

# BREAD

## WHAT IT IS:

Bread is a baked food made from a dough of ground or milled cereal grain, usually wheat flour, and leavened by chemical or microbiological action.

Bread can be made using only flour, water, salt, and leavening. Bread flour is usually made from hard wheat, which produces a dough that is elastic enough to hold the gas produced during fermentation.

Because of the leavening process, the making of even the simplest kind of bread is a fairly complicated procedure. Only wheat flour contains gluten, a substance that supplies the structure needed for leavening.

## INGREDIENTS:

Flours - Wheat ground into flour and made into baked products is the form in which most wheat is consumed. Commercial wheats are classified as hard or soft, spring or winter, white or red or durum wheat (usually used in the making of pasta products). Wheat and other cereal grains do not contain appreciable amounts of vitamins A, D, or C, but do contribute minerals and the vitamins thiamine, riboflavin, and niacin. Hard wheats have a higher protein content than soft wheats. All-purpose flour is usually made from a combination of hard and soft wheats and is used to make most home-baked products.

Wheat and part whole-wheat breads contain a mixture of whole grain meal and enough white flour to assure good dough expansion and a lighter color and density.

Soy flour (optional) is an important food because it is unusually complete in proteins. Of the eight essential amino acids, soybeans contain seven in sufficient quantity and are deficient only in methionine, which can be supplied from wheat or corn.

Baking yeast is composed of the living cells of *Saccharomyces cerevisiae*, a unicellular microorganism. Yeast performs its leavening function by fermenting carbohydrates such as glucose, fructose, maltose, and sucrose.

Nonfat dry milk is often added to improve the flavor and enhance the nutritional quality of commercial bread.

Shortening/oil improves the texture of the crumb and increases shelf life. It also makes the dough easier to handle.



Eggs add flavor and color, and their natural emulsifiers improve the handling properties of the dough and make the crumb softer.

Sugar makes the bread sweeter and supplies fermentable carbohydrates for the yeast to metabolize. (Molasses and honey add their typical flavors as well as sweetness.)

## PRODUCTION

All conventional bread production involves measuring the ingredients; mixing and kneading the ingredients to form an extensible dough; allowing the dough to ferment under controlled conditions; kneading the fermented dough; forming the dough piece; proofing, or allowing the dough piece to ferment; and baking. There are many variations of this simple scheme.

Mixing and kneading the ingredients to form a soft, elastic mass (called developing the dough) is a critical part of the baking process. Unless the proper physical properties are obtained at this stage, the dough will be very difficult to manipulate, either by hand or by machinery, and will not produce bread of optimal volume and texture. An adequately developed bread dough will exhibit a slight sheen on the surface but will be only slightly sticky to the touch. When the dough is stretched out to a thin film, it will not tear readily and will have a translucent, webbed appearance when viewed against the light.

The second kneading process collapses the expanded dough piece so that most of the leavening gas is pressed out of it. This is done to prevent the formation of large gas bubbles, which mar the appearance of the loaf and reduce the quality of the bread.

After the initial fermentation, the bulk dough mass is cut into pieces calculated to yield the desired size of roll or loaf.

The panned or rounded dough pieces then undergo a second, and sometimes a third, fermentation, during which the leavening gas generated by the yeast causes them to expand considerably.

Bread and rolls can be baked in pans or on sheets; the latter method produces the so-called hearth breads. Most commercial ovens for large-scale production are of the tunnel type, in which multiple assemblies of loaf pans or sheets are carried through long baking chambers indirectly heated.



## OUTLINE

- I. Bread
  - A. Ingredients - Basic/Optional
    1. Basic
      - a. flour
      - b. water
      - c. salt
      - d. leavening
    2. Optional
      - a. wheat germ
      - b. soy flour
      - c. milk powder
      - d. seasonings
  - B. Types of Flour
    1. Wheat
      - a. bleached/unbleached
      - b. soft/hard
    2. Soy
    3. Rye
  - C. Kneading
    1. Purpose
      - a. adding flour
      - b. distributing ingredients
    2. Technique
  - D. Fermenting
    1. First Knead
    2. Second Knead
      1. forming
        - a. mixing doughs
        - b. sculpting
        - c. rolls
  - E. Yeast
    1. Purpose
    2. Activating
    3. Feeding

- F. Recipes.
1. No Excuse Bread
    - a. whole wheat
    - b. white
  - 2.. Dill Bread
  3. Grape Leaf Bread

## II. FREEZER JAMS

- A. Strawberry
- B. Peach
- C. Blackberry
- D. Red Raspberry

### List of needs for class:

- |                             |                    |
|-----------------------------|--------------------|
| Unbleached flour (5#)       | *Eggs (doz)        |
| Whole Wheat flour (2#)      | *oil               |
| Yeast (3 packages)          | *Instant dry milk  |
|                             | *Salt              |
| aluminum pans               | *Sugar             |
| muffin pans                 | *Honey             |
| bread pans                  |                    |
| * Soy flour (24 oz.)        | * knife            |
| Orange Juice (3 oz.)        | * spoon            |
| * Non-instant dry milk (1#) | * mixer            |
| * Wheat Germ                | * bowls            |
|                             | * dish towels      |
|                             | * measuring cups   |
|                             | * Saran Wrap       |
|                             | * measuring spoons |
|                             | * cover for table  |

\* I supply



## NO EXCUSE BREAD

2 Packages yeast	2 eggs (room temperature)
2 teaspoons salt	2 cups warm water
1/3 cup oil	1 cup wheat germ (opt)
1/3 cup honey or sugar	7 cups flour (approximately)
2/3 cup powdered milk (opt)	

Have ingredients at room temperature. Place first eight ingredients and 3 cups flour in bowl. Beat 5 to 10 minutes at medium speed. Mix in more flour with spoon. Add more flour by kneading process for 5 to 10 minutes. Cover. Let rest for 20 minutes. Punch down and form. Let raise again. Bake at 350 degrees.

## GRAPE LEAF BREAD

2 1/2 - 3 cups flour	3 Tblsps butter or margarine
1 package yeast	1 teaspoon salt
1/4 teaspoon cardamom	***
1/4 teaspoon nutmeg	2 Tablespoons Orange juice
3/4 cup milk	1 egg white
1/4 cup sugar	

Combine 1 1/4 cups of the flour, the yeast, cardamom, and nutmeg. Heat together milk, sugar, margarine and salt til warm, and butter is almost melted. Add the warm liquid, o.j., and egg white to dry ingredients. Beat at low speed for 30 seconds. Beat 3 minutes on high. By hand stir in remaining flour. Also knead 5-8 minutes. Put in greased bowl, turn once, cover. Let raise in warm place one hour. Punch down; let rest. Make into grape cluster. Cover. Let raise. (30-40 minutes). 375 degrees. 20-25 minutes.



## HELPFUL BREADMAKING TIPS

Activating the Yeast. The temperature of the liquid is important because yeast is a living organism. If the liquid is too cool, the yeast will not be activated. If the liquid is too hot, the yeast will be killed. A consistently accurate measure of temperature for me has been:

Fill a one or two cup measure with hot tap water. With three fingers immersed in the water, begin counting. (This is not an endurance contest!) How far did you count before your hand became uncomfortable? If you could not count to three before removing your fingers from the water, the water was too hot. If you could count past eleven, before removing your fingers from the water, it was too cold. Repeat the process using tap water until you have the correct range and amount. Add immediately to the yeast, dry milk, salt, sugar or honey and mix.

Refrigerating the Dough After the second kneading, when your bread dough is in the forming pans, you may refrigerate. This slows down the raising process and makes it possible to make the dough the night before and bake in the morning or mix in the morning to bake for an evening meal. Approximately eight hours in the refrigerator is about the longest time it can raise refrigerated. If too much gas has formed, the dough becomes very thin, the holes in the bread enlarged and produces an inferior loaf. Should this happen, however, knead the dough, form it, place it in a warm area, covered, and in less than an hour it will be ready to bake.

Freezing Your Bread. Freeze the bread while very fresh but completely cool. Place loaf in the freezer, unwrapped, until just frozen solid (waiting to wrap the bread until it's frozen decreases, if not omits, the formation of ice crystals). Once frozen, it is necessary to double wrap the loaf in two separately tied plastic bags to prevent freezer burn and odors. Place loaf in a plastic bag, squeeze out all the air and twist the top of the bag into a tight coil. Fold coiled part over itself; seal tightly with a twist tie. Repeat the bagging a second time. This package is really airtight, making it possible to successfully freeze the loaf for as long as six months.