

Baking and Breaking Bread Together

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Bread has been a staple throughout history. At one time, a person's bread would be determined by their status. White bread made from refined flour was eaten by the upper class while the poor and criminals ate unleavened barley cakes and coarse dark breads. Today the darker, whole grain bread is considered healthier and preferred by many. The USDA recommends making half your grains whole grains each day.

For some, yeast breads may be intimidating with multiple rising times. Quick breads can be easier for the beginning baker. The difference between yeast breads and quick breads is the leavening agent.

Quick breads use the chemical leavening of baking powder and/or baking soda with no rising time. The best thing about quick breads is the limitless options when it comes to ingredients. But caution must be taken when mixing. Over or under mixing can result in a poor quality product.

No matter which bread you bake, yeast bread or quick bread, understanding the importance of the essential ingredients is important for creating a delicious product.



The Essential Ingredients

The ingredients that go into a loaf of bread are simple...flour, yeast, liquids and salt. Other ingredients can be added depending on the flavor, texture and nutritional value desired. The nature of the ingredients, their proportion and the way they are combined makes a difference in the final product. Listed below are some helpful tips and good reminders about the essential ingredients of baking.

Flour

- Most flours are named according to the percent of protein present. The percent of protein determines the amount of gluten that can be developed.
- Pastry flour has less gluten potential than cake flour, which has less than all-purpose flour, which has less than bread flour. The more gluten developed, the tougher the product will be.
- Through mixing or kneading, gluten has the capability to stretch, trap air, and expand. As the flour in the batter or dough heats, it sets the structure of the baked good.
- Winter wheat (hard) results in a higher protein content that is more suitable for making bread and pasta. Spring wheat (soft) is used for products such as tender pastries and cakes.

- For added flavor, textures, and fiber, add as little as one tablespoon or as much as ¼ cup of whole grains per cup of flour in breads. The more added, the heavier and more crumbly the bread will be.
- Most flour can be stored in an airtight container in a cool, dry location for 15 months from the coded date on the back of the package.
- Whole wheat and other whole-grain flours should be stored in the refrigerator for up to three months. Colder temperatures slow the natural oils in flour from turning rancid.
- To guard against weevils, place a newly bought bag of flour in the freezer for several days.

LEAVENING

Baking Powder

- Contains an acid and moisture absorber.
- Releases carbon dioxide bubbles when mixed with a liquid, which causes bread or cake to rise.
- Single-acting baking powder releases the gas bubbles as soon as it is moistened.
- Double-acting baking powder releases some gas bubbles when it becomes moistened and enlarges the gas bubbles when exposed to heat in the oven.
- Too much baking powder will result in a bitter taste. The batter may also rise rapidly and then fall, causing a coarse, fragile crumb with a fallen center.
- Too little baking powder will result in a tough product with a compact crumb.

Baking Soda

- Must be combined with an acid ingredient such as buttermilk, sour cream, molasses, or brown sugar to develop gas bubbles.
- Reacts immediately when moistened, so it must be mixed with dry ingredients, the liquid is added and then immediately placed in the oven.
- Baking soda is about four times more powerful than baking powder.
- Too much will result in a soapy taste with a coarse, open crumb.

YEAST

- Yeast is a living cell and must have the correct conditions to grow. A small amount of sugar is needed along with moisture and warmth.
- As yeast grows it converts the sugar into alcohol and carbon dioxide which allows the bread to rise and gives it a distinctive flavor.
- The most commonly used yeasts are active dry and quick rise.
- Active Dry Yeast is dissolved in warm water (100-115°F). Then the yeast is added to the other ingredients and kneaded. It must proof until it is doubled in size, be shaped, and then allowed to double in size again before baking.
- Quick-rise yeast can be added to the dry ingredients. But the liquid must be heated to a higher temperature (120-130°F). Only one proofing time is required so time is saved.

SWEETENERS

- The most common sweetener in baking is sugar.
- Sugar gives tenderness to the crumb and color to the crust. There is a wide variety of sugars that can add different flavors to baked goods.

- To measure liquid sugars such as honey or molasses, coat your measuring spoon with a small amount of oil first. The sugar will glide out easily.
- Other sweeteners used in baking include honey, molasses, maple syrup, corn syrup, and non-nutritive sweeteners. Follow the directions on the packaging for non-nutritive sweetener use.
- Use the following conversions, if desired: **One tablespoon sugar = 2 teaspoons honey = ¼ tablespoon maple syrup = 4 teaspoons molasses = 2 tablespoons corn syrup**

FATS

- Butter, margarine, shortening, and oil are all considered fat.
- Fats coat the strands of gluten so they won't combine as easily, which allows the product to be more tender.
- When sugar is creamed with fat, air bubbles form a finer crumb and produce more volume in the finished product.
- Fat offers flavor and mouth feel to the product.
- Fat also slows down the moisture loss that causes staling. Butter is usually the fat of choice for baking.
- Margarine is made from a single oil or blend of oils and contains moisture, so is not suitable for cookies.
- Shortening creams better, distributing the fat more effectively, and minimizing gluten development, but it does not impart any flavor. Oil, being a liquid, adds to the moisture content of a recipe.
- Thus, follow the recipe suggestions for best results in baking.

SALT

- In addition to flavoring bread, salt helps control the rate of fermentation in yeast breads and makes the dough easier to handle.

LIQUID

- Liquid helps to distribute the ingredients evenly within the batter or dough.
- Without moisture, gluten cannot develop.
- Water generally yields crisper breads than dough made with milk.
- Milk adds richness, makes a finer crumb and softer crust, and can help retard staling.
- If your dough appears dry, add one tablespoon of liquid at a time until the correct consistency is reached.
- The liquid in a recipe also produces steam during baking to assist in leavening and tenderizing the product.

EGGS

- Eggs give a rich flavor and color to breads.
- Eggs also contribute to the bread's structure and help bind all the ingredients together.
- Egg breads have a tendency to dry out faster than other breads.

Reference

Bastin, S. (2010). Essential Ingredients; FN-SSB.920. University of Kentucky Cooperative Extension Service. Retrieved on September 10, 2017, from http://www2.ca.uky.edu/hes/FCS/SSCBaking/Essential_Ingredients/8SSC_EssentialIngredientsPub.pdf

United State Department of Agriculture (2016). Make Half Your Grains Whole Grains. DG Tip Sheet No. 4. Retrieved on September 14, 2017 from https://www.cnpp.usda.gov/sites/default/files/dietary_guidelines_for_americans/DGTipsheet4MakeHalfYourGrainsWhole.pdf

LESSON RECIPES

Easy Cinnamon Bread

- 3 cups Unbleached All-Purpose Flour or Pastry Flour Blend
- 1/2 cup sugar
- 2 teaspoons instant yeast
- 1 teaspoon cinnamon
- 1 teaspoon salt
- 1 teaspoon baking powder
- 1 cup warm milk
- 1/4 cup melted butter
- 1 large egg
- 1 cup cinnamon chips
- cinnamon-sugar, for topping

Instructions

1. In a large bowl, mix together the flour, sugar, yeast, cinnamon, salt, and baking powder.
2. In a separate bowl, whisk together the milk, butter, and egg.
3. Combine the wet and dry ingredients, beating until smooth.
4. Stir in the cinnamon chips. Let the batter rest at room temperature for 1 hour, covered. Towards the end of the rest, preheat the oven to 350°F.
5. Spoon the batter into a greased 8 1/2" x 4 1/2" loaf pan. Sprinkle the top with cinnamon-sugar.
6. Bake the bread for 35 to 40 minutes, until it tests done; a cake tester inserted into the center will come out clean.
7. Remove the bread from the oven, let it rest in the pan for 5 minutes, then transfer it from the pan to a rack to cool completely.
8. Note: Don't slice the bread while it's hot! It'll slice much better when it's completely cool.
9. Yield: 1 loaf.

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Cider Cinnamon Spread

- 1 1/2 cups cream cheese; low-fat is fine
- 1/4 cup sugar
- 1 1/2 teaspoons ground cinnamon
- 1/8 teaspoon salt
- 2 tablespoons boiled cider (apple cider reduced down to a syrup)

Instructions

1. Beat the cream cheese until it's light and airy.
2. Add the remaining ingredients and beat until well incorporated.
3. Serve with toast, pita chips, apple slices, or whatever inspires you!

4. Yield: about 2 cups. Store any leftovers in the refrigerator for up to 10 days.

Retrieved from <http://www.kingarthurflour.com/recipes/cider-cinnamon-spread-recipe> on Sept. 15, 2017.

Bread In A Bag

- 3 Cups all –purpose flour
 - 3 Tablespoon sugar
 - 1 package rapid rise yeast
 - 1 cup warm water
 - 3 Tablespoon non-fat dry milk
 - 3 Tablespoon olive oil
 - 1 ½ Teaspoon salt
1. In a large re-sealable freezer bag, combine 1 cup of flour, sugar, yeast and warm water. Squeeze most of the air out of the bag, and seal. Squish with your hands until the well blended. Set aside to rest for 10 minutes at room temperature, or until bubbles appear.
 2. Add in 1 cup of flour, dry milk, oil and salt. Pour into the re-sealable bag and squeeze out most of the air. Seal, and squish until well blended. Add the last cup of flour to the bag, and continue mixing in the same manner until well blended.
 3. Remove the dough from the bag, and place on a floured surface. Knead for 5 to 8 minutes. Form into two small loaves, and place in greased small loaf pans. Cover with a towel, and allow to rise for about 30 minutes, or until your finger leaves an impression when you poke the top of the loaf gently.
 4. Preheat the oven to 375 degrees F (190 degrees C).
 5. Bake the bread for 35 minutes in the preheated oven, until golden brown.

Retrieved from Bread in a Bag Recipe – Allrecipes.com on Sept. 14, 2017.

