WLG 2603

WV EXTENSION

How to Safely Make Infused Oils Using Garlic and Herbs

Kelly Hicks, WVU Extension Agent – Hampshire County
Margaret Miltenberger, WVU Extension Agent – Mineral County

Educational Objectives

- Participants will understand how infused oils can be made safely at home.
- Participants will increase in understanding about botulism.
- Participants will understand how to safely store infused oils.

Herb and garlic infused oils are flavorful additions to many recipes. Preparing infused oils may be done at home, but following food safety guidelines is critical to prevent the growth of the toxin that causes botulism. The steps for acidifying herbs and garlic before adding them to the oil are important to follow and will allow you to create infused oils that are safe to use.

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What are Infused Oils?

Infused oils are created by soaking herbs and spices, such as rosemary, oregano, garlic and basil, in oil to extract their flavors. Infused oils are popular across many ethnic palates and are used for making salad dressings, flavoring pastas and dipping breads.

Making Infused Oils

The first step is to soak raw, chopped garlic or fresh herbs (basil, rosemary or oregano) in a 3% solution of citric acid for 24 hours at room temperature. The 24-hour soaking period allows the citric acid to fully penetrate the ingredients and create an acid environment that will not allow the growth of the toxin that causes botulism. Shorter soaking times and using less than the recommended amount of citric acid can lead to an unsafe product.

The acid can be drained away after soaking for 24 hours, and the acidified garlic or herbs are ready to be added to your oil of choice. Canola and olive oils are good choices as they have fewer polyunsaturated fatty acids.

Citric acid should not be confused with ascorbic acid (Vitamin C), as the acidifying properties are not the same. Vinegar and lemon juice should not be used either, as they have not been properly tested for safely acidifying the herbs and garlic for infused oils.

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Citric acid soaking ratios for acidifying herbs and garlic

Flavoring	Soaking ratio by weight	Soaking ratio by volume
Herbs (rosemary, basil or oregano)	One part fresh herbs to 10 parts 3% citric acid solution	1 ½ cups (1.7 ounces) loosely packed herbs to 2 cups citric acid solution
Garlic	One part garlic to three parts 3% citric acid solution	2/3 cup coarsely chopped garlic cloves to 2 cups citric acid solution

Note: A weight should be placed on the herbs during soaking to ensure that they are covered in the solution for the full 24 hours.

Remove the acidified herbs or garlic from the oil when it has reached the desired flavor, as the flavors will continue to intensify with time. Infusions for this recipe were conducted at room temperature between one to 10 days, with the flavor increasing the longer the herbs and/or garlic were in the oil.

Storage

While storing the infused oils made with the acidified basil, oregano, rosemary and garlic can be done at room temperature, flavor quality can be maintained longer if stored in a freezer or refrigerator. Using dark colored bottles for storing oil protects them from light. It is important to use clean, food grade bottles.

Flavored Oils and Botulism

Oils create a unique opportunity for bacterial growth that is often overlooked because we tend to forget that some microorganisms grow without oxygen. Microorganisms have different types of oxygen needs for growth:

- Aerobic – need oxygen to grow
- Anaerobic – grow only when oxygen is absent
- Facultative – can grow with or without oxygen

Oils seal off the oxygen creating an anaerobic environment, which is conducive to bacteria growth that can lead to botulism. Botulism can occur when home-prepared, improperly stored, herb and garlic oil mixtures are made. Botulism is a potentially fatal food poisoning that can grow under conditions where bacteria is sealed in an anerobic environment.

If infused oils are made without following the guidelines for soaking the herbs or garlic in citric acid, then a low-acid, oxygen-free environment is created. This favors the growth of bacteria that is present in herbs and garlic. Following the directions and acidifying garlic and herbs to prevent bacteria growth is essential.

Activities

- Provide two different types of commercial infused oils for the participants to sample with lettuce, other veggies, crackers or bread.
- If easily available, show the different fresh herbs that can be added to make an infused oil.
- Show the type of commercial critic acid that must be used for soaking the herbs.

Resources

How to safely make infused oils. (n.d.). *https://extension.psu.edu/how-to-safely-make-infused oils*

"Making Garlic- and Herb-Infused Oils at Home", Agricultural Experiment & UI Extension Publications, University of Idaho Library Digital Collections, *https://www.lib.uidaho.edu/digital/uiext/items/uiext33171.html*

Schwan, C. (December 2024). "How to Safely Make Infused Oils: Best Practices for Food Safety" University of Georgia Extension. Retrieved April 17, 2025 from: *https://extension.uga.edu/publications/detail.html?number=C1334*

Abo, B., Bavan, J., Greenway, S., Healy, B., McCurty, S., Peutz, J., Whittman, G. (2014). Acidification of Garlic and Herbs for Consumer Preparation of Infused Oils. Food Protection Trends, International Association for Food Protection, Des Moines, IA. 34:4, p. 247-257. Retrieved April 17, 2025 from *https:// www.foodprotection.org/files/food-protection-trends/Jul-Aug-14-Abo.pdf*