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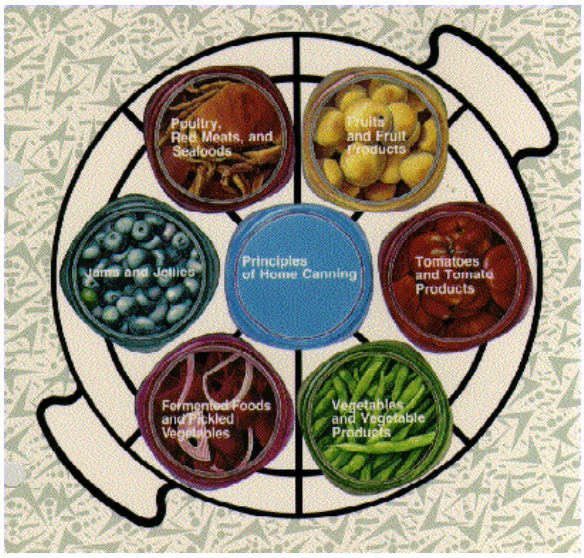
Complete Guide to Home Canning

Utah State University Extension



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Complete Guide To Home Canning

(**NOTE:** This electronic version of the USDA Complete Guide to Home Canning was created by Utah State University Extension. It was reviewed by Charlotte Brennand, Extension Food and Nutrition Specialist at Utah State University. Salsa recipes developed at Washington State University have been added to the canning guide as a supplement, with permission granted by Washington State University.)

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The Extension Service wishes to credit the primary development of this guide to Gerald D. Kuhn, Elizabeth L. Andress (currently with the University of Georgia), and Thomas S. Dimick. Extension staff who assisted in preparing this guide include Milton P. Baldauf, Catherine E. Adams, Nancy T. Sowers, and Vincent G. Hughes. Extension staff who assisted in this revision include Kenneth N. Hall (University of Connecticut) and Thomas W. Poore. Research for the smoked fish recommendation was conducted by Carolyn Raab and Ken Hilderbrand (Oregon State University) with partial funding from the OSU Extension Sea Grant Program. All have contributed significant ideas and time in making this guide a truly up-to-date research-based publication.

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Caution: To prevent the risk of botulism, low-acid and tomato foods not canned according to the recommendations in this publication or according to other USDA-endorsed recommendations should be boiled even if you detect no signs of spoilage. At altitudes below 1,000 ft, boil foods for 10 minutes. Add an additional minute of boiling time for each additional 1,000 ft elevation.

Preface

Home canning has changed greatly in the 170 years since it was introduced as a way to preserve food. Scientists have found ways to produce safer, higher quality products. The first part of this publication explains the scientific principles on which canning techniques are based, discusses canning equipment, and describes the proper use of jars and lids. It describes basic canning ingredients and procedures and how to use them to achieve safe, high-quality canned products. Finally, it helps you decide whether or not and how much to can.

The second part of this publication is a series of canning guides for specific foods. These guides offer detailed directions for making sugar syrups; and for canning fruits and fruit products, tomatoes and tomato products, vegetables, red meats, poultry, seafoods, and pickles and relishes. Handy guidelines for choosing the right quantities and quality of raw foods accompany each set of directions for fruits, tomatoes, and vegetables. Most recipes are designed to yield a full canner load of pints or quarts. Finally, processing adjustments for altitudes above sea level are given for each food.

This publication contains many new research-based recommendations for canning safer and better quality food at home. It is an invaluable resource book for persons who are canning food for the first time. Experienced canners will find updated information to help them improve their canning practices.

(This publication supersedes four USDA Home and Garden Bulletins: Number 8—"Home Canning of Fruits and Vegetables"; Number 56—"How to Make Jellies, Jams, and Preserves at Home"; Number 92—"Making Pickles and Relishes at Home"; and Number 106—"Home Canning of Meat and Poultry.")

For Safety's Sake

Pressure canning is the only recommended method for canning meat, poultry, seafood, and vegetables. The bacterium *Clostridium botulinum* is destroyed in low-acid foods when they are processed at the correct time and pressure in pressure canners. Using boiling water canners for these foods poses a real risk of botulism poisoning.

If *Clostridium botulinum* bacteria survive and grow inside a sealed jar of food, they can produce a poisonous toxin. Even a taste of food containing this toxin can be fatal. Boiling food 10 minutes at altitudes below 1,000 ft destroys this poison when it is present. For altitudes at and above 1,000 ft, add 1 additional minute per 1,000 ft additional elevation. **Caution:** To prevent the risk of botulism, low-acid and tomato foods not canned according to the recommendations in this publication or according to other USDA-endorsed recommendations should be boiled as above, even if you detect no signs of spoilage. All low-acid foods canned according to the approved recommendations may be eaten without boiling them when you are sure of all the following:

- Food was processed in a pressure canner.
- Gauge of the pressure canner was accurate.
- Up-to-date researched process times and pressures were used for the size of jar, style of pack, and kind of food being canned.
- The process time and pressure recommended for sterilizing the food at your altitude was followed.
- Jar lid is firmly sealed and concave.
- Nothing has leaked from jar.
- No liquid spurts out when jar is opened.
- No unnatural or "off" odors can be detected.

Do Your Canned Foods Pass This Test?

Overall appearance

- Good proportion of solid to liquid
- Full pack with proper headspace
- Liquid just covering solid
- Free of air bubbles
- Free of imperfections—stems, cores, seeds
- Good seals
- Practical pack that is done quickly and easily

Fruit and vegetables

- Pieces uniform in size and shape
- Characteristic, uniform color
- Shape retained-not broken or mushy
- Proper maturity

Liquid or syrup

- Clear and free from sediment

Determining Your Altitude Above Sea Level

It is important to know your approximate elevation or altitude above sea level in order to determine a safe processing time for canned foods. Since the boiling temperature of liquid is lower at higher elevations, it is critical that additional time be given for the safe processing of foods at altitudes above sea level.

It is not practical to include a list of altitudes in this guide, since there is wide variation within a State and even a county. For example, the State of Kansas has areas with altitudes varying between 75 ft to 4,039 ft above sea level. Kansas is not generally thought to have high altitudes, but there are many areas of the State where adjustments for altitude must be considered. Colorado, on the other hand, has people living in areas between 3,000 and 10,000 ft above sea level. They tend to be more conscious of the need to make altitude adjustments in the various processing schedules. To list altitudes for specific counties may actually be misleading, due to the differences in geographic terrain within a county.

If you are unsure about the altitude where you will be canning foods, consult your county Extension agent. An alternative source of information would be your local district conservationist with the Soil Conservation Service.

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