Pickles, Relishes Add Zip and Zest
by Isabelle Downey

Pickles or relishes can add zip and zest to your meals, snacks and party refreshments. They contain small amounts of nutrients, depending on ingredients used in making them. But they have little or no fat and are low in calories, except for the sweet varieties.

Sun-drying, salting, smoking and pickling were methods used in ancient times for preserving food. Pickling is still popular today.

Pickling is preserving foods in vinegar or brine or a combination of the two. Other ingredients are sometimes added to make pickles crisp and spicy.

Relishes and some pickles can be made in a few hours. Other pickles may take three to six weeks.

There are four basic classifications of pickle products, depending on ingredients used and method of preparation.

**Brined pickles** are sometimes called fermented pickles and take three weeks or longer to cure. Dilled cucumbers, sauerkraut and some vegetables are often prepared this way. Cucumbers change from a bright green to an olive or yellow green while the interior becomes uniformly translucent. Sauerkraut is tart and tangy in flavor, creamy-white in color, and crisp and firm.

**Fresh pack pickles** are also called the quick process. This method is very popular for the family with limited time. Ingredients are combined and put directly in the jar to be heat processed, or combined and heated a short time before being placed in the jar for heat processing.

**Fruit pickles** are usually made of whole fruits simmered in a spicy, sweet-sour sirup. Some of the favorites are peach, pear and watermelon rind.

**Relishes** are made from chopped fruits or vegetables (or a combination), with seasonings added and cooked to a desired consistency. They can be hot, spicy, sweet or sour, depending on the recipe used. Corn relish, chili sauce, catsup, chow-chow and chutney are popular examples.

Always use a tested recipe; one that is current and reliable. Too little of one ingredient and too much of another could cause the pickles to be unsafe to eat. Read the complete recipe before starting the preparation, and be sure you understand exactly what you are to do. Check to see you have all the ingredients. Accurate measurements and weights are most important in making pickles and relishes if a quality and safe product is to be the result.

Use only good quality fruits and vegetables. Select tender vegetables and firm ripe fruit. Pears and peaches may be slightly underripe for pickling. The pickling type cucumber is the variety you will want to use. The salad (slicing) variety does not make a crisp pickle. Contact your county Extension office for the variety grown in your area.

Wax-coated cucumbers bought from the vegetable counter are not suitable for pickling because brine cannot penetrate the wax. Besides, cucumbers for pickling should be used within 24 hours after gathering. If they are kept—even refrigerated—longer than 24 hours before the pickling process begins, you may have a poor quality product.

Always remove the blossom. This may contain fungi or yeasts which could cause enzymatic softening of the cucumber. If whole cucumbers are
to be brined, you may want to leave a ¼-inch stem.

Do not use vegetables or fruits that have even a slight evidence of mold or decay.

In preparing fruits and vegetables to be pickled, wash them thoroughly in cold water whether they are to be peeled or not. Lift out of the water each time, so soil that has been washed off will not drain back over them. Rinse the pan thoroughly between each washing. This is a good time to check again to see if you have fruits or vegetables that should not be used. Too, you can sort as to size, shape and color. This makes for a uniform pack and attractive product.

**Ingredients**

**SALT**—Pure granulated salt with no noncaking material or iodine added is best. This is sold as pickling salt, "barrel" salt, and "kosher" salt. Pickling salt is sold at the grocery store and "barrel" salt from many farm supply stores.

Table salt contains noncaking materials that may interfere with fermentation during brining. It also may make the brine cloudy. Iodized salt may darken pickles. Never use ice cream salt or rock salt—they are not food-pure.

**VINEGAR**—Use a 4 to 6 percent acidity (40 to 60 grain) cider or white vinegar. Read the label, for if it does not have the amount of acidity listed, it should not be used for making pickles or relishes. Some vinegar has 19 percent acidity—this must be diluted. Directions are on the label. Don't use homemade vinegar since the acidity is not known.

Cider vinegar, used in most recipes, has a good flavor and aroma but may discolor pears, cauliflower, onions; therefore white distilled vinegar is used for these. If a less sour product is preferred, choose a recipe that has more sugar. Do not use less vinegar than the recipe specifies.

**SUGAR**—Granulated, white sugar is used in most pickles. However, some recipes have brown sugar as an ingredient and say so.

**SPICES AND HERBS**—Always use fresh spices and herbs for best flavor. They deteriorate and lose their pungency in heat and humidity. If they are not to be used immediately, store them in an airtight container in a dark, dry, cool place.

Whole spices, if left in the jar with the pickles, will darken them; therefore they can be tied in a thin cloth bag and removed just before pickles are packed into the jar. Ground spices tend to darken pickles and relishes.

**WATER**—It is best not to use hard water in brining. If you have hard water, boil it in a stainless steel or uncracked enamel container for 15 minutes. Remove from heat, cover, and let sit for 24 hours. Remove any scum which might have formed. Slowly pour water from the container so that sediment will not be disturbed. The water is now ready to use.

**Equipment**

Having the right kind, size and amount of equipment and tools can save you time and energy. Check these the day before you plan to make your pickles. Otherwise you may not have what you need.

For fermenting or brining use a crock or stone jar that has never had fat or milk in it. An unchipped enamel-lined pan, glass or stainless steel are O.K. Do not use plastic.

To cover vegetables while they are in a brine, you will need a heavy plate or large glass lid that fits inside the container. Use a filled jar of water to hold the cover down, so that vegetables are kept below the surface of the brine. Be sure the jar has a tight fitting lid.

For heating pickling liquids, use utensils of unchipped enameware, stainless steel, aluminum or glass. Do not use copper, brass, galvanized or...
iron utensils; these metals may react with acids or salts and cause undesirable color changes in pickles or form undesirable compounds.

Among small utensils that will help you do the job are measuring spoons, stainless steel spoons, measuring cups, household scales, sharp knives, vegetable peelers, large trays, canning tongs, ladle with a lip for pouring, slotted metal spoons, footed colander or wire basket, canning funnel, food chopper or grinder, and non-porous cutting board.

All pickles and relishes should be processed in a boiling-water bath canner. Any large metal or enamel container may be used if it:

- Is deep enough to allow 2 inches or more of water above the tops of the jars, plus extra space for boiling
- has a close-fitting cover
- Is equipped with a wire or wooden rack

A steam-pressure canner can be used if it is deep enough. For this purpose, set the cover in place without fastening it. Be sure the petcock is wide open so that steam escapes and pressure is not built up.

Standard home canning jars are used for pickles and relishes. Do not use jars and lids from commercially canned foods. They are designed for use on special packing machines and are not suitable for home canning.

Select jars free from nicks, chips or any defects. As you wash the jars in warm soapy water and rinse them, run your finger around the jar opening to see if there is a defect. If there is, the jar will not seal.

Look at each new metal lid to be sure the sealing compound is even and smooth. Check the metal screw band to see that it is not bent or rusty. Bands can be used over and over again. As for pretreatment of lids and bands, follow the manufacturer's directions. Read these even if you have used that brand before; the directions may have changed.

When using rubber rings get clean, new ones that are the right size for the jars. Do not test these by stretching. Follow the manufacturer's directions as to pretreatment needed.

It is always best to follow current, reliable procedures as in U.S. Department of Agriculture or Extension publications. This insures a quality product and one that is safe to eat. Time, energy and money may be wasted if you use outdated or careless canning procedures.

Fill the jars firmly and uniformly with the pickle product. Avoid overpacking so tightly that the brine or sirup is prevented from filling around and over the product. Slide a plastic spatula down each side of the jar to remove any air spaces. Add enough liquid to cover the pickles. Be sure to allow head space at the top of the jar as recommended in the recipe. This means there is no food or liquid in that space.

Wipe the rim, inside and top, and threads of the jar with a clean, damp cloth to remove any particles of food, spices, seeds or liquid. A small particle may prevent an airtight seal.

The two-piece metal cap (flat metal lid with sealing compound and metal screw band) is the most commonly used closure. Read the manufacturer's directions on treatment needed to close the lid. These vary from one manufacturer to another.

When using a porcelain-lined zinc cap with shoulder rubber ring, screw the cap down firmly against the wet rubber ring, then turn it back one-fourth inch. Immediately after processing and removal of the jar from the canner, screw the cap down tight to complete the seal.

If liquid has boiled out of a jar during processing, do not open it to add more liquid, because spoilage organisms may enter. This applies to 2-piece lids also. Seal the jar as it is.
Heat Treatment

All pickle products require heat treatment to destroy organisms that cause spoilage and to inactivate enzymes that may affect flavor, color and texture. Adequate heating is best achieved by processing the filled jars in a boiling-water bath.

Spoilage organisms are in the air and there is danger of them contaminating the food as it is transferred from boiler to jar. This can happen when even the utmost care is taken. Therefore, boiling-water bath processing is needed.

After adjusting the lid, put the jar on the rack into the actively boiling water.

Now that the jar is in the water bath canner, fill the next jar. Continue until all jars are in the canner. Be sure to leave a small space around each jar. This allows the water to circulate. Water should come 2 or more inches above jar tops; add boiling water if necessary.

Cover the canner with a close-fitting lid and bring the water back to boiling as quickly as possible. Start to count the processing time when the water returns to boiling, and continue to boil gently and steadily for the recommended time according to the recipe.

When time is up, slide the canner from the hot range unit. Close windows and doors so that a draft will not be blowing on jars as they are removed. As you remove the lid, be sure to do this away from you so that you will not be burned by steam. Remove one jar at a time, using your canning tongs. Complete the seals if the manufacturer so directs. Set jars upright, away from a draft, and several inches apart, on a dry cloth or wire rack to cool. Do not cover with a cloth.

For fermented (brined) cucumbers and fresh-pack dills, start to count the processing time as soon as all the filled jars are in the actively boiling water. This prevents development of a cooked flavor and loss of crispness.

Most pickle and relish recipe processing times are given for altitudes less than 1,000 feet above sea level. If you are 1,000 feet or above, you need to increase the recommended processing time. See table in canning chapter by Carole Davis.

After 12 to 24 hours, check to make sure the jars have an airtight seal. Read the manufacturer’s directions but if these are not given, here are some general ways to tell if the seal is airtight. For the metal lid with a sealing compound and the metal screw band, if the center of the lid has a slight dip or stays down when pressed, the jar is sealed. Another test is to tap the center of the lid with a spoon. A clear, ringing sound means a good seal. A dull note, however, does not always mean a poor seal. Another way to check for an airtight seal is by turning the jar partly over. If there is no leakage, the jar may be stored.

If the porcelain-lined zinc cap with rubber ring has been used, check for airtight seal by turning the jar partly over. If there is no leakage, the seal is tight.

If the jar is not sealed, use the product right away or recan it. To recan, empty the jar, repack in another clean jar, use a new lid, and reprocess the product as before.

If metal bands are used, these can be removed from jars after 24 hours if you want to. Wipe jars with a clean, damp cloth. Make a label for the jar. Put the name of the product and date on the label.

Store canned pickles and relishes in a dark, dry, cool place where there is no danger of freezing. Freezing may crack the jars or break the seals, and let in bacteria.

Before using, always examine each jar for signs of spoilage. A bulging lid or leakage may mean that the contents are spoiled.
When a jar is opened look for other signs of spoilage such as:
- Spurting liquid
- Mold
- Disagreeable odor
- Change in color
- Unusual softness, mushiness or slipperiness

If there is ever the slightest indication of spoilage, do not eat or even taste the contents. Dispose of the contents so they cannot be eaten by humans or animals. Also dispose of the lid.

After emptying the jar of spoiled food, wash the jar in hot, soapy water and rinse. Boil in clean water for 15 minutes.

**Pickle Problems**

**Why are pickles soft or slippery?**
This generally results from microbial action which causes spoilage. Once a pickle becomes soft it cannot be made firm again. Microbial activity may be caused by
- Too little salt or acid
- Cucumbers not covered with brine during fermentation
- Scum not removed from brine during fermentation
- Insufficient heat treatment
- Seal is not airtight
- Moldy garlic or spices

Blossoms, if not removed from the cucumbers before fermentation, may contain fungi or yeasts responsible for enzymatic softening.

**Why are pickles shriveled?**
- Using too strong a vinegar, sugar or salt solution at the start of the pickling process. In making the very sweet or very sour pickles, it is best to start with a dilute solution and increase gradually to the desired strength
- Overcooking
- Overprocessing

**Why are pickles dark?**
- Use of ground spices
- Too much spice
- Whole spices left in jar
- Iodized salt
- Minerals in water, especially iron
- Overcooking

**What causes garlic to turn purple or blue?**
- Garlic contains anthocyanins, a water soluble pigment also found in beets. This changes color very easily and with the acid condition in pickles, turns blue or purple in color

**How can you tell if sauerkraut is spoiled?**
- Undesirable color
- Off odors
- Soft texture

**Why does kraut get soft?**
- Insufficient salt
- Too high temperatures during fermentation
- Uneven distribution of salt
- Air pockets caused by improper packing

**Why does kraut get pink?**
This is caused by growth of certain types of yeast on the surface of the kraut due to:
- Too much salt
- Uneven distribution of salt
- Kraut improperly covered or weighted during fermentation

**Why does kraut turn dark?**
- Unwashed and improperly trimmed cabbage
- Insufficient juice to cover fermenting cabbage
- Uneven distribution of salt
- Exposure to air
- Long storage period
- High temperature during fermentation, processing and storage

For Further Reading: