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The Future with High Pressure Processing



Some fruit juices are being treated with high pressure processing.

The goal of making processed foods without preservatives is on the fast track in food manufacturing. One method, developed in the 1990s, is high pressure processing (HPP).

HPP is a type of cold pasteurization which helps keep food fresher and maintains texture and nutrition. Food is packaged in a flexible, water-resistant package. It is placed in a high-pressure

chamber filled with cool water. The chamber is pressurized to 58,000 to 87,000 psi for a few minutes. To put this amount of pressure in perspective, it is equivalent to being 60 km (37 miles) deep in the ocean. The high pressure kills any microorganisms present. At the same time, very little to no changes occur in flavor, nutrition, color, texture and freshness. HPP can also extend the shelf life of foods.

Currently, HPP machines are being used in 200 companies around the world for foods such as fruit juice, tomato salsa, seafood, meat, and salami. It does add five to 25 cents per pound of food, so it is cost prohibitive for some companies to adopt. This may change as technology improves.

Learn more at <http://futurefood2050.com/preserving-fresh-food-longer-without-chemicals/>.

2016 Urban Food Systems Symposium

Save the date for the 2016 Urban Food System Symposium! This event will be June 23-26, 2016 at the Kansas State University Olathe campus.

The goal is to share

knowledge on urban agricultural production, local food systems distribution, urban farmer education, urban ag policy, planning and development, food access and justice, and food sovereignty.

Learn more about this event and submit an abstract proposal at www.urbanfoodsystemssymposium.org/.



Why Do Cucumbers Get Bitter?

A bitter taste in cucumbers is the result of stress that can be caused by a number of factors including heredity, moisture, temperature, soil characteristics and disease. Most often this occurs during the hot part of the summer or later in the growing season.

Two compounds, cucurbitacins B and C, give rise to the bitter taste. Though often only the stem end is affected, at times the entire fruit is bitter. Also, most of the bitter taste is found in and just under the skin. Bitter fruit is not the result of cucumbers cross pollinating with squash or melons. These plants

cannot cross pollinate with one another.

Pickling bitter cucumbers will not remove the bitterness. Bitter cucumbers may be saved if the stem end is removed and the cucumber is peeled.



Source: www.hfrr.ksu.edu/doc1581.ashx

Food Preservation Workshops for Agents

As part of a grant from the Kansas Health Foundation, four food preservation classes will be held for Extension Agents in locations across Kansas. The dates and locations are:

- September 15 - Abilene, KS
- September 17 - Hays, KS
- September 29 - Iola, KS
- September 23 - Dodge City, KS

More information and registration will be coming soon.



What Makes Pickles Soft?

There are several reasons why pickles become soft. They include:

- Vinegar is too weak. Use vinegar that is at least 5% acidity
- Blossom end of cucumbers not removed. The blossom contains an enzyme that causes softening. Remove at least 1/16th inch.
- Jars of pickles not processed properly. They need to be water bath processed or steam canned properly for safety.
- Hard water contains minerals that cause softening. Use softened or distilled water instead. Alternatively, boil hard water and let it sit 24 hours to let sediment drift to the bottom, then use the water.
- Use pickling varieties of cucumbers and pickle them within 24 hours of harvesting.



Ball® Pickle Crisp® Granules is calcium chloride. It can be added to any vegetable pickle to add crispness to the vegetables

Safe Options for Pickles and Relishes



Source: <http://fyi.uwex.edu/safepreserving/category/canning-general/>

One of the fastest growing areas of food preservation is in pickled products. The time is now to try making some of these tasty products yourself! Pickles are processed in a boiling water or steam canner. Here are some safe tips for changes and substitutions.

- You may safely **substitute** grocery store cider vinegar (5% acetic acid) for white vinegar (5% acetic acid), and vice versa. Do not use other types of vinegar such as wine vinegar or homemade vinegar.
- You may **add a clove of garlic or a small dried hot pepper** to any pickle recipe without impacting the processing time.
- You may **substitute zucchini or summer squash** for cucumber in any relish recipe. You may substitute English or grocery store cucumbers for pickling cucumbers, but the quality of the product may be inferior.
- You may **refrigerate** a pickle recipe that can't be safely canned. If refrigerated, store for up to 2 weeks.



Reprocessing Home Canned Food

Oops! The lids didn't seal! I used the wrong pressure! Can these jars be saved?

Home canned foods can be reprocessed within 24 hours of initial pro-

cessing. Remove the lid and replace with a new lid. Change jars if the necessary because of nicks in the jar rim. Reprocess the food using the proper procedures for that food.

Another option is to store the jars in the refrigerator and use within a few days or freeze for later use. If freezing, be sure to have at least 1 1/2 inch headspace for expansion.

Do not use jars of food that become unsealed during storage for an unknown reason.

http://nchfp.uga.edu/how/store/store_home_canned.html



History of Bread & Butter Pickles

The Bread & Butter name for pickles dates back to the early 1920s to an Illinois couple named Omar and Cora Fanning. They trademarked their recipe for "sweet and sour" pickles as they made their living growing cucumbers.

To make ends meet during hard times, the family used smaller cucumbers, which were considered waste, to make these pickles. They would trade their pickles for household staples like bread and butter. And as they say, "the rest is history."

Dill pickles are the most popular pickle, followed by sweet pickles, which includes the Bread & Butter variety.

Sources: www.ilovepickles.org/book/export/html/14
www.etsu.edu/cph/documents/Bread_and_Butter_Pickles.pdf

Knowledge for Life

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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Food Safety for Kids Under 5

Kids under age five are one of the high risk groups that can get very ill from foodborne illness. Here's a new infographic from USDA with the reasons and what can be done to prevent foodborne illness. It is available in English and Spanish.

Learn more at www.foodsafety.gov/risk/children/index.html.



FOOD SAFETY for Children Under 5
Learn the food safety steps that will keep young children under 5 safe from foodborne illness.

How Long is Baby Food Safe?

SOLIDS - opened or freshly made	Refrigerator	Freezer
Strained fruits and vegetables	2 to 3 days	6 to 8 months
Strained meats and eggs	1 day	1 to 2 months
Meat/vegetable combinations	1 to 2 days	1 to 2 months
Homemade baby foods	1 to 2 days	1 to 2 months

WHY ARE CHILDREN UNDER 5 AT RISK?
Young children's immune systems are still developing. Compared with other age groups, children under 5 years old have the highest incidence of several types of foodborne infections.

Did You Know ...
15% of children under 5 years old with *E. coli* O157 develop hemolytic uremic syndrome (HUS).
6% of the general population with *E. coli* O157 develop HUS.
HUS can cause damage to the liver, kidneys, and pancreas and can be fatal.

HIGH-RISK FOODS FOR CHILDREN UNDER 5
Raw or undercooked foods including meat, poultry, and eggs
Unpasteurized milk or juice
Raw or undercooked oysters and seafood

REMEMBER
Clean: Wash hands and surfaces often.
Separate: Keep raw meat and poultry separate from ready-to-eat foods.
Cook: Cook foods to the proper internal temperature.
Chill: Get leftovers to the fridge within 2 hours of being cooked.

USDA | Ad Council | www.foodsafety.gov | ADDITIONAL SOURCE: CDC



Karen Blakeslee, M.S.



On the Web at
www.rrc.ksu.edu



Harvest Time Apple Relish

Apple season is almost here! Try this new relish recipe from University of Georgia.

Harvest Time Apple Relish

8 pounds apples (crisp cooking variety such as Honey Crisp, Cameo, or Pink Lady)
3 cups distilled white vinegar (5%)
2½ cups sugar
2 cups water
2 teaspoons ground cloves

8 pieces stick cinnamon (3 inches each)
1 tablespoon ground allspice
4 teaspoons ground ginger
4 tablespoons (¼ cup) finely chopped red Serrano pepper (about 4-6 peppers as purchased)

For the complete recipe and instructions, see http://nchfp.uga.edu/how/can_06/harvest_apple_relish.html.