

PRESERVING ROOT VEGETABLES

Factsheet | HGIC 3260 | Updated: Mar 5, 2014

(Beets – Carrots – Onions – Sweet Potatoes – White Potatoes)

Canning Beets

Quantity: An average of 21 pounds (without tops) is needed per canner load of 7 quarts; an average of 13½ pounds is needed per canner load of 9 pints. A bushel (without tops) weighs 52 pounds and yields 15 to 20 quarts, an average of 3 pounds per quart.

Quality: Beets with a diameter of 1 to 2 inches are preferred for whole packs. Beets larger than 3 inches in diameter are often fibrous.

Procedure: Trim off beet tops, leaving an inch of stem and roots to reduce color or loss (*bleeding of color*). Scrub well. Cover with boiling water. Boil until skins slip off easily, about 15 to 25 minutes depending on size. Cool, remove skins and trim off stems and roots. Leave baby beets whole. Cut medium or large beets into ½-inch cubes or slices. Halve or quarter very large slices. Pack into hot jars, leaving 1-inch headspace. Add ½ teaspoon salt to pints, 1 teaspoon to quarts, if desired. Fill jar to 1-inch from top with boiling water. Remove air bubbles. Wipe jar rims. Adjust lids and process. Adjust lids and process following the recommendations in Table 1 or Table 2 according to the method of canning used.

Pickled Beets

7 pounds of 2- to 2½-inch diameter beets
4 cups vinegar (5 percent acidity)
1½ teaspoons canning or pickling salt
2 cups sugar
2 cups water
2 cinnamon sticks
12 whole cloves
4 to 6 onions (2- to 2½-inch diameter) (optional)

Yield: About 8 pints

Procedure: Trim off beet tops, leaving an inch of stem and roots to prevent bleeding of color. Wash thoroughly. Sort for size. Cover similar sizes together with boiling water and cook until tender (about 25 to 30 minutes). CAUTION: Drain and discard liquid.

Cool beets. Trim off roots and stems and slip off skins. Slice into ¼-inch slices. Peel and thinly slice onions. Combine vinegar, salt, sugar and fresh water. Put spices in cheesecloth bag and add to vinegar mixture. Bring to a boil. Add beets and onions. Simmer 5 minutes. Remove spice bag.

Fill jars with beets and onions, leaving ½-inch headspace. Add hot vinegar solution, allowing ½-inch headspace. Wipe jar rims. Adjust lids and process according to recommendations in Table 3.

Variation: Pickled whole baby beets. Follow above directions but use beets that are 1 to 1½ inches in diameter. Pack whole; do not slice. Onions may be omitted.

Freezing Beets

Select deep, uniformly red, tender, young beets. Wash and sort according to size. Trim tops, leaving ½-inch of stems and tap root, to prevent bleeding of color during cooking.

Cook in boiling water until tender: for small beets, 25 to 30 minutes; for medium beets 45 to 50 minutes.

Cool promptly in cold water. Peel, remove stem and tap root, and cut into slices or cubes. Package, leaving ½-inch headspace. Seal and freeze.

Canning Carrots

Quantity: Select small carrots, preferably 1 to 1¼ inches in diameter. Large carrots are often fibrous. An average of 17½ pounds (without tops) is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints. A bushel (without tops) weighs 50 pounds and yields 17 to 25 quarts, an average of 2½ pounds per quart.

Procedure: Wash, peel and rewash carrots; slice or dice.

Hot Pack: Cover with boiling water; bring to boil and simmer for 5 minutes. Pack hot into hot jars, leaving 1-inch headspace. Add ½ teaspoon salt to pints; 1 teaspoon to quarts, if desired. Fill jar to 1-inch from top with boiling water. Remove air bubbles. Wipe jar rims. Adjust lids and process.

Raw Pack: Fill jars tightly with raw carrots, leaving 1-inch headspace. Add ½ teaspoon salt to pints and 1 teaspoon of salt to quarts jars, if desired. Fill jar to 1-inch from top with boiling water. Remove air bubbles. Wipe jar rims. Adjust lids and process following the recommendations in Table 1 or Table 2 according to the method of canning used.

Freezing Carrots

To freeze carrots, select young, tender, coreless, medium-length carrots. Remove tops, wash and peel. Leave small carrots whole. Cut others into thin slices, ¼-inch cubes or lengthwise strips. Water blanch small, whole carrots 5 minutes, diced or sliced 2 minutes, and lengthwise strips 2 minutes. Cool promptly; drain and package, leaving ½-inch headspace. Seal and freeze.

Canning Onions

Use onions of 1-inch diameter or less. Wash and peel onions. Cover with boiling water. Bring to a boil. Boil for 5 minutes. Pack the onions into hot jars, leaving 1-inch headspace. Add ½ teaspoon salt to pints, 1 teaspoon to quarts, if desired. Fill jar to within 1 inch from top with boiling water. Remove air bubbles. Wipe jar rims. Adjust lids and process. Process in a Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure for 40 minutes.

Onion Relish

8 cups peeled, sliced onions (about 3 pounds)

1 cup white vinegar (5 percent acidity)

1 cup sugar

1 teaspoon salt

½ teaspoon mustard seed

Yield: 2-3 pint jars

Procedure: Drop onions in boiling water and cook 4 minutes. Drain. Combine vinegar, sugar, salt and mustard seed in a large saucepan. Bring mixture to a boil. Add onions and simmer 4 minutes.

Pack onions into hot jars, leaving ½-inch headspace. Fill jars ½ inch from top with boiling water hot cooking liquid (be sure onions are totally immersed in vinegar solution). Remove air bubbles. Wipe jar rims. Adjust lids. Process 10 minutes in a Boiling Water Bath.

Freezing Onions

Quality: Bulb onions store well in a cool, dry place. Freezing is usually not recommended.

Preparation: Choose mature bulbs and clean as for eating.

Procedure: Water blanch for 3 to 7 minutes or until center is heated.

Cool promptly, drain and package, leaving ½-inch headspace. Seal and freeze. These are suitable for cooking only. Young green onions may be chopped for salads and sandwiches and frozen without blanching, but they will not be crisp. They will be highly flavored but may be slightly tough.

Freezing Onion Rings

Wash, peel and slice onions. Separate into rings. Water blanch for 10 to 15 seconds. Cool promptly, drain and coat with flour.

Dip in milk. Coat with a mixture of equal parts cornmeal and pancake mix. Arrange in a single layer on a tray. Freeze. Pack into containers using plastic wrap to separate the layers. Seal and freeze. To prepare, fry frozen rings in 375 °F oil until golden brown.

Canning Sweet Potatoes

Quantity: An average of 17½ pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints. A bushel weighs 50 pounds and yields 17 to 25 quarts, an average of 2½ pounds per quart.

Quality: Choose small to medium-sized potatoes. They should be mature and not too fibrous. Can within 1 to 2 months after harvest.

Procedure: Wash potatoes and boil or steam until partially soft (15 to 20 minutes). Cool only enough to handle and remove skins. Remove skins. Cut medium potatoes, if needed, so pieces are uniform in size.

Caution: Do not mash or puree pieces.

Fill jars, leaving 1-inch headspace. Add ½ teaspoon salt to pints; 1 teaspoon to quarts, if desired. Cover with your choice of fresh boiling water or syrup, leaving 1-inch headspace. Adjust lids and process following the recommendations in Table 1 and Table 2.

Freezing Sweet Potatoes

Quality: Choose medium to large sweet potatoes that have been cured for at least one week. Sort according to size and wash.

Procedure: Cook until almost tender in water, in steam, in a pressure cooker or in the oven. Let stand at room temperature until cool. Peel sweet potatoes; cut in halves; slice or mash.

If desired, to prevent darkening, dip whole sweet potatoes or slices for 5 seconds in a solution of ½ cup lemon juice to 1 quart water.

To keep mashed sweet potatoes from darkening, mix 2 tablespoons orange or lemon juice with each quart of mashed sweet potatoes. Pack into containers, leaving ½-inch headspace. Seal and freeze.

Freezing Baked Sweet Potatoes

Procedure: Wash, trim and bake potatoes in the oven at 350 °F, without peeling, until slightly soft. Cool, remove peel and wrap individually in aluminum foil. Place in polyethylene and freeze. Complete the baking in an oven at 350 °F immediately before serving, leaving the potatoes wrapped in foil.

Canning White Potatoes

Quantity: An average of 35 pounds is needed per canner load of 7 quarts; an average of 22½ pounds is needed per canner load of 9 pints. A bag weighs 50 pounds and yields 8 to 12 quarts, an average of 5 pounds per quart.

Quality: Select small to medium-size mature potatoes of ideal quality for eating. Tubers stored below 45 °F may discolor when canned. Choose potatoes 1 to 2 inches in diameter if they are to be packed whole.

Procedure: Wash and peel potatoes. If desired, cut into ½-inch cubes. Place in solution of 1 teaspoon (3000 mg) ascorbic acid and 1 gallon water, to prevent darkening. Drain. Cook 2 minutes in boiling water and drain again. For whole potatoes, boil 10 minutes and drain. Add ½ teaspoon salt to pints; 1 teaspoon to quarts, if desired. Fill jars with hot potatoes and fresh hot water, leaving 1-inch headspace. Remove air bubbles. Wipe jar rims. Adjust lids and process following the recommendations in Table 1 and Table 2.

Freezing New Irish Potatoes

Quality: Select smooth new potatoes directly from the garden. Peel or scrape and wash. Water blanch for 3 to 5 minutes, depending on the size.

Procedure: Cool, drain and package whole or sectioned, leaving ½-inch headspace. Seal and freeze.

Frozen French Fried Potatoes

Select mature potatoes that have been stored 30 days. Wash, peel and cut into ½-inch sticks lengthwise, then crosswise into ¾-inch strips. Rinse in cold water. Dry thoroughly.

Fry small amounts in deep, hot fat (360 °F) about 5 minutes until tender but not brown. Drain on paper towels. Cool. Package, seal and freeze. At serving time, finish browning in a hot (475 °F) oven.

Table 1. Recommended Process Times for Canned Root Vegetables in a Dial-Gauge Pressure Canner

Style of Pack	Jar Size	Process Time (Min.)	Canner Pressure (PSI) at Altitudes of:			
			0 – 2000 ft.	2001 – 4000 ft.	4001 – 6000 ft.	Above 6000 ft.
Beets						
Hot	Pints	30	11 lb.	12 lb.	13 lb.	14 lb.
	Quarts	35				
Carrots						
Hot or Raw	Pints	25	11 lb.	12 lb.	13 lb.	14 lb.
	Quarts	30				
Sweet Potatoes						
Hot	Pints	65	11 lb.	12 lb.	13 lb.	14 lb.
	Quarts	90				
White Potatoes						
Hot	Pints	35	11 lb.	12 lb.	13 lb.	14 lb.

	Quarts	40				
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Table 2. Recommended Process Times for Canned Root Vegetables in a Weighted-Gauge Pressure Canner

Style of Pack	Jar Size	Process Time (Min)	Canner Pressure (PSI) at Altitudes of:	
			0-1000 ft.	Above 1000 ft.
Beets				
Hot	Pints	30	10 lb.	15 lb.
	Quarts	35		
Carrots				
Hot or Raw Pack	Pints	25	10 lb.	15 lb.
	Quarts	30		
Sweet Potatoes				
Hot	Pints	65	10 lb.	15 lb.
	Quarts	90		
White Potatoes				
Hot	Pints	35	10 lb.	15 lb.
	Quarts	40		

Table 3. Recommended Process Times for Pickled Products in a Boiling Water Canner

Style of Pack	Jar Size	Process Times (MIN) at Altitudes of:			
		0-1000 ft.	1001-3000 ft.	3001-6000 ft.	Above 6000 ft.
Pickled Onion Relish					
Hot	Half-Pints or Pints	5	10	10	15
Pickled Beets					
Hot	Pints or Quarts	30	35	40	45

Sources:

1. USDA. (Reviewed 1994). Complete Guide to Home Canning, Agriculture Information Bulletin No. 539.
2. Reynolds, Susan and Paulette Williams. So Easy to Preserve, Bulletin 989. Cooperative Extension Service, the University of Georgia, Athens. Revised in 1993 by Judy Harrison.

If this document didn't answer your questions, please contact HGIC at hgic@clemson.edu or 1-888-656-9988.

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