



National Center for Home Food Preservation



Using Boiling Water Canners

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Most boiling water canners are made of aluminum or porcelain-covered steel; at least one stainless steel model is also available. Boiling water canners have fitted lids and removable racks that are either perforated or shaped wire racks. The canner must be deep enough so that at least one inch of briskly boiling water will be over the tops of jars during processing. Some boiling water canners do not have completely flat bottoms; these will not work well on smooth top ranges. The canner bottom should also be fairly flat for use on electric burners. Either a flat or ridged bottom may be used on a gas burner. To ensure uniform processing of all jars with an electric range, the canner should be no more than 4 inches wider in diameter than the element on which it is heated. (When centered on the burner or element, the canner should not extend over the edge of the burner or element by more than 2 inches on any side.) Before canning on a smooth top range, check the range manufacturer's advice on suitability for canning and recommended maximum canner size for specific burners.

Follow these steps for successful boiling water canning:

(Read through all the instructions before beginning.)

1. Before you start preparing your food, place canner rack in the bottom of a boiling water canner. Fill the canner half full with clean warm water for a canner load of pint jars. For other sizes and numbers of jars, you will need to adjust the amount of water so it will be 1 to 2 inches over the top of the filled jars.
2. Center the canner over the burner and preheat the water to 140 degrees F. for raw-packed foods and to 180 degrees F. for hot-packed foods. You can begin preparing food for your jars while this water is preheating.
3. Load filled jars, fitted with lids and ring bands, into the canner one at a time, using a jar lifter. When moving jars with a jar lifter, make sure the jar lifter is securely positioned below the neck of the jar (below the ring band of the lid). Keep the jar upright at all times. Tilting the jar could cause food to spill into the sealing area of the lid.

If you have a shaped wire rack that has handles to hold it on the canner sides, above the water in the canner, you can load jars onto the rack in the raised position and then use the handles to lower the rack with jars into the water.

4. Add more boiling water, if needed, so the water level is at least one inch above the jar tops. Pour the water around the jars and not directly onto them. For process times over 30 minutes, the water level should be 2 inches above the jars.
5. Turn the heat setting to its highest position, cover the canner with its lid and heat until the water boils vigorously.
6. Set a timer (after the water is boiling) for the total minutes required for processing the food.
7. Keep the canner covered for the process time. The heat setting may be lowered as long as a gentle but complete boil is maintained for the entire process time.
8. Add more *boiling* water during the process, if needed, to keep the water level above the jar tops. Pour the water around the jars and not directly onto them.
9. If the water stops boiling at any time during the process, turn the heat on its highest setting, bring the water back to a vigorous boil, and begin the timing of the process over, from the beginning (using the total original process time).
10. When the jars have been processed in boiling water for the recommended time, turn off the heat and remove the canner lid. Wait 5 minutes before removing jars to allow the canner contents to settle. This waiting period is not required for safety of the food when using USDA or University of Georgia processing times, however.
11. Using a jar lifter, remove the jars one at a time, being careful not to tilt the jars. Carefully place them directly onto a towel or cake cooling rack, leaving at least one inch of space between the jars during cooling. Avoid placing the jars on a cold surface or in a cold draft.
12. Let the jars sit undisturbed while they cool, from 12 to 24 hours. Do *not* tighten ring bands on the lids or push down on the center of the flat metal lid until the jar is completely cooled.
13. Remove ring bands from sealed jars. Put any unsealed jars in the refrigerator and use first.
14. Wash jars and lids to remove all residues.
15. Label jars and store in a cool, dry place out of direct light.

Fruits and vegetables: A buying guide

Fruits

<p>Apples (late August to April) 1 lb (500 g) = 2 to 3 apples 1 apple, grated or chopped = 1 cup (250 mL) 1 apple, sliced = 1 1/2 cups (375 mL)</p> <p>Apricots (July to August) 1 lb (500 g) = 5 to 7 apricots 1 apricot, sliced = 1/2 cup (125 mL)</p> <p>Avocado (April to August) 1 lb (500 g) = 2 avocados 1 avocado, sliced or cubed = 1 cup (250 mL) 1 avocado, mashed = 1/2 cup (125 mL)</p> <p>Bananas (year-round) 1 lb (500 g) = 4 bananas 1 banana, sliced = 1 cup (250 mL) 1 banana, mashed = 3/4 cup (175 mL)</p> <p>Blueberries (July to September) 1 pint = 12 oz (375 g) = 2 cups (500 mL)</p> <p>Cantaloupe (July to September) 1 cantaloupe = 3 lb (1.5 kg) = 7 cups (1.75 L) chopped</p> <p>Cherries (late June to early August) 1 lb (500 g) = 50 cherries = 3 cups (750 mL) 1 lb (500 g) pitted = 2 cups (500 mL)</p> <p>Cranberries (September to late December) 1 bag = 12 oz (375 g) = 3 cups (750 mL)</p> <p>Grapefruit (year-round; peak in winter) 1 lb (500 g) = 1 to 3 grapefruit = 1 cup (250 mL) sections 1 grapefruit = 3/4 cup (175 mL) juice</p> <p>Grapes (August through early October) 1 lb (500 g) = 3 cups (750 mL) stemmed</p> <p>Honeydew (July to September) 1 honeydew = 5 1/2 lb (2.45 kg) 1 honeydew, chopped = 12 cups (3 L)</p> <p>Kiwifruit (year-round; peak in fall and winter) 1 lb (500 g) = 4 to 6 kiwifruit 1 kiwifruit = 1/2 cup (125 mL) sliced/chopped</p> <p>Lemons (year-round; peak in winter) 1 lb (500 g) = 2 to 3 lemons 1 lemon = 1 tbsp (15 mL) grated rind; 1/4 cup (50 mL) juice</p> <p>Limes (year-round; peak in fall) 1 lb (500 g) = 4 limes 1 lime = 2 tsp (10 mL) grated rind; 3 tbsp (50 mL) juice</p>	<p>Mandarins (November to January) 1 lb (500 g) = 3 to 4 mandarins 1 mandarin = 1 cup (250 mL) sections; 2 tsp (10 mL) grated rind; 1/3 cup (75 mL) juice</p> <p>Nectarines (August to mid-September) 1 lb (500 g) = 4 nectarines 1 nectarine = 1 cup (250 mL) sliced or chopped</p> <p>Oranges (year-round; peak in winter) 1 lb (500 g) = 2 to 3 oranges 1 orange = 1 tbsp (15 mL) grated rind; 1 cup (250 mL) sections; 1/3 cup (75 mL) juice</p> <p>Peaches (mid-July to mid-September) 1 lb (500 g) = 2 to 4 peaches 1 peach = 1 cup (250 mL) sliced 1 peach = 1 cup (250 mL) chopped or diced</p> <p>Pears (August to late November) 1 lb (500 g) = 2 to 3 pears 1 pear = 1 cup (250 mL) sliced or chopped</p> <p>Pineapple (year-round; peak in winter) 1 pineapple = 2 1/2 lb (1.25 kg) 1 pineapple = 5 cups (1.25 L) chopped</p> <p>Plums (mid-July to late September) 1 lb (500 g) = 5 plums 1 plum = 1/2 cup (125 mL) chopped or sliced</p> <p>Raspberries (July (some available until September) 1 pint = 12 oz (375 g) = 2 cups (500 mL) 2 cups (500 mL) = 1 cup (250 mL) puréed; 1/3 cup (75 mL) puréed and seeded</p> <p>Rhubarb (forced: January until April, outdoor: early May to July) 1 lb (500 g) trimmed = 10 stalks 1 stalk, trimmed = 1/2 cup (125 mL) chopped</p> <p>Strawberries (early June to mid/late July, and some available until September) 1 quart = 30 strawberries = 1 1/2 lb (750 g) 1 quart = 4 cups (1 L) hulled 1 quart = 4 cups (1 L) sliced/chopped 4 cups (1 L) = 2 1/2 cups (625 mL) puréed</p> <p>Watermelon (August to end of September) 1 medium-large watermelon = 14 lb (6.25 kg) 1 lb (500 g) = 3 1/2 cups (875 mL) cubed</p>
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Vegetables

<p>Artichokes (spring, fall) 1 large artichoke = 12 oz (375 g)</p> <p>Asparagus (April to late June) 1 bunch = 1 lb (500 g) = 24 stalks 1 bunch chopped = 3 cups (750 mL)</p> <p>Beans, green/yellow wax (July to late September) 1 lb (500 g) = 6 cups (1.5 L) whole 1 lb (500 g) = 4 cups (1 L) chopped</p> <p>Beets (July to mid-October) 1 lb (500 g) = 1 bunch = 3 to 4 beets 1 bunch quartered = 2 cups (500 mL) = 2 1/3 cups (575 mL) chopped/sliced</p> <p>Broccoli (July to late October) 1 lb (500 g) = 1 bunch 1 bunch = 4 cups (1 L) chopped florets; 2 cups (500 mL) sliced peeled stems</p> <p>Brussels sprouts (September to November) 1 lb (500 g) = 24 sprouts = 4 cups (1 L)</p> <p>Cabbage (July to November) 1 large green cabbage = 4 lb (2 kg) 1 lb (500 g) shredded = 6 cups (1.5 L)</p> <p>Carrots (July to late September) 1 lb (500 g) = 4 large carrots; 1 carrot = 3/4 cup (175 mL) chopped/sliced = 2/3 cup (150 mL) grated 1 bunch = 9 small carrots = 12 oz (375 g) tops removed; 1 carrot = 1/3 cup (75 mL) chopped/sliced = 1/4 cup (50 mL) grated</p> <p>Cauliflower (August to late October) 1 large cauliflower = 2 3/4 lb (1.375 kg) trimmed florets = 12 cups (3 L)</p> <p>Celery (August to September) 1 bunch = 1 1/2 lb (750 g) 1 stalk = 1/2 cup (125 mL) sliced = 6 celery sticks</p> <p>Corn (late July to late September) 1 cob = 8 oz (250 g) = 1 cup (250 mL) kernels</p>	<p>Cucumber (English, year-round and Field, June to early September) 1 English cucumber = 1 lb (500 g) = 12 inches (30 cm) sliced = 4 cups (1 L) chopped = 2 1/2 cups (625 mL) 2 to 8 small field cucumbers = 1 lb (500 g)</p> <p>Eggplant (August to late September) 1 large eggplant = 1 lb (500 g) = 7 cups (1.75 L) sliced or cubed 1 small Asian eggplant = 6 oz (175 g) = 2 cups (500 mL) sliced or cubed</p> <p>Garlic (August to October) 1 head = about 2 oz (60 g) = 10 cloves 1 clove = 1 tsp (5 mL) minced</p> <p>Green onions (July to September) 1 bunch = 6 onions = 4 oz (125 g) 1 bunch = 1 1/2 cups (375 mL) chopped</p> <p>Leeks (August to November) 1 bunch = 3 to 4 leeks = 1 lb (500 g) 1 leek = 1 cup (250 mL) sliced, white and pale green parts</p> <p>Lettuce, Boston (June to September) 1 head = 1 lb (500 g) = 11 cups (2.75 L) torn</p> <p>Lettuce, iceberg (July to end of September) 1 head = 1 1/4 lb (625 g) = 12 cups (3 L) torn</p> <p>Lettuce, romaine (June to end of September) 1 head = 1 1/2 oz (750 g) = 14 cups (3.5 L) torn</p> <p>Mushrooms, button (year-round) 1 lb (500 g) = 30 mushrooms = 6 cups (1.5 L) sliced/chopped</p> <p>Onions, cooking (August to May) 1 lb (500 g) = 3 to 4 onions 1 onion = 1 1/2 cup sliced, 1 cup (250 mL) chopped</p> <p>Onions, red (August to October) 1 lb (500 g) = 2 onions = 2 1/2 cups (625 mL) sliced 1 onion = 2 cups (500 mL) chopped</p>
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Vegetables, continued

<p>Onions, Spanish and other large, sweet varieties (August to October) 1 lb (500 g) = 1 onion = 3 cups (750 mL) sliced 1 onion = 2 cups (500 mL) chopped</p> <p>Parsnips (September to November) 1 lb (500 g) = 3 to 4 parsnips 1 parsnip = 1 cup (250 mL) chopped = 1/3 cup (75 mL) mashed</p> <p>Peas (mid-June to late July) 1 lb (500 g) fresh peas in pod = 1 1/3 cups (325 mL) shelled</p> <p>Potatoes (late August to late October) 1 lb (500 g) = 3 to 4 potatoes 1 potato = 1 cup (250 mL) sliced = 3/4 cup (175 mL) chopped = 1/2 cup (125 mL) cooked, mashed</p> <p>Potatoes (new/mini) (July to September) 1 lb (500 g) = 15 new/mini-potatoes</p> <p>Potatoes, sweet (late summer) 1 lb (500 g) = 2 to 3 sweet potatoes 1 potato = 2 1/2 cups (625 mL) sliced = 2 cups (500 mL) cubed = 1 cup (250 mL) mashed</p> <p>Radishes (June to September) 1 bag = 1 lb (500 g) = 27 radishes = 3 1/2 cups (875 mL) sliced 1 bunch = 12 radishes = 1 1/2 cups (375 mL) sliced</p>	<p>Rutabaga (October to December) 1 rutabaga = 2 1/2 lb (1.25 kg) = 5 cups (1.25 L) cubed 1 cup (250 mL) cubed = 1/2 cup (125 mL) cooked, mashed</p> <p>Spinach (June to October) 1 bag = 10 oz (300 g) = 19 cups (4.75 L), trimmed and lightly packed; 10 cups (2.5 L) packed 1 bunch = 12 oz (375 g) = 16 cups (4 L), trimmed and lightly packed; 8 cups (2 L) packed</p> <p>Squash, butternut (September to November) 1 large squash = 3 lb (1.5 kg) = 11 cups (2.75 L) cubed 1 cup (250 mL) cubed = 1/2 cup (125 mL) mashed</p> <p>Sweet peppers (August to September; year-round greenhouse) 1 lb (500 g) = 2 to 4 peppers 1 pepper = 1 1/2 cups (375 mL) sliced = 1 1/4 cups (300 mL) chopped</p> <p>Tomatoes (late July to late September) 1 lb (500 g) = 2 to 3 tomatoes 1 tomato = 1 cup (250 mL) chopped</p> <p>Zucchini (July to late September) 1 lb (500 g) = 4 zucchini 1 zucchini, halved and sliced = 2 cups (500 mL) 1 zucchini, chopped = 1 1/2 cups (375 mL)</p>
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Reference: Canadian Living Test Kitchen. (2012) *Fruits and vegetables: A buying guide*. Retrieved from http://www.canadianliving.com/health/nutrition/fruits_and_vegetables_a_buying_guide_3.php