

# Canning Foods Safely

Fresh foods are perishable because they contain a high percentage of water. The practice of canning preserves fresh food by removing oxygen, destroying enzymes, and preventing the growth of bacteria, yeasts and mold.

It is important to follow these proper canning practices:

- carefully selecting and washing fresh produce,
- peel according to recipe,
- hot packing many foods,
- adding acids (lemon juice or vinegar) to some foods,
- using acceptable jars and self-sealing lids,
- processing jars in a boiling-water or pressure canner for the correct period of time.



## Fast Facts

- Pressure canning is the only safe method for canning meat, poultry, seafood and low acid vegetables.
- The bacteria, *Clostridium botulinum*, is only destroyed in low-acid foods when properly processed in a pressure canner.
- *C. botulinum* spores survive hours at boiling water temperatures in low acid foods.

## What is foodborne botulism?

- Illness caused by ingestion of foods containing the neurotoxin produced by *C. botulinum*.
- Most often associated with improperly processed home canned foods.
- Symptoms include:
  - Weakness and vertigo
  - Blurred, double vision
  - Difficulty swallowing, speaking and breathing
  - Digestive upset
  - Possible death from suffocation

Adapted from FDA Bad Bug Book and National Center for Home Food Preservation

## Food Acidity

- The pH of a food indicates how much acid is present and is measured on a scale of 0 - 14; the lower the pH the more acid is present.
- Low-acid canned foods are not acidic enough to prevent *C. botulinum* growth.
- Foods may be naturally acidic or acidified by pickling, fermenting or directly adding acid.
- Adding lemon juice citric acid or vinegar increases foods' acidity by lowering pH.

### Low-acid foods:

- pH of 4.6 or higher
- Fresh vegetables (except most tomatoes)
- Meats
- Seafood
- Poultry



### Acid foods:

- pH of 4.6 or lower
- Sauerkraut
- Pickles
- Jams
- Jellies
- Marmalades

# Recommendations

## Jars and Lids

- Regular and wide-mouth Mason type, threaded, home canning jars with self-sealing lids are the best choice.
- With careful use and handling, Mason jars may be reused but require new lids each time.
- Before use, wash empty jars in hot water and rinse well, or wash in a dishwasher.
- All jams, jellies, and pickled products processed less than 10 minutes should be filled into sterile empty jars.
- Do not use lids that are
  - old,
  - dented,
  - deformed, or
  - contain sealing gasket defects.



## Tips and Tricks

After filling jars:

- Release air bubbles by inserting a flat plastic (not metal) spatula between food and jar. Slowly turn jar and move spatula up and down allowing bubbles to escape.
- Adjust headspace if needed.
- Clean jar rim (sealing surface) with dampened paper towel.
- Place lid, gasket down, onto cleaned jar-sealing surface.
- Do not retighten lids after processing.



## Pressure Canners

Modern pressure canners:

- lightweight
  - thin-walled kettles
  - turn-on lids
- Equipped with:
- jar rack
  - gasket
  - dial or weighted gauge
  - automatic vent/cover lock
  - vent or steam port with counterweight or weighted gauge
  - safety fuse.



## Unsafe Canning Methods

- Open-kettle canning
- Process freshly filled jars in conventional ovens, microwave ovens, and dishwashers,
- Using steam canners
- Using canning powders
- Using jars with wire bails and glass caps
- Using one piece zinc porcelain-lined caps

## Remember

All pressure canners must be vented for 10 minutes before they are pressurized.



Adapted from the National Center for Home Food Preservation website at: [nchfp.uga.edu](http://nchfp.uga.edu)