Important tips to remember when canning

It is best to can fruits and vegetables immediately after harvesting or purchasing

In the air and all around us are invisible microorganisms, such as molds, yeasts and bacteria.

Molds and Yeasts

- Molds are fungi that grow as silken threads and appear as fuzz on food.
- Yeasts, are also fungi, cause food to ferment, making it unfit to eat.
- Molds and yeasts are easily destroyed at temperatures between 140˚ and 190˚F.

Bacteria

- Bacteria are not easily destroyed; certain bacteria actually thrive at temperatures that destroy molds and yeasts.
- Salmonella is destroyed when held at 140˚F.
- Staphylococcus aureus, or "staph", is destroyed if food is kept about 140˚F.
- Botulism is a food poisoning caused by the bacterium Clostridium botulinum. This bacterium is destroyed by boiling. It thrives on low acids in the absence of air in moist environments-exactly the conditions inside a jar of canned vegetables, meats and other low-acid foods.

Boling Water method-Altitude Adjustments from the Blue Book Guide to Preserving

Altitude in Feet	Increase Processing Time
1,001 to 3,000	5 minutes
3,001 to 6,000	10 minutes
6,001 to 8,000	15 minutes
8,001 to 10,000	20 minutes

Pressure Canning Method-Altitude adjustments from the Blue Book Guide to Preserving

Altitude in Feet	Weighted Gauge	Dial Gauge
0 to 1,000	10	11
1,001 to 2,000	15	11
2,001 to 4,000	15	12
4,001 to 6,000	15	13
6,001 to 8,000	15	14
8,001 to 10,000	15	15

Recipe from Ball Blue Book Guide to Preserving, 2011. New Mexico State University is an equal opportunity/affirmative action employer and educator. NMSU and the U. S. Department of Agriculture cooperating.
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Boiling water Canner

- Foods naturally high in acid and acidified foods having a pH of 4.6 or less may be processed in a boiling water canner.
- The method is essential for safely canning fruits, soft-spreads, tomatoes, pickles and acidified foods.
- Filled jars are submerged in water to cover by 1 to 2 inches.

Pressure Canner

- Low acid foods or a combination of low-acid and high-acid foods that have a pH greater than 4.6 must be processed using a pressure canner.
- The method safely cans vegetable, meat, poultry, seafood and recipes containing high and low acid foods.
- Filled jar are submerged in water to cover by 2 inches.

    - Dial Gauge-must be tested once a year for accuracy.
        - If the gauge registers high by 1 pound (psi) or more at 5, 10 or 15 pounds pressure, it must be replaced.
    - Weighted Gauge-exhausts small amount of stream during the entire processing period.
        - The weighted gauge does not require testing for accuracy but if the gauge is damaged in any way, it must be replaced.

Jar Preparation

- All jars must be visually examined for nicks, cracks, uneven rims and other damage or defects.
- Jar can accumulate white film. It can be easily removed by washing or soaking the jars in a solution of 1 cup vinegar to 1 gallon of water. Rinse jars thoroughly.
- Jars must be heated for 10 minutes before filling to help prevent jar breakage. Simmer jars until ready for use.
- Lids must be heated for 10 minutes before using to help lids achieve a vacuum seal. Simmer lids, don't boil. Overheating lids by boiling can result in seal failure.

Filling Jars

- There are two methods for packing particular food types and recipes into jars-hot pack and raw pack.
    - Hot pack-preferred when the food being canned is relatively firm and handles well. Precooking the food makes it more pliable, permits a tighter pack and requires fewer jars.
        - The method is preferred for all vegetables, meats, poultry, sea foods and most fruits.
    - Raw pack-foods that would be delicate after they are cooked such as whole peaches, are usually easier to handle if they are raw packed.
        - The food placed in jar is raw and should be packed firmly but not crushed.

Measuring Head Space

- Headspace is the space in the jar between the top of the food or liquid and the inside of the lid.

Removing Air bubbles

- After the food has been packed into the jar, any air bubbles that are present must be removed.
- Place a nonmetallic spatula inside the jar between the food and the side of the jar. Repeat several times. Do not use metal it will scratch the inside of the jars.

Cleaning jar Rims

- The rim of the jar must be wiped with a clean, damp cloth.
- Particles of the food remaining on the rim of jar can prevent a vacuum seal.

Adjusting Lids and Bands

- Place a band over the lid and screw band until finger-tip tight.

Cooling

- Once the processing time is complete and the jars are ready to be removed from the canner, using a jar lifter, stand jars upright on a dry towel or cutting board.
- Space jars 1 to 2 inches apart so they will cool at an even rate.
- Allow them to cool at room temperature 12 to 24 hours.

Testing Seals

- After jars have cooled 12 to 24 hours, test the lids to determine if the vacuum seal has formed.
- Press the center of the lid to determine if it is concave; then remove the band and gently try to lift the lid off with your fingertips.
- If seal does not lift up and down you have a vacuum seal.

Reprocessing Unsealed Jars

- If lid does not seal within 24 hours, the product can be immediately reprocessed.
- Remove the lid and reheat the food or liquid as recommended by recipe.
- Pack food into clean, hot jars,
- Place a new, heated lid on the jar and adjust band.
- Reprocess the product using the canning method.

Storage

- Foods canned follow tested recipes, correct processing methods and processing time can be safely stored for one year.
- Labeling product with the date will help when food needs to be rotated.
- Before storing sealed jars, remove the bands and wash the lids. Bands can be reused if not damaged.
- If bands are stored on sealed jars, they may corrode and become difficult to remove.
- Keep canned foods in a cool, dry, dark place.

Opening Jars

- When jars are opened, it is best to use within a few days.

<u>Definitions</u>

- **pH**- Potential of Hydrogen- A measuring system in chemistry for determining the acidity or alkalinity of a solution. In canning, foods are separated into high-acid and low-acid. Different heat processing methods must be sued for each.
- **Simmer**-to cook food gently just below the boiling point (between 180˚ and 200˚F). Bubbles will rise gently from the bottom of the pot and slightly disturb the surface of the food.
- **Blanch**- To loosen the skin of fruits and vegetables by dipping in boiling water. Also, to dip vegetables in boiling water or stream to slow the action of enzymes.
- **Fermentation**- Caused by yeasts which have not been destroyed during processing of canned food? With the exception of some pickles, fermented canned food should not be used.