

Food Science for the Win

Salad Dressing Resource Guide



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

Basic Concepts

- **Acid:** Anything with a pH less than 7. For salad dressings, acids often include vinegars like red wine or balsamic, and citrus juices like lemon or lime.
- **Emulsion:** Combination of fat from oil and water from vinegar that results in a homogenous liquid.
- **Emulsifier:** Ingredient that coats oil droplets and allows them to exist among acid, resulting in a creamier, more stable homogeneous mixture. Dijon mustard is a common emulsifier in salad dressings.
- **Oil:** Fat pressed from vegetable sources like olives, rapeseed (canola), or peanuts.
- **Vinaigrette:** Simplest dressing, a balanced combination of oil and vinegar.

Basic Equipment

- **Bowl:** Metal, ceramic, or plastic bowl large enough to whisk in.
- **Jar:** Glass or plastic jar with a sealable lid.
- **Whisk:** Cooking utensil to combine ingredients in a mixture.

Basic Techniques

- **Whisking** breaks up the water in the acid and the oil into billions of tiny droplets, allowing the oil to disperse within the more consistently blended droplets.
- **Salting** enhances flavor and balances the acid and oil. Kosher salt is often used since it has larger grains and less salt is needed. Sea salt is coarser, and table salt is finer than kosher salt.

Suggested Resources

- **The Food Lab by J. Kenji López-Alt:** This is a very accessible science cookbook. The author provides amazing photographs with a wide variety of recipes and serves as a source of experimentation inspiration. The eBook is available on [Overdrive](#).
- **Salt, Fat, Acid, Heat: Mastering the Elements of Good Cooking by Samin Nosrat and art by Wendy MacNaughton:** This beautifully written and illustrated cookbook walks you through mastering the four basics of cooking: salt, fat, acid, and heat. The eBook is available on [Overdrive](#).
- **Three Easy Salad Dressing Recipes with Samin Nosrat (video) from Food52:** The author of *Salt, Fat, Acid, Heat* shows how to make three easy recipes from her book.

Staff Recipes

- **Basic Balsamic Vinaigrette from Amy H.:** Using a 2:1 ratio of oil to acid, combine olive oil and balsamic acid in a jar. Add salt and pepper for flavoring. Shake jar vigorously until the combined ingredients become homogeneous or well blended. Use dressing immediately before the acid and oil separate.
- **Maple Dressing from Amy K.:** In a mixing bowl, combine 1/4 c each of mayo, pure maple syrup, and champagne vinegar (or another white wine vinegar) with 2 T sugar and 1/2 c vegetable oil. Whisk together until combined ingredients become homogeneous or well blended. If not using immediately, store in a sealable jar for up to 2 days and shake vigorously before use.
- **Cilantro Lime Dressing from Erica:** Adapted from [Love and Lemons](#). In a food processor, combine 2 cups fresh cilantro, 1 clove garlic, 1/4 c lime juice, 2 t honey, 1/2-tsp ground coriander, and 1/2-t salt. Pulse to combine, and then add 1/2 c olive oil with the food processor blade running, and process until smooth.
- **Basic Dressing with Anchovies from Allyson:** Adapted from [Jasmine Guillory](#). In a bowl, combine 1 t dijon mustard, 1/4 c lemon juice, 3/4 c olive oil, salt, pepper, and a chopped anchovy. Whisk together until combined ingredients become homogeneous or well blended. Use dressing immediately.
- **Tomato Vinaigrette from Mimosa:** Adapted from [Nik Sharma](#). This recipe uses dehydrated tomatoes and includes notes on preparing this ingredient. In a jar or bowl, mix 10 g ground tomato powder, 1/4 c grapeseed oil, 1 tbsp sherry vinegar, 1/2-t each of ground cumin and ground coriander, salt, and pepper. Let mixture sit covered for 15 minutes before serving.