

# Food Science for the Win

## Jams and Jellies Resource Guide



The kitchen is an ideal lab for experimenting and being curious while embracing your inner scientist. Explore the science of making jams and jellies.

### Basic Concepts and Terms

- **Maceration:** The softening or breaking into pieces of food using liquid. With jams and jellies, fresh fruit is often cut into smaller pieces and then macerated with sugar.
- **Pectin:** Present in ripe fruits, pectin is a soluble gelatinous type of sugar (polysaccharide) that is extracted to use as a setting agent in jams and jellies.
- **Jell:** The consistency of your preserves. A true jell, which you will find in a jelly, generally holds its shape on a spoon and does not run. Most jams are just short of the jell point and remain more runny in consistency. Ideal consistency is a matter of personal preference.

### Basic Equipment

- **Pot:** A heavy bottomed pot with a lid is needed to cook down your fruit into jam.
- **Scoop:** When jarring your jams and jellies, you'll need a scoop to transfer the jam into the jars. You can use a ladle, a plastic cup, or anything that works for you. A wide-mouthed funnel can also aid in jarring.
- **Food mill:** This is an optional tool to separate and break down larger pieces of fruit from your cooked fruit mixture before jarring.
- **Jars:** Jams and jellies should be stored in glass jars with sealable lids. Ball jars with metal rings and button lids, [as shown in this photo](#), are commonly used. Follow sterilization and processing steps from the resources below.

### Basic Techniques

- **Bouquet garni** refers to a bundle of herbs and/or spices used to infuse flavor into a mixture as it cooks.
- **Testing for jell** means checking to see whether your jam or jelly is at the correct temperature for your desired jelled consistency. You can test for jell with any of three methods. Most jams and jellies are jelled at a temperature between 216 and 220 degrees Fahrenheit.
  - **The cold plate test** involves putting a regular plate into the fridge or freezer long enough to get cold, then spooning some of your preserves onto the cold plate. Your preserves will wrinkle on the plate if they have jelled.
  - **The spoon test** involves using a spoon to scoop some of your preserves over the cooking pot to test the consistency. Preserves will fall from the spoon in a single sheet when jelled.
  - **The thermometer test** involves using a food safe thermometer to measure the temperature of the preserves. Your preserves will register around 220 degrees Fahrenheit when jelled.

## Suggested Resources

- **How to Make Awesome Jam from Fresh Plums ([link](#))** from **Series Eats** by **J. Kenji López-Alt**: This recipe highlights key concepts of jam making while focusing on plum jam.
- **Artisanal Preserves: Small-Batch Jams, Jellies, Marmalades, and More** by **Madelaine Bullwinkel**: This book by a local author offers simple, small-batch recipes using the natural pectin in fruits and vegetables.
- **Jam Session: A Fruit-Preserving Handbook** by **Joyce Eersky Goldstein**: This book provides a primer on canning basics and has 75 basic and special recipes for jams, jellies, chutneys, and compotes. [Place a hold](#) in the catalog.

