened. In this case, hold the lid so it cannot turn and tighten the metal band. Never remove the cover after processing.

9. Cooling. Cool all glass jars **upright** in air, but out of drafts. Never cover them. After vacuum seal jars are completely cold, the metal rings should be removed. Tin cans should be cooled in running water or a cold water bath.

10. Testing and storing. When glass jars are cold, they may be inverted to test for leaks. If leakage occurs, the jar should be opened, the contents heated and re-packed in another jar and processed again as at first. Store canned foods in a cool, dry place and protect glass jars from light.

APPROXIMATE YIELD OF CANNED PRODUCTS FROM RAW VEGETABLES

Vegetables	Quantity Raw	Yield as Canned Product
Asparagus, whole	2 pounds	1 1/4 pints or No. 2 can
Beans, shelled, lima	2 pounds	1 quart or No. 3 can
Beans, snap	1 1/2 pounds	1 quart or No. 3 can
Beets, baby, without tops	2 1/2 to 3 pounds	1 quart or No. 3 can
Corn	4 to 6 ears	1 1/4 pints or No. 2 can
Peas, green:—In pods	2 1/2 to 3 pounds	1 1/4 pints or No. 2 can
Shelled	1 pound	1 1/4 pints or No. 2 can
Pumpkin	4 pounds	1 quart or No. 3 can

***TIMETABLE FOR PROCESSING NON-ACID VEGETABLES
IN THE STEAM PRESSURE CANNER**

Product	Packing	Pint Glass Jars		Quart Glass Jars		No. 2 Tin Cans		No. 3 Tin Cans		Type of Tin Can
		240° F. or 10 pounds pressure	250° F. or 15 pounds pressure	240° F. or 10 pounds pressure	250° F. or 15 pounds pressure	240° F. or 10 pounds pressure	250° F. or 15 pounds pressure	240° F. or 10 pounds pressure	250° F. or 15 pounds pressure	
		Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	
Asparagus	Tie tender stalks in bundles, stand upright with tough portion in boiling water. Cover and boil 2 to 3 minutes. Or cut in half-inch lengths, cover with water and boil 2 minutes uncovered. Pack hot into containers, cover with cooking water, add 1 teaspoon salt to each quart. Or pack raw in tin cans, cover with boiling water and exhaust for 4 to 5 minutes before sealing.	30		35		30				Plain tin
Beans: Fresh lima	Shell and wash young tender lima beans. Cover with water and bring to boil. Pack hot, cover with hot water, and add 1 teaspoon of salt to each quart.	50		55		40		50		C enamel or plain tin
Snap	Wash and cut into pieces. Cover with boiling water and simmer, uncovered, for 5 minutes. Pack hot, cover with hot water, and add 1 teaspoon of salt to each quart.	30		35		25		30		Plain tin
Dried kidney	Soak overnight. Drain. Blanch in boiling water for 3 or 4 minutes. Drain. Fill containers leaving 1 inch head space. Cover with boiling water, add salt and sugar if desired.	80		90		70		85		C enamel or plain tin
Beets, baby	Trim off tops but leave 1 inch of stems and all of roots. Wash, scald in boiling water for 15 minutes until the skins slip easily. Skin, trim, pack into containers, add 1 teaspoon of salt to each quart and fill with hot water.	30		35		30		30		Sanitary enamel
Carrots	Follow directions for beets.	30		35		30		30		Plain tin
Corn: Whole-grain	Cut corn from cob deeply enough to remove most of the kernels without hulls. Do not scrape cobs. Add 1 teaspoon of salt to each quart and half as much water as corn by weight. Heat to boiling and pack at once.	60		70		50		65		C enamel
Cream-style	Cut off tops of the kernels and scrape out the pulp with the back of the knife. Add 1 teaspoon of salt to each quart, and half as much water as corn by weight. Heat to boiling and fill into containers hot.		75				70			C enamel
Greens, including spinach	Pick over greens, wash carefully in several waters, lifting the greens out each time. Cover with water, heat to simmering (not boiling) and cook, uncovered, for 5 minutes. Pack hot into containers and cover with hot cooking water. Do not pack too solidly. Add 1 teaspoon of salt to each quart.		60		65		55		No. 2½, 60	Plain tin
Mushrooms	Wash, peel, and drop into water containing 1 tablespoon of vinegar to the quart. Pre-cook, place in colander, cover with a heavy lid, and immerse for 3 to 4 minutes in boiling water that contains 1 tablespoon of vinegar and 1 teaspoon of salt per quart. Fill into containers and cover with boiling water. Add 1 teaspoon of salt to each quart.	25		35		25		25		Plain tin
Peas, Green	Shell, wash, add water to cover, and simmer about 5 minutes. Pack hot, add one-half teaspoon salt to each pint and cover with hot water. (Peas become overcooked and mushy in quart jars or No. 3 tin cans.)	45				40				Plain tin
Pumpkin	Wash, peel and cut into 1-inch cubes. Add a small amount of water, and simmer until heated through, stirring occasionally. Pack hot and cover with cooking water. Add 1 teaspoon salt to each quart.		60		75		60		70	Sanitary enamel
Squash	Follow directions for pumpkin.		60		75		60		70	Sanitary enamel
Vegetable-soup mixtures	Wash and trim vegetables and cut into cubes. Keep diced carrots and turnips covered with weak brine to prevent discoloring. Season as desired with salt, pepper, cayenne, garlic, parsley, thyme, and bayleaf. Bring to boiling point, pack hot, cover vegetables well with liquid.	60		70		50		65		Plain tin

*Time table adapted from Farmers' Bulletin, No. 1762.

**QUANTITIES OF RAW FRUITS NEEDED TO
YIELD ONE QUART OR ONE NO. 3 CAN
OF THE CANNED PRODUCTS**

Fruit	Pounds
Apples.....	2½
Berries.....	1¼ to 1½
Cherries.....	1¼ to 1½
Peaches.....	2 to 2½
Pears.....	2 to 2½
Plums.....	1½ to 2
Tomatoes.....	2½ to 3½

***TIMETABLE FOR PROCESSING FRUITS AND TOMATOES**

Product	Packing	Processing Period in Boiling Water—212° F.		Processing Period in Heat-Controlled Oven at 275° F.	Type of Tin Can
		Pint and Quart Glass Jars (1)	No. 2 and No. 3 Tin Cans	(Use Glass Jars Only)	
		Minutes	Minutes	Minutes	
Apples	Pare, slice or quarter, place in salt bath (2 T. salt and 2 T. vinegar to 1 gallon of water).				Plain tin
	1. Precook for 5 minutes in light syrup.....	15	10	30	
	2. Bake or boil whole; pack in hot light syrup.....	5	5	15	
	3. Apple sauce; pack hot.....	5	5	15	
	4. Steam or boil to wilt; pack dry.....	20	15	35	
Apricots	1. Pack raw; cover with hot, light or medium syrup.....	25	{ 15(#2) 25(#3)	40	Plain tin
	2. Precook and pack hot.....	15		15	
Beets, pickled	Cook until tender, leaving on 1 inch of stem. Plunge in cold water, slip off skins, dice or slice. Pack in jars adding one-half teaspoon of salt to the pint, fill with a mixture of vinegar and sugar (in equal proportions by measure) which has been heated to boiling.	30		50	Use glass
Berries: Blackberries Blueberries Dewberries Huckleberries Logan blackberries Raspberries Gooseberries	1. Pack raw, press gently into jars, cover with hot medium syrup made using juice extracted from small and imperfect berries.....	20	15	35	Sanitary enamel
	2. Precook by boiling with sugar 3 to 4 minutes, stir gently. Use from one-fourth to one-half pound of sugar for each pound of fruit. Pack boiling hot.....	5	5	20	
Cherries	1. Pit and boil for 5 minutes in sugar to taste and pack boiling hot.....	5	5	20	Sanitary enamel
	2. If unpitted, prick, pack in hot containers and cover with medium or heavy hot syrup, depending on the sweetness of the fruit.....	25	20	30	
Currants	1. Precook with sugar to taste and pack hot.....	5	5	20	Sanitary enamel
Grape Juice	Stem, wash, and crush ripe grapes. Barely cover with water and cook slowly until seeds are free. Strain through cheese-cloth bag without squeezing. Measure juice; bring to boiling point. Add one-half cup sugar to each quart.				Sanitary enamel
	1. Boil 5 minutes. Pour into sterilized jars. Leave no head space. 2. Bring to boiling point. Fill into hot jars.....	No processing 5	5	15	
Peaches	Peel and cut in halves:				Plain tin
	1. Simmer in light or medium syrup 4 to 8 minutes. Do not cook until soft. Pack, placing halves, pit side down in overlapping layers. Fill with hot syrup.....	15 25(soft) 35(firm)	15 20(soft) 30(firm)	25 35(soft) 50(firm)	

Pears	(Kieffer pears are better held at 60° to 65° F. for two weeks before canning.) Peel, cut in halves, core. Place in a solution of 2 T. salt and 2 T. vinegar to a gallon of water. 1. Cook in boiling medium syrup for 4 to 8 minutes. Pack hot and cover with boiling syrup..... 2. Pack raw and cover with hot syrup.....	20 30	20 20(#2) 25(#3)	30 40	Plain tin
Pimientos (ripe)	Place in hot oven (450° F.) for 6 to 8 minutes, then dip into cold water. Slip off skins, remove stems and seed cores. Fold and pack into containers, add ½ teaspoon of salt to each pint. Add no liquid.	40(pint)	30(#1)	60	Sanitary enamel
Pineapples	Peel, core, and remove the "eyes." Slice crosswise, pack into containers, and fill with boiling light syrup.	30	25	45	Plain tin
Plums	1. Wash, prick, pack into containers and cover with hot medium syrup..... 2. Cook with sugar to taste. Pack boiling hot.....	20 5	15 5	40 20	Sanitary enamel
Rhubarb	Trim, wash, and cut in one-half inch pieces. 1. Boil until soft in heavy syrup. Pack hot..... 2. Add one-fourth as much sugar as rhubarb by measure, and bake until tender in a covered dish. Pack hot....	5 5		20 20	Use glass
Sauerkraut	Heat to simmering but do not boil. Pack closely into containers while hot. Cover with hot juice, leaving ¼ inch head space.	25(pint) 30(quant)	15(#2) 30(#3)	35(pint) 45(quant)	Plain tin
Strawberries	Wash and stem. To each quart add 1 c. of sugar. Bring slowly to boiling point and let stand overnight in the kettle. In the morning bring quickly to boiling and pack hot.	5	5	15	Sanitary enamel
Tomatoes	Scald for 1 minute, then plunge into cold water. Drain, peel, and core. 1. Pack closely, fill with tomato juice and 1 teaspoon of salt to the quart..... 2. Cut in quarters, heat just to boiling, and pack hot....	45 5	35 5	60 15	Plain tin
Tomato Juice	Wash well, remove cores, cut into small pieces. (Do not handle more than 2 gallons at once and use stainless steel knives and no copper, brass, or iron utensils.) Simmer until softened, but do not boil. Put through a fine sieve, add salt if desired. Bring just to boiling, pour into sterilized containers and seal. Leave no head space.	No processing	5		Plain tin

*Timetable adapted from U. S. Department of Agriculture, Farmers' Bulletin 1762.
(1) When half-gallon jars are used, add 5 minutes to times given for quart glass jars.

SYRUPS

Type	Proportions	Method of Preparing
Thin syrup....	1 cup sugar to 3 cups water	Heat sugar and water together until sugar is dissolved and syrup is boiling. Fruit juice may be used in place of water
Medium syrup.	1 cup sugar to 2 cups water	
Thick syrup...	1 cup sugar to 1 cup water	