

## quick bread primer

Quick breads are a phenomenon of the last century and a half, beginning with the introduction of baking powder. When baking powder was fairly new, a lot of people felt that it was going to replace yeast for all bread baking. It produced the same gas that yeast did (carbon dioxide) and its action was indeed “quick” compared to that of yeast. It has in fact replaced yeast as a leavening agent for cakes almost entirely. But rather than replacing yeast to leaven bread doughs, yeast breads have continued in their own tradition and quick breads have evolved as a distinctly different one.

Quick breads cover a wide range, from biscuits and scones, which are made from a dough, to muffins and loaves that are made from a batter. They can be large or small, savory (salty) or sweet. The major thing that identifies them is the fact that they are, as their name implies, quick to make.

### Quick Leavens

- Things That Made Quick Breads Rise “yesterday”
- Things That Make Quick Breads Rise Today
- Baking Soda and Baking Powder

### How To Know Which One To Use and How Much

So with that minimal definition, we’ll start with some history about the “quick” leavening agents that our inventive ancestors used, followed by some information about the one we use most often today.

### Things That Made Quick Breads Rise “yesterday”:

#### Salt of hartshorn (Ammonium Carbonate).

Hartshorn is one of the oldest of “chemical” leavens. It was actually in use for many centuries before the predecessor of modern baking powder was developed in the middle of the nineteenth century.

The original hartshorn, as its name implies, was ground from deer antler and used primarily in Scandinavian countries. Today it is almost unknown although there is a chemical version of the original, better known as “baker’s ammonia,” available from King

Arthur Flour – The Baker’s Catalogue.

A dough that contains hartshorn produces a strong smell of ammonia when it’s in the oven, but the ammonia dissipates completely during the cooking process leaving no aftertaste or odor. Its unique action makes extremely crisp cookies and crackers.

### **Pearlash (potassium Carbonate)**

On this side of the Atlantic the early colonists were blessed with hardwood forests as far as the eye could see. Aside from being a logical building material and fuel, hardwoods provided another important resource, ashes. Ashes were a major export two hundred years ago, both to Canada and Britain. They were valuable for sweetening gardens and providing lye for making soap. They were also a source of potash and its derivative, pearlash, another creative leavening agent.

To make pearlash, you first have to make potash which itself is made from lye. To make lye, you pass water through a barrel of hardwood ashes over and over until an egg can float on the residue. (To make soap you boil this “lye water” with lard or other fat until it is thick, pour it into molds and harden it into cakes.) To make potash, you evaporate lye water until you have a solid.

Pearlash is a purified version of potash. It is an alkaline compound which will react with an acidic ingredient such as sour milk, buttermilk or molasses to produce carbon dioxide bubbles, the very same thing that yeast produces. Pearlash was used primarily in the seventeenth and eighteenth centuries but because of its bitter aftertaste, it not only did not replace yeast but was eventually replaced by “saleratus.”

### **Saleratus (Potassium Bicarbonate or Sodium Bicarbonate)**

Saleratus (aerated salt) is an old word for modern baking soda. It actually was used as a name for both of the above compounds, but, like pearlash, potassium bicarbonate had an unpleasant aftertaste and fell out of use early in the nineteenth century. So “saleratus” came to mean just sodium bicarbonate (bicarbonate of soda) itself. You’ll find it in nineteenth century recipe books used just as baking soda is used today.

Saleratus was first sold on this side of the Atlantic by John Dwight, who, with his brother-in-law, Dr. Austin Church, started manufacturing it in their kitchens. It was called “Dwight’s Saleratus” with a cow as a trademark because of the necessity of using sour

milk to activate it in baking.

## **Things That Make Quick Breads Rise Today**

We have more choices for “quick” leavening agents today than ever before. (There may even be better ones on the horizon.)

### **Baking Soda (Sodium Acid Carbonate)**

In the same year that Sands, Taylor & Wood Co. introduced King Arthur Flour at the Boston Food Fair, the descendants of Austin Church and John Dwight formed Church & Dwight, Co., introducing their old saleratus as Arm & Hammer Baking Soda. Today that company produces almost all the baking soda that is used in this country.

Baking soda comes from several sources, but the bulk of it is derived from an ore called “trona” which is mined in the Green River Basin in Wyoming. (Technology is being developed now to produce baking soda from sea water.)

When baking soda is heated, it slowly breaks down into sodium carbonate, water and those magic leavening bubbles, carbon dioxide. When mixed with something acidic and wet, it starts producing carbon dioxide right away without waiting to be heated. Below we’ll explain when to use it and how much to use.

### **Single Acting Baking Powder**

The next logical step after developing baking soda (which only worked when there was something acidic in a batter) was to create a “combination” powder which just needed to get wet to become active. To do this, baking soda was combined with a powdered acid along with a little cornstarch to keep the two dry and inactive. This second magic powder was “cream of tartar,” a fruit acid that accumulates on the inside of wine casks as a wine matures.

When baking soda and cream of tartar are moistened in a batter or dough, they begin to react to each other right away producing (you guessed it) lots of carbon dioxide bubbles.

This combination powder is still a very effective leaven although it has a couple of drawbacks. As its name indicates, it is “single acting.” When it’s mixed into a batter or dough, it starts and finishes its reaction then and there. When you bake with it, you

must get whatever you're making into a preheated oven as quickly as possible before the bubbles begin to disappear. The second drawback is that, no matter how dry these combination powders are kept, they lose their potency after awhile.

In spite of these limitations, there are people who still prefer the flavor of this old blend and value the fact that it is composed entirely of naturally occurring ingredients.

### **Double Acting Baking Powder**

This is the leaven that our recipes are written for unless something else is specified. Double acting baking powder is single acting backing powder taken one step further. The baking soda is still there but the cream of tartar has been replaced by two acids, one like cream of tartar that reacts to the baking soda as soon as it's wet, the other that doesn't begin to react until it's heated. This means you can be more leisurely about getting a dough or batter into the oven.

Like single acting baking power, double acting backing powder contains a little cornstarch to prevent the soda and acids from reacting. And it too will lose its leavening ability after a while. If you want to see if it still has its "get-up-and-go," put a little in a cup of hot water. It should start fizzing and bubbling right away.

The acid you find most frequently in double acting baking powder are calcium acid phosphate and sodium aluminum sulfate. Both of these substances are considered by the Food & Drug Administration to be "GRAS," or "generally regarded as safe." There have been some reports recently about potential neurological problems associated with aluminum. There are so many sources for aluminum around us that baking powder is probably a minimal one. If it is of concern to you, choose a powder that doesn't contain aluminum or use the old baking soda/cream of tartar standby.

### **Homemade Baking Powder**

Since baking powder does tend to lose its leavening powder after a while, rather than being caught empty handed, it's useful to have baking soda and cream of tartar around in separate containers. Then you can make your own baking powder in an emergency. These are both available separately at your grocery and, separated, have an indefinite shelf life.

To make the equivalent of 1 teaspoon of double acting baking powder, mix 1/2 tea-

spoon of cream of tartar with 1/4 teaspoon baking soda (two parts of cream of tartar to one of baking soda). This single acting backing powder will work very successfully but you must remember that when you use it, get whatever you're baking into the oven right away.

## **Baking Soda / Baking Powder**

### **How To Know Which One To Use and How Much**

First, acquaint yourself with a quick bread's structural ingredients (the things that hold it up) and then its "decorative" ingredients (the things that weigh it down).

#### **Structural Ingredients:**

- flour and a liquid
- eggs

#### **"Decorative" Ingredients:**

- any non-wheat flour or grain
- sugar
- fat
- "optional extras:" raisins, nuts, chocolate chips, cheese, diced fruit, etc.

In a quick bread (or any other baked good), structural ingredients form the skeleton and help it keep its shape. Decorative ingredients give it its personality but weigh it down. If a quick bread doesn't contain any decorative ingredients, it won't need much leavening power to lift or expand it. (You don't need much strength to walk around in summer clothes, but you do need lots of muscle to wear a suit of armor.) A quick bread that has lots of decorations or "optional extras" needs extra muscle or lifting power too.

### **When & How To Use Baking Powder**

First count the cups of flour your recipe calls for. You want to include at least 1 teaspoon of baking powder per cup. If your recipe contains a cup or more of decorative ingredients, add another 1/2 teaspoon of baking powder per cup of flour.

**Example:** Let's say your recipe calls for 3 cups of flour and 1 cup of raisins. First you'll

need 1 teaspoon of baking powder for each cup of flour. That makes 3 teaspoons. To help lift those raisins, you'll want an extra 1/2 teaspoon of baking powder per cup of flour. This makes 1 1/2 teaspoons or 4 1/2 teaspoons of baking powder altogether.

## **When & How To Use Baking Soda**

Baking soda is used generally when there is an ingredient in a batter that is particularly acidic, such as buttermilk or molasses, anything that can take the place of the acid in the baking powder.

**Example:** If our recipe contains 3 cups of flour plus 1 cup of raisins and we want to use 1 cup of sweet milk, we blend 4 1/2 teaspoons of baking powder into the flour. If we want to substitute 1 cup of buttermilk for the sweet milk, we'll blend 1/2 teaspoon of baking soda into the flour and use only 2 1/2 teaspoons of baking powder. In other words, 1/2 teaspoon of baking soda plus 1 cup of buttermilk (or an equivalent) can replace about 2 teaspoons of baking powder.

Here are some other ingredients that will react with 1/2 teaspoon of baking soda and can replace 2 teaspoons of baking powder. This list is by no means complete but it may give you a sense of what ingredients can be used.

- 1 cup sour milk
- 1 cup sweet milk soured with 1 tablespoon vinegar or lemon juice
- 1 cup sour cream
- 1 cup yogurt
- 1 cup fruit or vegetable sauces or juice
- 3/4 cup brown sugar
- 3/4 cup honey
- 3/4 cup molasses
- 2 tablespoon vinegar or lemon juice
- 1/2 cup cocoa (not Dutch cocoa, which has been "de-acidified")

## **Final Note:**

There is no situation where you must use baking soda, even when you have an acidic ingredient in your dough or batter. Because baking powder contains both baking soda and an acid, it will create carbon dioxide bubbles even when there's extra acid present, such as the buttermilk.

You can choose to use baking powder completely, If you do, the flavor of the acidic ingredient (buttermilk, etc.) will be slightly more pronounced since there is no baking soda to react with or neutralize it. The texture will also be a bit finer than the coarse or “shaggy” texture that is characteristically caused by the action of baking soda.

You may find you like the flavor and texture of things leavened with baking soda or you may prefer baking powder. Try a recipe both ways. Just remember that you can't use baking soda in place of baking powder without something acidic to react to it. Without something to neutralize it, it will leave a bitter, salty taste. And always blend either one thoroughly into your dry ingredients first so it will be evenly distributed throughout the dough or batter.