

Essentials of Cooking: ACID
November 27, 2018
At Living Web Farms

Note: This class is the fourth in a series of classes all about the foundations of cooking. Be sure to visit Living Web Farms on YouTube to watch the classes about salt, fat, and heat, which were recorded previously.

What is an acid?

Anything with a pH below 7...

pH stands for “potential of hydrogen” and it speaks to the tendency of solutions to release or accept hydrogen ions from their constituent bonds. Hydrogen ions are positively charged, and solutions that tend to release H ions are more acidic than solutions that accept hydrogen ions into new bonds.

pH is measured with a scale, from 1 to 14. 7 is considered neutral, and 1-6 a gradient of acidity, while 8-14 a gradient of alkalinity.

There are so many options as far as acidic ingredients in the kitchen, and we will discuss how some are used to anchor a dish, and some are used to accent.

The players:

Lemons, limes, other citrus, wine, cultured dairy products like buttermilk, yogurt and crème fraiche, cheeses, raw tomatoes, fermented vegetables and their brines, vinegars, cocoa (non-alkalized), brown sugar, honey, caramel, milk, and fresh fruits...

Why are acids useful in cooking?

- sensory enlightenment!
- Salivation
- Contrast
- Balance
- Chemical reactions like toughening, stiffening, setting, leavening, and tenderization
- Preservation

Foods with proper acid balance will taste bright, sharp, clean, and complete!

How do I use acids in cooking?

First, use your senses to understand the relative acidity already present in food.

Second, understand how your method of cooking may bring out or create acids in food.

- caramelization
- Maillard reactions

Practice anchoring your recipes with acids like tomatoes, vinegars, wines, beers, and buttermilk for deep balance and flavor.

Then, plan to accent dishes with pickles, cheeses, condiments, juices, cultured dairy, salsas and chutneys to add a clean finish to every bite.

Layer acids in a dish for ultimate deliciousness.

Study your favorite recipes and note the acids used and the techniques used to incorporate them.

Make your own, unique acidic ingredients like chutneys, salsas, pickles and vinegars using fermentation.

Recipes

Roselle (Hibiscus) Chutney

Peel and chop the roselle (sold as fleur de jamaica, if you're not growing it) simmer in a small amount of water (the least you can use to steam and sweat the roselle) and add honey to taste. Cook until roselle has lost its consistency.

Vinegar-Steamed Winter Squash

1 lb. winter squash, any type, seeded, skin-on, and cut into ½ inch wedges
½ C. rice wine vinegar (use other types if you want!)
sea salt

Bring the vinegar to a boil in a saucepot, then fit a steamer basket into the pot with the squash. Cover, and steam for 8-10 minutes, or until the squash is tender. Remove from heat, turn out onto a platter and salt before serving. Finish with some citrus juice and crème fraiche, and serve with a drizzle of sage salsa.

Sage Salsa

1 C. fresh common sage, washed and chopped coarsely
2-3 cloves of garlic, sliced
white wine vinegar
extra virgin olive oil

salt and pepper

Place the sliced garlic in a ramekin and pour enough white wine over to cover the garlic, approx. 3 tablespoons. Allow to sit and macerate for 10-15 minutes.

Meanwhile, place the chopped sage in a small food processor and pour the olive oil in until the sage is almost covered. Add a dash of salt and a few twists of pepper, then remove the garlic from the vinegar with a fork (save the vinegar!) and place in the food processor. Process everything into a pesto-like consistency, and then taste it. Add white wine vinegar or salt to taste. Store in the fridge

Crème Fraiche

1 pint organic heavy cream
2 T. full fat cultured buttermilk
a pint mason jar
a washcloth
a rubber band

Combine the cream and buttermilk in the jar and stir well. Cover the jar with the washcloth and secure with the rubber band. Leave out on countertop, at room temperature, for 24-48 hours, or until the crème fraiche is thickened and tastes deliciously tart. Store in the refrigerator.

Sorrel White Sauce

If using heavy cream
4 T butter, melted
2 shallots, minced and cooked til glassy in the butter
add in 2 C sorrel cut to chiffonade and cook until army green, then slowly pour in 2-2.5 cups cream and stir. Finish with 2T to ¼ c, chopped parsley, salt and pepper.

Vegan version:

2 chopped shallots
4 t olive oil
1/3 c. flour
sorrel
add nondairy substitute
salt pepper and parsley

Heat the olive oil and cook the shallot until glassy. Add in the sorrel and cook down, then slowly add in the flour to form a roux. Add almond milk or other nondairy milk substitute, and stir as it heats until thick. Finish with parsley, salt and pepper.

Note: Pat uses the roux from the vegan recipe but uses regular cow's milk, and also adds tarragon and lemon to taste.

Fermented Persimmon

Ripe persimmons, stems removed
Lemon wedges
Salt
Sugar (optional)

Weigh your persimmons. Figure 2% of their weight, and then that's the amount of salt you need. (for example, for 1 lb./16 oz of persimmons, you'll need $16 \times 0.02 = 0.32$ ounces salt). If you'd like to incorporate sugar, use 1/2 of your salt measurement to figure your sugar needs. (So in our 1 lb. of persimmon example, you'd use $0.32/2 = 0.16$ oz sugar, which is about a teaspoon). Combine the salt and sugar and gently roll the persimmons in it, picking up pinches of sugar/salt to pack into the holes where the stems were. Arrange the salted persimmons and the lemon wedges in a jar large enough to accommodate them with at least 2 inches of room to spare. Cover with a towel, secure with a rubber band, and place at room temperature.

Over the first 5-7 days, watch the jar. The persimmons should slowly develop a brine that covers them completely. If your persimmons don't, add water so that they are covered. Then, let them ferment up to 1 month. Taste. If you like the balance of sweetness and acidity, you're done! Time to remove the persimmons and lemon from the brine (save that brine for other delicious uses!) and puree, stuff a roast, marinate tofu, or incorporate into a syrup or a jam. You can also just schmear it on a cracker with cream cheese or stir it into your ice cream. Or...

Persimmon Vinegar

Take 4-6 slightly over-ripe persimmons and a couple pinches of sugar and put them into an airtight jar or a vacuum sealed bag. Make sure there is plenty of room in the jar or bag, because it's going to get gassy. Label, and leave at room temperature for at least a month. You'll notice, if you used the vacuum seal method, that the fruits will begin to off gas CO₂, and the bag will begin to inflate. When it just can't inflate anymore, cut open the corner of it. It should smell like alcohol. Pour the liquid off into a jar. This will become your vinegar. (Use the persimmons for something else-cooking or further fermentation.) Place the liquid that's in the jar in a room temperature place and cover it with a washcloth secured by a rubber band. Eventually, it will develop a SCOBY (symbiotic community of bacteria and yeast) which will consume the alcohol and turn it into acetic acid. Then, you'll have vinegar! Use it to make dressings, or to drizzle on top of a pasta you made with persimmon sauce. Or...