THE OHIO STATE UNIVERSITY EXTENSION

FACT SHEET

Family and Consumer Sciences

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Making Fermented Dill Pickles

Fermented or brined products, such as dill cucumbers, cure for several weeks. Curing changes the color, flavor, and texture of the product. Lactic acid produced during fermentation helps preserve the product. Satisfactory products can be obtained only when quality ingredients are used and proper procedures followed. Correct proportions of vegetables, salt, vinegar, and spices are essential.

Ingredients

Cucumbers—Select fresh, firm unwaxed cucumbers about 4 inches long. Cucumbers deteriorate rapidly, especially at room temperature. For best results, use varieties developed for pickling. Be sure to remove and discard a 1/16 inch slice from the blossom end of fresh cucumbers. Blossoms may contain an enzyme that causes excessive softening of pickles.

Salt—Use non-iodized canning or pickling salt; iodine can prevent the bacterial fermentation and may darken pickles. Other salts contain anti-caking materials that can make the brine cloudy. Canning or pickling salt can be purchased at most supermarkets. *Changing salt proportions or using a reduced-sodium salt substitute in fermented products is not recommended because the product will not ferment correctly.*

Spices—Use fresh, whole spices for best flavor in pickles.

Firming Agents—According to the National Center for Food Preservation, "Alum may be safely used to firm fermented pickles. However, it is unnecessary and is not included in the recipes in this publication. Alum does not improve the firmness of quick-process pickles. The calcium in lime definitely improves pickle firmness. Food-grade lime may be used as a lime-water solution for soaking fresh cucumbers 12 to 24 hours before pickling them. Excess lime absorbed by the cucumbers must be removed to make safe pickles. To remove excess lime, drain the lime-water solution, rinse, and then resoak the cucumbers in fresh water for 1 hour. Repeat the rinsing and soaking steps two more times. To further improve pickle firmness, you may process cucumber pickles for 30 minutes in water at 180°F. This process also prevents spoilage, **but the water temperature should not fall below 180°F. Use a candy or jelly thermometer to check the water temperature.**"

Equipment

The fermentation equipment must be washed in hot soapy water and rinsed well with very hot water before use.

Suitable Containers—A 1-gallon container is needed for each 5 pounds of fresh vegetables. A 5-gallon stone crock is the ideal size for fermenting about 25 pounds of fresh cucumbers. Food-grade plastic and glass containers are excellent substitutes for stone crocks. Other 1- to 3-gallon, non-food grade plastic containers may be used if lined inside with a clean food-grade plastic bag. *Be certain that foods contact only food-grade plastics. Do not use garbage bags, trash liners, or plastic buckets not meant for food use.*

Covers and Weights—Cucumbers must be kept 1 to 2 inches under brine while fermenting. Insert a dinner plate or glass pie plate inside the fermentation container. The plate must be slightly smaller than the container opening, yet large enough to cover most of the cucumbers. To keep the plate under the brine, weight it down with 2 to 3 sealed quart jars filled with water. Covering the container opening with a clean, heavy bath towel helps prevent contamination from insects and molds. The plate also can be weighted down with a large food-grade plastic bag filled with 3 quarts of water containing 4½ Tablespoons of salt. Be sure to seal the plastic bag. Freezer bags sold for packaging turkeys are suitable for use with the 5-gallon containers.

Scales and Utensils—Household scales will be needed if the recipe specifies ingredients by weight.

When heating pickling liquids, use unchipped enamelware, stainless steel, aluminum, or glass utensils. Other metals may cause undesirable color changes in the pickles or form undesirable compounds.

Fermenting temperatures and times

Temperature	*Time*	*Comments*
below 55 degrees F	—	product may not ferment
55–65	5–6 weeks	
70–75	3–4	ideal temperature
above 80	—	product may soften or spoil

Recipes

Fermented Dill Pickles

Use the following quantities for each gallon capacity of your container.

4 pounds of 4-inch pickling cucumbers
2 tablespoons dill seed, or 4 to 5 heads fresh or dry dill weed
1/2 cup salt
1/4 cup vinegar (5 percent)
8 cups water and one or more of the following ingredients:
- 2 cloves garlic (optional)
- 2 dried red peppers (optional)
- 2 teaspoons whole mixed pickling spices (optional)

Wash cucumbers. Remove blossom end and discard, leaving 1/4 inch of stem attached.

Place half the dill and spices on bottom of a clean, suitable container. Add cucumbers, remaining dill, and spices.

Dissolve salt in vinegar and water and pour over cucumbers. Add suitable cover and weight.

Ferment pickles. Check the container several times a week and promptly remove surface scum or mold. *If the pickles become soft, slimy, or develop a disagreeable odor, discard them.*

Fully fermented pickles may be stored for about 4 to 6 months in the refrigerator.

Canning fully fermented pickles is a better way to store them. To can them, pour the brine into a pan, heat slowly to a boil, and simmer 5 minutes. Filter brine through paper coffee filters to reduce cloudiness, if desired.

Fill jars with pickles and hot brine, leaving 1/2-inch headspace. Adjust lids and process as shown in the table on the next page, or use the *low-temperature pasteurization treatment*.

Process time for Fermented Dill Pickles in a boiling-water canner			
		Process time at altitudes of	
Style of pack	***Jar size***	***0–1,000 ft.***	***1,001–6,000 ft.***
Raw	Pints	10 min.	15 min.
	Quarts	15	20

Low-Temperature Pasteurization Treatment

Use only for brined pickles when recipe indicates. This treatment results in a better product texture but must be carefully managed to avoid possible spoilage. Place jars in a canner filled halfway with warm (120 degrees F to 140 degrees F) water. Add hot water to a level 1 inch above jars. Heat the water enough to maintain 180 to 185 degrees F water temperature for 30 minutes. Check with a food thermometer to be certain that the water temperature is at least 180 degrees F during the entire 30 minutes. Temperatures higher than 185 degrees F may cause unnecessary softening of pickles.

Reference

National Center for Home Food Preservation. (2006). University of Georgia. Retrieved August 11, 2008, from http://www.uga.edu/nchfp/how/can6a_ferment.html

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