



“Teaching research-based practices of safe home food preservation to the residents of Solano and Yolo Counties.”

## Elderberries: beautiful to look at, not for canning

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[Elderberry bushes](#) have become a popular addition to the home landscape. The fruits are a food source for birds and their flowers attract butterflies and other floral-visiting insects. Elderberry is a native plant growing bush-like to heights of 6 to 12 feet, depending on site conditions. Each bush sends up many canes that flower and fruit, primarily in their second and third years. The tiny purple elderberries generally become ripe in late August. While historically popular in wine-making, [recent variety tests](#) have indicated that elderberries are **low in acid and can not be safely preserved using standard home-canning recommendations for fruits or berries.**



Researchers investigated various varietal characteristics of 12 different genotypes of elderberry (*Sambucus* spp.) grown in Oregon and Missouri. Over 400 samples were analyzed ( $n=429$ ) for characteristics such as fruit pH, soluble solids, and titratable acidity, and research was published in [Acta Horti](#) in January of 2015. The **average pH of the fruit was 4.92** across all varieties and samples, with a range of 4.73 to 5.19. Assuming someone uses a research-tested recipe, the **maximum pH for safe canning of fruits and fruit products is 4.60**. This means that elderberries are **low in acid and can not be safely made** into syrup or the berries canned using Extension-recommended recipes. The **one exception** is the canning of elderberry jam or jelly **as long as you weigh ingredients and follow these special precautions:**

- **For Jam**, the **weight** ratio of elderberry pulp to sugar must be **no more than**: weight of fruit/ weight of sugar =  $47/55 = 0.85$ . **For every 16 ounces (1 pound) of fruit pulp for Jam, your recipe must include at least 18.9 ounces, by weight, of sugar.** It is not acceptable to use dry measure cups or assume that a 1-cup measure of fruit or sugar weighs 8-ounces, it will not. You must weigh ingredients.
- **For Jelly**, the **weight** ratio of elderberry juice to sugar must be **no more than**: weight of fruit juice/ weight of sugar =  $45/55 = 0.82$ . **For every 16 ounces (1 pound) of fruit juice for Jelly, your recipe must include at least 19.5 ounces, by weight, of sugar.** A **lower ratio** is acceptable; this means that you are adding **more than the minimum amount of sugar** and that is great for safety.
- **Lemon juice** added in some jam and jelly recipes is to help pectin form a gel; it can not be relied on to provide a pH low enough to prevent botulism but is essential for a quality product. Besides fruit/juice and sugar, add lemon juice and pectin if you are making elderberry jam or jelly.

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- Do **not** use honey as a sugar source.
- Do **not** use low-sugar or no-sugar added pectin or vary these weight proportions of fruit/juice to sugar, an unsafe product may result.

Traditional recipes for home canning of elderberry jam or jelly were developed long before this research came to light. Do not assume that a traditional recipe is 'safe', as that may not be the case.

### **What about adapting recipes for canning berries by adding acid, or perhaps pressure canning?**

Extension-recommended recipes rely on laboratory research to ensure that recommendations produce products that are safe and of high quality. There are no research studies that have been conducted to indicate **how much acid, or what kind**, would be needed to safely can elderberry products using a boiling water or an atmospheric steam canner. Likewise, pressure canning methods have not been tested for elderberry products that would ensure a safe result (with or without added acid). If you wish to preserve **elderberry fruit or juice**, **Extension recommends freezing as a safe alternative**. Once thawed, the fruit or juice should be stored in the refrigerator and used within a few weeks.

The [National Center for Home Food Preservation](#) is in the process of updating recommendations for preserving berries (strawberries, blueberries, raspberries, blackberries, etc.) to indicate which fruit species are safe to use with recommended recipes. Other resources such as the USDA Complete Guide to Home Canning will take longer to update. As elderberries mature this season, check the National Center's website for up-to-date recommendations. If you are considering adding elderberries to your garden landscape, do so for aesthetic reasons and **not with the purpose of canning the berries or their juice**.