



Let's Preserve Newsletter

Lancaster County

1383 Arcadia Road, Room 140, Lancaster, PA 17601-3184

717-394-6851
 FAX: 717-394-3962
 E-mail: LancasterExt@psu.edu

July 2007

Dear Home Food Preserver,

With beans, corn, cucumbers and lots of other fresh produce available in July, it really is a time of "good eatin'." We always feel blessed to have extras to can and freeze and to be able to enjoy such good food throughout the year.

Remember that all vegetables except acidified tomatoes and pickles must be processed in a pressure canner. We were pleased to meet so many of you when we took the pressure canner dial gauge testing on the road. We tested 77 gauges so far at 6 different locations. Adjustments will need to be made when using most of the gauges in order to process food safely. Part of that is the result of the Presto Company incorporating a heat factor into their dials a few years ago. Only about 10% of dials needed to be replaced. Your questions stimulated several articles in this newsletter. Home canning is alive and well in Lancaster County.

This month we will be starting our food preservation workshops. Excellent ways to pick up the latest research on food preservation, workshops delve into the "why" of procedures as well as the "how".

Wishing you a successful preservation season.

Nancy R. Wiker

Nancy R. Wiker, Extension Educator – FCS
 Penn State Cooperative Extension

Martha Zepp

Martha Zepp, Food Preservation Consultant
 Penn State Cooperative Extension

College of Agricultural Sciences

What's Inside....

Food of the Month: Cucumbers

- Freezer Bread and Butter Pickles

Refrigerator Storage

Introducing Kohlrabi

Salt

- Is Salt Necessary?
- A Salt Glossary

Preserving Nutrition

Canning Skills

- Basic Reminders
- How Much Pressure?
- Outdated Canning Recipes Resurface
- A Sealed Jar is Not a Safe Jar
- Acidifying Tomatoes

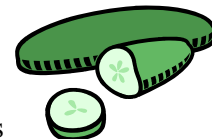
Tomato-Vegetable Juice Blend

- Don't Can Tomato Soup

Summer Garden Experience

Workshops

Resources



Food of the Month – Cucumbers

When I have too few cucumbers to make canned pickles, I find it convenient to prepare freezer pickles. Sometimes it involves taking half or three-fourths of the recipe.

Freezer pickles are a quick pickle by definition (not fermented) and by the fact that they take little time to prepare. Last summer I experimented with four different freezer pickle recipes and this was my favorite for flavor and texture after long term storage. I served them at a dinner party in January and my guests made positive comments about them without realizing they were freezer pickles.

The syrups on all freezer pickle recipes will have a high concentration of sugar. This helps to give a firmer texture to a vegetable that would not normally freeze successfully.

Freezer Bread and Butter Pickles

7 cups thinly sliced cucumbers
1 cup chopped onion
2 tablespoons canning salt

Layer cucumbers, onion, and salt in a glass bowl or non-metallic bowl. Weigh down and cover. Do not add water. Let stand overnight in refrigerator.

Syrup

2 cups sugar
1 cup white vinegar
1 teaspoon celery seed *

Next morning, combine, but do not cook, 2 cups sugar, 1 cup white vinegar, and 1 teaspoon celery seed. Stir until very smooth and sugar is dissolved. Drain sliced cucumbers and rinse well. Return to bowl, add syrup and refrigerate an additional 24 hours. Place into freezer containers and freeze.

*The seasoning can be adjusted to your taste. You could reduce the celery seed and add some mustard seed.

Adapted from www.razzledazzlerecipes.com

Refrigerator Storage



Do you think of refrigerating foods as a form of food preservation? Without the benefit of cool temperatures to preserve foods for short term storage, many food shopping and preparation tasks would have to be performed daily or more often. Keep your refrigerator's fresh food compartment between 34 and 40°F—aim for 37°F. Keep an appliance thermometer in the refrigerator to check the temperature.

Never overcrowd your refrigerator shelves. Air space allows for cool air to circulate between the foods and cool them more evenly.

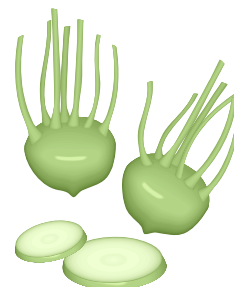
Store fresh meat, lunch meat, and cheese in the coldest part of the refrigerator. Refrigerators with a special meat/cheese drawer are designed to maintain a colder temperature within the drawer.

Crisper drawers are designed to trap moisture to help keep fruits and vegetables fresh. Controls on some crisper drawers regulate the humidity level in the drawers. Most vegetables need high humidity while most fruits require low humidity. Wrap foods such as onions in foil to avoid the transfer of odors to other foods.

The freezer section of a refrigerator should be kept at 0°F—the same as a large freezer—for optional storage of frozen foods. This will keep ice cream solid and prevent the formation of ice crystals.

Introducing Kohlrabi

Kohlrabi is nutritionally comparable to cabbage—both are cruciferous vegetables. One cup of raw kohlrabi has only 40 calories and is high in vitamin C. Its strange appearance with sprouts rising from a turnip shaped bulb make it look like a creature from outer space, but it is crispy with a sweet delicate flavor. Kohlrabi may be cut into strips and eaten raw, tossed into salads, stir fried, or steamed and served with a cheese sauce.



Small or medium sized kohlrabi less than 3 inches in diameter are the tenderest. Trim the bulb and pare all traces of the fibrous layer beneath the skin before eating. For short term use, remove the leaves and store kohlrabi in a perforated plastic bag in the refrigerator crisper for up to a week. To freeze kohlrabi, blanch slices or ½ inch cubes for 1 minute, cool promptly, drain and freeze. I always individually quick freeze it on trays before packaging. Frozen kohlrabi is good in soups, stir fries, or simmered and served as a vegetable. Small kohlrabi can be blanched whole for 3 minutes.

Salt



Is Salt Necessary?

The purpose of salt in canning and freezing is to provide flavor and that amount of salt used does not make the product safer. Salt is only necessary for fermented products. Therefore, you can omit salt (except in some pickle recipes and sauerkraut) if you are on a salt-free diet.

A Salt Glossary

Salt brightens and balances flavors in foods. It is made up of sodium chloride. Sodium is an essential mineral needed by the body and helps to regulate blood pressure and water balance in the body.

Table salt is a fine-grained, refined salt with additives to make it free flowing. Iodized salt is table salt with the essential mineral iodine added.

The most satisfactory salt for canning is pickling or canning salt because it has no additives that might cause discoloration or mineral deposits.

Pickling salt or canning salt is additive-free and fine-grained and used in canning, pickling, and making sauerkraut.

Kosher salt is a coarse, flaked, pure salt that is usually additive-free and can be used in canning. It is lighter in bulk than regular salt – use 1½ to 2 times as much depending upon the brand. This makes it difficult to determine the amount for canning recipes.

Rock salt is not highly refined, has a grayish cast, and the crystals are large and chunky. It is used mostly as a bed for oysters and clams and combined with ice to use in ice cream makers. It is not for human consumption.

Sea salt is not as highly processed as the typical table salt but it still contains a great deal of

sodium and naturally contains many other minerals such as calcium, potassium, sulfur, magnesium, iron, phosphorus, manganese, copper, iodine, and zinc. These minerals from the sea can cause discoloration and off flavors in home canned foods.

There are a number of new *specialty salts and flavored salts*. Generally, the specialty salts should be used to flavor foods right before serving instead of during the cooking process so that their flavor is not lost in the cooking process.

Salt substitutes are usually made with potassium chloride. Many people think these products have a metallic taste. Add salt substitutes when serving the food.

Preserving Nutrition

Did you know that canned and frozen foods may contain more nutrients than fresh ones? If you can't grow your own produce and eat it within hours of harvesting, preserved ones may even have more nutrients than fresh. One study found that vegetables such as green beans and spinach lose about 75% of their vitamin C content after being stored in the refrigerator for a week. Research suggests that the canned or frozen versions of these vegetables may be more nutritious than their fresh counterparts that have been stored for many days. Some nutrients like vitamin C are destroyed by exposure to the air. You want to can or freeze your fresh produce as soon as possible after picking to maintain the highest quality nutrition. An old canning book expressed it well: "two hours from garden to jar." Storing your canned goods in a cool, dark place preserves those vitamins affected by heat and light.

Because sodium is a nutrient most people need less of, you can produce low salt or salt-free versions when you are doing home canning. Plain frozen vegetables usually are free of salt. Reference: Christine M. Bruhn, Univ. of California-Davis.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.

Canning Skills

Basic Reminders

Jars in a boiling water bath should be covered with water 1 to 2 inches above the lids. It is not enough to only have a few inches in the bottom of the canner or just up to the neck of the jar. Cover them!

Start counting processing time when the water comes to a boil.

Never reuse jar lids. When the lid is screwed onto the jar and processed an indentation is formed in the sealing compound. Lids used more than once are not likely to hold a seal.

Vent a pressure canner for 10 minutes before applying the petcock (counterweight) to build pressure.

Always use research tested recipes that are dated 1994 or later.

How Much Pressure?

If you have a dial gauge pressure canner, you may wonder why some recipes say to process vegetables at 10 pounds and others say 11 pounds. A weighted gauge canner is limited to the 5—10—15 pound settings by the design of the weight. A dial gauge canner is designed to provide the same temperatures as a weighted gauge canner at one pound higher. Thus a dial gauge canner will process food at 240°F at 11 pounds while a weighted gauge canner will do it at 10 pounds pressure. Note that the pounds pressure given in Ball Blue Book® recipes are given for a weighted gauge canner. In the front of the book, there is a statement to make the one pound adjustment for a dial gauge canner.

Dial Gauge Testing @ Stauffer's of Kissel Hill in Lititz, Tuesday, July 10, 2007, 10:00 AM -- Noon

Outdated Canning Recipes Resurface

I came across this title recently and was reminded of canning procedures I am told about that involve safety issues. The following are a few that belong to this category and reasons for safety concerns:

1. *Canning green beans, corn, potatoes (and other low acid vegetables) in a hot water bath canner.* This is risky because clostridium botulinum bacteria can produce spores that can survive boiling water. The spores can only be killed at temperatures of 240°F and this temperature can only be reached in a pressure canner. If the spores survive inside a closed jar in the absence of oxygen, they produce a toxin that causes botulism food poisoning. This toxin is a chemical that is not destroyed by the old idea of boiling canned foods before eating them.

2. *Canning tomato juice by heating the juice to boiling, pouring it into hot jars, applying lids and screw bands, and letting it set until the lids pop.* This is called the open kettle method because it does not involve any processing. All canned goods need to be processed including jams, jellies, and pickles. Not processing tomatoes is especially risky because tomatoes are a borderline high acid food. Tomato juice needs to be acidified (see box on page 5) and processed for 40 minutes for quarts or 35 minutes for pints in a boiling water bath. Tomato juice may also be pressure canned at 11 pounds pressure in a dial gauge canner or 10 pounds pressure in a weighted gauge canner for 15 minutes for either pints or quarts.

3. *Adding peppers, onions, garlic, carrots, celery, etc to tomato juice for flavor and canning them the same as tomato juice.* The problem is these are all low acid foods which lower the acidity level of the juice. Use only research tested recipes and processing times and methods for canning tomato-vegetable juice blends (see recipe on page 5). The same problem exists when additional vegetables are added to tomato sauce, spaghetti sauce, etc.

4. *Canning pie filling using tapioca, flour, or cornstarch as the thickener.* This is not safe because these thickeners may cause the filling to be too thick for the heat to penetrate and kill spoilage organisms throughout the product. In addition, these starches will break down during the canning process creating a food quality issue. Regular ClearJel® is the only thickening agent approved by the USDA for canning. (It is

available in many bulk food departments in local grocery stores.) ClearJel® is a modified waxy food starch producing a smooth, gel-like product and retains a smooth texture with no liquid separation, or curdling.

ThermFlo® has not been research tested for safety in canned pie fillings. It is suitable for making frozen pie fillings.

A Sealed Lid is Not a Safe Jar

Some people think that just because a jar is sealed that it is safe. That is not the case. A minimum amount of heat can cause a lid to “pop” without any processing. A sealed jar can harbor harmful spoilage organisms and show no signs of spoilage. Most bacteria including botulism have no odor, color, or taste to indicate their presence. Even if you have been lucky in the past and not gotten sick from under-processed canned goods, you don’t want to take a chance of making yourself or a family member ill. Use correct processing times and methods.

Acidifying Tomatoes

Unless bottled lemon juice or citric acid is added to each jar of tomato product, bacteria can grow even when processed in a boiling water bath. Add 1 tablespoon bottled lemon juice or ¼ teaspoon citric acid per pint or 2 tablespoons of bottled lemon juice or ½ teaspoon citric acid per quart. The acid may be added directly to each jar before filling them. A little sugar may be added to offset the taste if desired.



Tomato-Vegetable Juice Blend

This recipe has a tightly controlled amount of low acid vegetable flavoring allowing the product to be processed in a boiling water bath. Do not add more than 3 cups of low acid vegetables for each 22 pounds (the amount to make a 7 quart canner of juice).

Wash tomatoes, remove stems, and trim off bruised or discolored portions. To prevent juice from separating, quickly cut about 1 pound of fruit into quarters and put directly into

saucepan. Heat immediately to boiling while crushing. Continue to slowly add and crush freshly cut tomato quarters in the boiling mixture. Make sure the mixture boils constantly and vigorously while you add the remaining tomatoes. Add no more than 3 cups of any combination of finely chopped celery, onions, carrots and peppers for each 22 pounds of tomatoes. Simmer mixture 20 minutes. Press hot cooked tomatoes and vegetables through a sieve or food mill to remove skins and seeds. (If you are not concerned about juice separation, simply slice or quarter tomatoes into a large saucepan and add finely chopped vegetables. Crush, heat and simmer for 20 minutes and proceed as above).

Add bottled lemon juice or citric acid to hot jars according to directions in box on this page. Add ½ teaspoon salt to each pint jar or 1 teaspoon to each quart jar, if desired. Reheat tomato-vegetable juice blend to boiling and fill immediately into jars, leaving ½-inch head space. Wipe jar rims. Adjust lids and process pints for 35 minutes and quarts for 40 minutes in a boiling water bath. An alternate method is to process pints or quarts for 15 minutes in a dial gauge pressure canner at 11 pounds pressure or a weighted gauge pressure canner at 10 pounds pressure.

Source: So Easy to Preserve

Don’t Can Tomato Soup

There are some commercially prepared foods that just cannot be reproduced safely by the home canner. There was a recipe for ABC Tomato Soup in a paper recently that included low acid vegetables, butter, flour, and noodles



and was only processed 10 minutes in a boiling water bath. Hopefully, you are already seeing a lot of “red flags” as far as food safety. Let’s examine each step of the recipe.

When low acid vegetables such as celery, onion, peppers, carrots, and/or garlic are added to tomatoes for flavor, the pH or acidity of the product is lowered to the point that the tomatoes may no longer have enough acid to prevent the growth of harmful bacteria. Refer to



item 3 in Outdated Canning Procedures and Acidifying Tomatoes.

Adding flour or other thickening agents to a product for home canning, prevents the heat from penetrating to the center of the jar interfering with safe processing to destroy botulism causing bacterial spores. Never add any thickening agent to a home canned product. Wait until you are ready to prepare the food for serving and add the flour, cornstarch, or other thickening agent you are using (Exception is pie filling discussed in item 4 on pages 4-5).

Butter, milk, cream and other dairy products are also low acid foods that should never be canned. Add butter and milk to soup just before serving it. Starchy products also interfere with heat processing. Thus, add noodles or any type of pasta, rice, or dumplings to canned soups or stews at serving time.

The recipe referred to at the beginning of the article only processes the soup for 10 minutes in a boiling water bath “to be sure they seal.” That should be a huge red flag. First of all, with any product containing so many low acid ingredients, it would be necessary to use a pressure canner. Secondly, to process a properly prepared tomato juice or tomato juice blend would require 35 minutes for pints and 40 minutes for quarts in a boiling water bath.

What is the best way of preserving tomatoes for tomato soup? Can tomato juice or the tomato-vegetable juice blend recipe above and when you want to make the soup, open the jar, add whatever additional vegetables and seasonings desired and thickeners. If you want a cream of tomato soup, make a thin white sauce and pour the heated tomato mixture into the heated white sauce to prevent curdling.

It would be safe to make the complete tomato soup and freeze it. Although freezing temperatures do not kill bacteria, they do not grow in the freezer. Using a modified starch suitable for low temperatures will help prevent separation of a thickened tomato soup if you choose to freeze it.

Penn State encourages persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation or have questions about the physical access provided, please contact Nancy Wiker at 717-394-6851 in advance of your participation or visit.

Summer Garden Experience

Saturday, July 28, 2007, from 9:00 AM to 2:00 PM, at the Penn State Southeast Research Center, near Landisville. Displays and workshops on gardening, plants, and flowers. Admission is \$5.00 per vehicle for parking, plus \$1.00 per passenger. For more information: visit the Capital Region Horticulture Team web site at: <http://capitalhort.cas.psu.edu/Default.html> or contact your cooperative extension office.

Workshops

All workshops are at the Farm and Home Center, cost \$7.50 per workshop. Call the office at 394-6851 to register.

- **Overcoming the Fear of Pressure Canning**
Thursday, July 12
6:00-8:00 PM
- **Totally Tomatoes**
Thursday, August 9
10:00 AM – 12:00 Noon **or** 7:00 – 9:00 PM
- **The Art and Science of Drying Foods**
Thursday, September 13
10:00 AM – 12:00 Noon **or** 7:00 – 9:00 PM
- **Holiday Gifts from the Kitchen Using Home Preserved Foods**
Tuesday, October 23
10:00 AM – 12:00 Noon **or** 7:00 – 9:00 PM

Resources

“Freezing Vegetables”—a pamphlet that includes blanching times for most common vegetables.
“Let’s Preserve Tomatoes”—a flyer including processing methods and times for a variety of tomato products.
Call the office for a copy of either of the above.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901, Tel 814-865-47 0/V, 814-863-1150/TTY.