

General Canning Information

Causes and Possible Solutions for Problems with Canned Foods

Problem	Cause	Prevention
Loss of liquid from glass jars during processing. Do not open to replace liquid. (Not a sign of spoilage)	1. Lowering pressure in canner suddenly, after processing period.	1. Do not force pressure down by placing canner in a draft, opening the vent too soon, running cold water over the canner, etc. Allow pressure to drop to zero naturally; wait 10 minutes before opening after weight is removed from canner lid.
	2. Fluctuating pressure during processing in pressure canner.	2. Maintain a constant temperature throughout processing time.
	3. Failure to work out air bubbles from jars before processing.	3. Remove by running a plastic spatula or knife between food and jar before applying lids.
	4. Imperfect seal.	4. Use new flat lids for each jar and make sure there are no flaws. Pretreat the lids per manufacturer's directions. Use ring bands in good condition – no rust, no dents, no bends. Wipe sealing surface of jar clean after filling, before applying lid.
	5. Ring bands not tight enough.	5. Apply fingertip-tight over flat lid, but do not over tighten.
	6. Jars not covered with water in boiling water canner.	6. Jars should be covered with 1 to 2 inches of water throughout processing period.
	7. Starchy foods absorbed liquid.	7. Make sure dried beans are completely rehydrated prior to canning. Use hot pack for other starchy foods. Otherwise, none
	8. Food packed too tightly in jars cause boil over during processing.	8. Leave the appropriate headspace.

Problem	Cause	Prevention
Imperfect seal (discard food unless the trouble was detected within a few hours)	1. Chips or cracks in jar sealing surface.	1. Examine carefully before applying lid by observing and carefully rubbing finger around the mouth of the jar.
	2. Failure to properly prepare flat lids.	2. Follow manufacturer's directions.
	3. Particles left on mouth of jar.	3. A clean, damp cloth should be used before applying flat lids to remove any seeds, seasonings, etc.
	4. Using bad ring bands.	4. Use ring bands in good condition – no rust, no dents, no bends.
	5. Ring bands not applied to correct tightness.	5. Apply fingertip-tight over flat lid, but do not over tighten.
	6. Inverting jars after processing or lifting jars by tops while hot.	6. Use jar lifter for removing jars from canner, placing below ring band. Leave jars in upright position.
	7. Fat on jar rim.	7. Trim fat from meats. Add no extra fat. Wipe jar rim well.
Product dark at top of jar (not necessarily a sign of spoilage)	1. Air left in the jars permits oxidation.	1. Remove air bubbles before sealing jars. Use recommended headspace.
	2. Insufficient amount of liquid or syrup to cover all food in jar.	2. Cover product completely with water or syrup.
	3. Food not processed after filling jars and applying lids.	3. Process recommended length of time.
Problem	Cause	Prevention
Color changes that are undesirable	1. Contact with minerals such as iron, zinc or copper in cooking utensils or water.	1. Avoid these conditions by using carefully selected cooking utensils. Use soft water.

	2. Over processing.	2. Follow directions for processing times and operation of canners.
	3. Immature or over mature product.	3. Select fruits and vegetables at optimum stage of maturity.
	4. Exposure to light.	4. Store canned foods in a dark place.
	5. May be a distinct spoilage.	5. Process by recommended method and for recommended time.
	6. Natural and harmless substances in fruits and vegetables (pink or blue color in apples, cauliflower, peaches, or pears)	6. None.
Cloudy liquid (sometimes denotes spoilage)	1. Starch in vegetables.	1. Select products at desirable stage of maturity. Do not use over mature vegetables. If canning potatoes, use fresh boiling water to cover and not cooking liquid from preparing hot pack.
	2. Minerals in water.	2. Use soft water.
	3. Additives in salts.	3. Use pure refined salt (pickling or canning salt) without additives.
	4. Spoilage.	4. Prepare food as directed with published canning process. Process by recommended method and for recommended time.
Sediment in jars (not necessarily a sign of spoilage)	1. Starch in vegetables.	1. Select products at desirable stage of maturity.
	2. Minerals in water.	2. Use soft water.
	3. Additives in salts.	3. Use pure refined salt (pickling or canning salt) without additives.
	4. Yellow sediment in green vegetables or onions.	4. None (natural occurrence).
	5. White crystals in spinach.	5. None (natural occurrence).
	6. Spoilage.	6. Prepare food as directed with

		published canning process. Process by recommended method and for recommended time.
Problem	Cause	Prevention
Spoilage	1. Poor selection of fruits and vegetables.	1. Select product of suitable variety and at proper stage of maturity. Can immediately after harvest if possible.
	2. Incorrect processing temperature used.	2. Low acid vegetables and meats must be pressure canned for safety. Most fruits and pickles can be canned in boiling water. Process jams and jellies in a boiling water canner after filling jars.
	3. Incorrect process time.	3. Follow our research-based recommendations for canning foods. Follow directions for operation of canners and timing of processes. Do not overfill jars.
	4. Incorrect pressure.	4. Dial gauges should be checked every year for accuracy. Follow directions for operation of canners.
	5. Imperfect seal on jar.	5. Check jars and lids for defects before using. Wipe jar rim before closing. Do not overfill jars.
Floating (especially some fruits)	1. Fruit is lighter than sugar syrups.	1. Use firm, ripe fruit. Heat before packing. Use a light to medium syrup instead of heavy syrup.
	2. Air trapped in food pieces.	2. Use hot packs.
	3. Improper packing.	3. Pack fruit as closely as possible without crushing it. Release trapped air bubbles and readjust liquid level before applying lids. Make sure liquid covers food pieces completely.

This document was adapted from "So Easy to Preserve", 5th ed. 2006. Bulletin 989, Cooperative Extension Service, The University of Georgia, Athens. Revised by Elizabeth L. Andress, Ph.D. and Judy A. Harrison, Ph.D., Extension Foods Specialists.