



Breads from Wheat

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North Dakota ranks first in the nation in production of hard red spring wheat and second in total wheat production. Flour from spring wheat, with its high protein and superior quality gluten content, makes the finest yeast breads and dinner rolls. However, it is usually blended with a lower protein hard red winter wheat flour for the retail markets. The blending reduces the price of the flour.

North Dakota also raises 80 to 85 percent of the United States' durum crop. Durum is milled into a coarse, granular substance called "semolina." Semolina is combined with water to produce pasta. Pasta made from 100 percent durum has a yellow amber color, a pleasant nutty flavor and it will retain color, shape and firmness when cooked. There are more than 300 shapes of pasta products made in the United States, including spaghetti, macaroni, shells and noodles.

For more information regarding North Dakota wheat products, write to:

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A serving is:

- 1 slice bread;
 - ½ hamburger bun or English muffin;
 - a small roll, biscuit, or muffin;
 - 3 to 4 small crackers or 2 large crackers;
 - ½ cup cooked cereal, rice, or pasta;
 - or 1 ounce of ready-to-eat breakfast cereal.
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Grain products are an important part of a healthful diet. They can be incorporated in a wide variety of interesting and tasty ways.

Inclusion of breads and cereals in a diet can help a person comply with these six of the seven Dietary Guidelines for Americans:

- Eat a variety of foods
- Maintain healthy weight
- Choose a diet low in fat, saturated fat and cholesterol
- Choose a diet with plenty of vegetables, fruits, and grain products
- Use sugars and sweets in moderation
- Use salt and sodium in moderation

The only other guideline is:

- If you drink alcoholic beverages, do so in moderation.

The Dietary Guidelines were issued in late 1990 by the U.S. Department of Agriculture and U.S. Department of Health and Human Services. These scientifically derived guidelines are based on the Surgeon General's Report on Nutrition and Health and reports from the National Research Council, National Academy of Sciences.

Both whole-grain and enriched breads and cereals provide starch, thiamin, riboflavin, niacin and iron. Whole grains are also good sources of fiber and provide folic acid, magnesium and zinc.

The Pattern for Daily Food Choices of the Dietary Guidelines for Americans suggests that 6 to 11 servings of whole-grain or enriched breads, cereals and other grain products be included daily in the diet and recommends that several of these servings be whole-grain products.

The guidelines suggest that 55 to 60 percent of a person's calories should come from carbohydrates, either complex carbohydrates, such as starches, or simple carbohydrates, such as sugars. The complex carbohydrates provide substantial quantities of vitamins, minerals and fiber while the simple carbohydrate foods often contain limited amounts of other nutrients.

Questions Often Asked

What Does Enriched Mean?

During the milling process, as the bran and germ are removed from the kernel, most of the B vitamins and iron are removed with them. Enriched flour has the main B vitamins (thiamine, riboflavin, niacin) and iron added in amounts equal to or exceeding those in whole wheat flour. It is a law in many states, including North Dakota, that white flour be enriched. The addition of calcium and vitamin D is optional.

Enriched products include:

bagels	muffins
biscuits	noodles
crackers	pancakes
English muffins	pasta
white bread and rolls	ready-to-eat cereals
French bread	grits
hamburger rolls	farina
hot dog buns	rice
Italian bread	corn bread
macaroni	cornmeal

What is Meant by Whole Grain?

Whole grain products may be processed in various ways to produce such things as cracked wheat, stone ground flour or bulgur; but the whole kernel or seed (bran, germ and endosperm) remain in the final product.

Whole grain products include:

whole wheat bread and rolls	
whole wheat crackers	rye crackers
whole wheat pasta	oatmeal
whole-wheat cereals	popcorn
bulgur	brown rice
graham crackers	buckwheat groats
pumpnickel bread	scotch barley
granola	corn tortillas

What is a Dough Enhancer?

Dough enhancers are used to oxidize the gluten in dough. This strengthens the protein and improves the flour's baking performance, resulting in a loaf of increased volume and height. Doughs made with untreated flour may be soft and sticky. Potassium bromate, azodicarbonamide or ascorbic acid are the most common oxidizing or maturing agents that may be added to commercial bread products or to flour to produce a more uniform dough. For the home baker, a few grains of ascorbic acid (vitamin C) could be used as a dough enhancer.

What is Bleached Flour?

Bleached flour is treated with chlorine or benzoyl peroxide to "bleach" the yellowish newly milled flour to white. It also matures the flour and conditions the gluten for improved baking quality. The bleaching or maturing agents are controlled by Federal regulations. Unbleached flours will undergo natural bleaching and maturing if stored for several weeks or months before use. Bleached and unbleached flours are nutritionally equivalent.

But Isn't Bread Fattening?

Many people think this is true. However, most of the calories contributed by starchy foods, such as bread and potatoes, come from the company they keep—calorie-rich additions such as butter or margarine, sour cream, gravies, jam or jellies.

Carbohydrates provide only 4 calories per gram, while fat provides 9 calories per gram. Eating more complex carbohydrate-containing foods is a good way to fill up with fewer calories if you limit the high fat additions such as butter, sour cream or gravy.

Are All Brown Wheat Breads Whole Wheat?

Not necessarily. All whole wheat bread is brown, but not all brown bread is whole wheat. A brown color may be provided by a caramel coloring which would be listed on the label. Whole wheat bread must be made from 100 percent whole wheat flour. Wheat bread may be made from varying proportions of enriched white flour and whole wheat flour. The type of flour present in the largest amount is listed first on the ingredient label.

What Are Phytates?

Phytate (phytic acid) is a substance, naturally present in the outer husk of cereals and legumes, which can combine with calcium, iron and zinc and prevent the body from absorbing them. The significance of the phytic acid in whole grains to human health has not been clearly established. However, most experts believe it presents no nutritional problem if high-fiber, including whole grain, foods are eaten in moderation.

The minerals in whole-grain cereals and legumes may be “unavailable” to some extent. This depends on how much of the binding substance (phytic acid) is present. The unbound portion is available for use by the body.

What Is Malted Barley Flour?

Malted barley flour is a food product which is made from barley and added to wheat flours that will be used in baking yeast breads. It changes some of the starch in the bread flour to sugar which can be fermented by the yeast. The amount added is very small, usually about one-tenth of one percent. Benefits include a loaf with more volume, reduced mixing time, more consistency to the flour and a more desirable crust color.

How Do They Get The Low Calorie Breads?

The low calorie breads baked commercially are usually high-fiber breads with a large portion of their bulk being indigestible fiber. Because the fiber is indigestible, it does not provide any calories. Thus the bread with high fiber has less calories than bread with lower fiber. The fiber used in these breads is a plant fiber treated in various ways.

There is not a product presently available on the retail market that can be used in home baking of low calorie breads. A home baker can look for bread recipes with limited amounts of fat and sugar, such as a French bread.

Can Salt In Yeast Bread Be Omitted?

This question is often asked because of the number of people interested in lowering their sodium intake. The answer is no if a traditional product is to result. A no-salt bread will be safe and edible but will have a less compact texture than those to which salt has been added. The salt in yeast bread helps control the action of the yeast. Yeast doughs without salt are sticky and hard to handle. Bread made without salt may need slightly less yeast and careful watching during the rising period, as they will tend to over-rise more easily. The flavor of no salt bread is very bland.

Types of Wheat Flour

There are numerous wheat flours and products on the market that can be used in baking. It is important to know when to use each.

Bread flour is ground from the endosperm of hard wheats. Although similar to all-purpose, it has a higher protein content and gluten strength and is used to give a better volume and texture to yeast breads. It is used by commercial bakers for yeast breads and is available at most grocery stores for consumers interested in producing a high quality yeast bread. Yeast breads made with bread flour must be kneaded longer than those made with all-purpose flour to fully develop the gluten.

All-purpose flour is the wheat kernel's finely ground endosperm, which is separated from the bran and germ during the milling process. All-purpose flour is made from hard wheats or a combination of soft and hard wheats. With it the home baker can make a complete range of delicious baked products such as yeast breads, cakes and cookies, pastries and noodles to name a few. This flour should be enriched and may be bleached or unbleached.

Whole wheat or graham flour is coarse-textured flour ground from the entire wheat kernel. It contains the bran, germ and endosperm. Whole wheat flour does not keep as well as white flour because it contains fat from the germ which may oxidize in storage. This oxidation produces an off flavor. Storage of whole wheat flour in the refrigerator or freezer may be advisable if it is to be kept for several months.

The presence of bran and the germ reduces gluten development. Baked products made from all whole wheat flour tend to be heavier and denser than those made from white flour. In most recipes, whole wheat flour can be mixed half and half with white flour for a satisfactory product.

Whole wheat flour is rich in B-complex vitamins, vitamin E and protein; it contains more fat, trace minerals and dietary fiber than white flour.

Stone ground flour is usually whole wheat flour which has been milled by stone rollers. It is usually coarser and heavier than other flours; double the amount of yeast may be needed when making bread with stone ground flour.

Cake flour is milled from soft wheat and is milled so finely that it feels satiny and soft to the touch. It is low in protein compared to other flours. Its weak gluten quality and high starch content make it suitable for cakes, cookies, crackers and pastries. It is bleached with chlorine to enhance its cake-baking quality and it may or may not be enriched; the enriched is recommended.

Pastery flour is comparable to cake flour in its protein content, but has lower protein content than all-purpose flour. It is milled from a soft, low gluten wheat and is used chiefly for commercial production of pastries and cookies; it is not readily available in most stores.

Self-rising flour is an all-purpose flour with salt and leavening added. One cup of self-rising flour contains 1½ teaspoons baking powder and ½ teaspoon salt. Self-rising flour can be substituted for all-purpose flour in a recipe by reducing salt and baking powder according to these proportions.

Intantized flour is a granular all-purpose flour which blends more readily with liquids than does regular flour. It is made by a process which forms the smaller particles into larger particles of relatively uniform size which do not pack. It is most useful for blending with liquids for thickening, gravies or some sauces.

Other Wheat Products

Wheat Bran is the outer layer of the wheat kernel. It makes a non-nutritive addition of dietary fiber to baked goods.

Wheat germ is the sprouting section of the seed and is often removed from flours because it contains fat, which limits the keeping qualities of bread. It is often added to baked goods, casseroles and even beverages to improve the nutritional value and give a nutty, crunchy texture. The protein quality of wheat germ is comparable to that of milk.

Bulgur is processed by soaking and cooking the whole wheat kernel, drying it, then removing 5 percent of the bran and cracking the remaining kernel into small pieces.

It can be used for salads, soups, breads and desserts. It is a nutritious extender and thickener for meat dishes and soups. Bulgur will absorb twice its volume in water and can be used in place of rice in any recipe.

Cracked wheat is very similar in nutrition and texture to bulgur. It is the whole kernel broken into small pieces, but has not been precooked. Cracked wheat can be added to breads and other baked goods for a nutty flavor and crunchy texture, or can be cooked as hot cereal.

When adding wheat bran, wheat germ, bulgur or cracked wheat to a bread recipe, consider the following guidelines:

1. These products are low in gluten and have sharp edges that cut the gluten strands. A general rule is not to use more than one-fourth cup of the product to 2 cups flour. (For a recipe with 6 cups flour, add $\frac{3}{4}$ cup bran, germ, bulgur or cracked wheat and reduce flour to $5\frac{1}{4}$ cups.)
 2. Leave the bread dough as moist as can be handled, as these products absorb liquid and tend to produce a drier loaf.
 3. Knead less (8 to 10 minutes), as the sharp edges of these products will cut the gluten strands.
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Alternative Bread Baking Methods

Convenience Options

Although most people enjoy the aroma of fresh baked bread, it's often hard to find time to bake bread in the traditional way. People are looking for faster ways of preparing breads. Here are some ways to save time and still have an acceptable product.

BREAD STICKS

- 1 package active dry yeast
- 1/3 cup warm (110 degrees) water
- 2 1/4 cups bread flour, divided
- 1 tablespoon sugar
- 1/2 teaspoon salt
- 2 tablespoons oil
- 1/3 cup cold water
- 1 egg white
- Sesame or poppy seeds

Dissolve yeast in warm water. In processor bowl with blade in place, combine 2 cups flour, sugar and salt. Process 10 seconds. Remove lid; add yeast and oil. With processor running, pour cold water through feed tube. Add additional flour if necessary so dough forms a ball. Process 30 seconds.

Divide dough into 16 equal portions; roll each into pencil-like rope, 8 inches long. Place 1 inch apart on greased baking sheet. Brush with oil. Cover; let proof (to let yeast dough rise) 20 minutes. Brush with egg white; sprinkle with seeds. Bake at 350 degrees Fahrenheit for 20 to 25 minutes.

Each bread stick has 76 calories, 1.9 grams protein, 12.8 grams carbohydrates, 1.8 grams fat, .6 grams dietary fiber, 0 cholesterol, 68 milligrams sodium.

1. Food Processor Method of Mixing Bread

Because the food processor does the mixing and the kneading, considerable time is saved in preparation and clean-up. Using the quick-rise type of yeast will also shorten the time needed. This method also enables people to make bread even if they do not have the strength in their hands and arms to knead the dough.

Read the food processor manual for special instructions when mixing bread. The procedures will vary from the conventional methods. Because the processor makes extra heat, cold water is often used so the dough does not get too warm; the yeast is dissolved in warm water and added to the flour mixture first, followed by the cooler water. When all the liquid is added, the dough forms a ball in the bowl. At that stage, sixty seconds of additional processing will be enough for kneading.

2. Automatic Bread Maker

The automatic bread machines do the mixing, kneading, rising and baking without the bread being touched by human hands. Just measure the ingredients into the machine and push "start." Most bread makers will take 3½ to 4 hours from start to finish.

Although they are expensive, they are generally purchased by small families who do not have time to make bread, but have the desire to have fresh home-baked bread. They are also a solution for those who are not physically capable of making their own bread.

There are several brands available on the market. Consider the following features and determine which are important to you.

- size of loaf—generally 1 or 1½ pounds
- timer will allow you to wake up to fresh bread in the morning
- round or oblong loaf
- use and care guide and recipe books included
- heat control for lighter and darker bread
- settings for sweet breads or specialty breads
- "see-through" cover
- able to be programmed to allow for longer rising time for heavier breads

3. Frozen Bread Dough

Freshly baked bread can be enjoyed with a minimum amount of time and labor with the use of frozen bread dough. When making your own dough at home to freeze, special techniques and recipes are required.

If purchasing frozen dough, keep in mind the following points:

- Buy fresh loaves. Note the expiration date on the package.
- Be sure the product is frozen solid and the loaves have a good shape. Mis-shapen loaves could mean the product has been thawed and has lost some of its yeast action. Dough should have a creamy white color.
- Package should be free of holes so dough does not dry out.
- A package full of ice crystals is an indication of an old or poor product.
- Store frozen loaves carefully. Do not freeze dough after it has thawed. If dough thaws, it is better to let it rise and bake it right away and then freeze the baked bread.
- Frozen dough should be stored in the coldest part of a home freezer; for best results, use in a month or two.
- Follow package directions for thawing and baking bread.

Be creative when using frozen dough. Add a personal touch to a loaf of bread by brushing the frozen or partially thawed loaf of bread with melted butter and garlic, seasoned or onion salt. Or brush with egg white and sprinkle with crushed herbs, sesame seed or poppy seed.

Use frozen dough for an unlimited variety of sweet rolls. You can substitute a loaf of frozen dough for most sweet roll recipes that use about three cups of flour. Experiment with a variety of shapes and fillings.

Pastry and pizza crusts can be made from frozen dough. Ground beef, tuna, frankfurters or cheese can be used as stuffing to make an endless array of snacks and easy meals.

4. Microwave Oven

Although the microwave oven is used for shortening the time when thawing or proofing (raising) bread, it can also be used to bake yeast and quick breads.

Quick breads: Any batter will rise high when cooked in a microwave oven, so fill the baking dish only half full rather than the customary two-thirds full. If the baking dish is too small, use a custard cup for the extra batter.

Thawing and proofing: The microwave can substantially shorten the time required for this process. Best results might be obtained by following the instructions in your microwave oven instruction manual. If no directions are available, use these general guidelines:

Place shaped loaf or frozen loaf in greased glass pan. Grease loaf top lightly. Cover loosely with waxed paper. Set loaf pan in a 2-quart glass baking dish to which 2 cups of hot water have been added. Microwave medium to low (50-30 percent power) for 1 minute and let stand 15 minutes. Repeat process as necessary.

OR
Microwave for 15 minutes on warm. Let stand 10 minutes. Repeat process until loaf is slightly higher than pan. Rotate pan of water between each microwave period. If the surface of the unshaped dough appears to be drying, carefully turn dough over in bowl.

Do not let the dough rise to more than double in bulk if it is to be cooked in the microwave oven. Microwaved breads rise more than normal during cooking; if overproofed, the dough may collapse after microwaving.

Yeast breads: There will be no browning or hard crust, so you may want to use a bread with a dark dough or one that is to be toasted later. Whole grain breads that have a dark dough make a more attractive product. Bread baked

in the microwave is especially good for sandwiches because it does not have a hard crust and it will stay moist for several days.

Baking times and power levels may vary because of the wattage of the oven. Consult the cookbook directions that came with the oven for specific information on baking breads.

The oven can be used to reheat any bread or rolls, giving even slightly stale bread a fresh taste. Reheat bread and rolls on a paper napkin, paper plate or cloth napkin to absorb moisture. **USE A LOW POWER LEVEL WHEN REHEATING BREADS.**

CASSEROLE BREAD

- 1 1/2 cup cold water
- 1/3 cup yellow cornmeal
- 1 teaspoon salt
- 1/3 cup molasses
- 2 tablespoons butter or margarine
- 1/4 cup water (110-120 F)
- 1 package active dry yeast
- 3 1/4 to 3 1/2 cups unsifted all-purpose flour

In glass container, combine water, cornmeal and salt. Cook on High setting in microwave, uncovered, until mixture boils and begins to thicken, stirring occasionally. Add molasses and butter or margarine; cool to lukewarm. Dissolve yeast in warm water. Stir into lukewarm cornmeal mixture. Mix in flour until well combined. Arrange evenly in well-greased, glass 2-quart casserole or loaf pan. Rub top with oil or softened butter or margarine. Cover casserole (allowing space for bread to rise)** and refrigerate overnight.

Next day, remove from refrigerator and cook, uncovered, 10 to 12 minutes on Med-High or until no doughy spots remain. Cool 5 minutes in casserole; turn out of pan and cool completely. One loaf.

**For conventional oven: Follow directions to **. Then, let rise in warm place (80 F) until dough reaches top of pan (about 45 minutes). Bake in 350 F oven for 40-45 minutes.

With 24 slices, each 1.5 ounce slice has: 87 calories, 2 grams protein, 17 grams carbohydrate, .7 grams dietary fiber, 1 gram fat, 0 cholesterol, 1 milligram iron, 102 milligrams sodium.

ENGLISH MUFFIN BREAD

- 5 cups unsifted bread flour, divided
- 1 tablespoon sugar
- 2 teaspoons salt
- 2 packages active dry yeast
- 1/2 cup water (110-120 F)
- 2 1/2 cups milk
- 1/4 teaspoon soda
- 1 tablespoon water

In large mixing bowl, combine 3 cups flour, sugar and salt. Dissolve yeast in 1/2 cup water. Heat milk until warm, (110 F) and combine with yeast mixture; add to flour mixture. Beat by hand or mixer until smooth. Stir in remaining flour to make a stiff batter. Cover; let rise in warm place until light and doubled in size, about 1 hour.

Dissolve soda in 1 tablespoon warm water. Stir down yeast batter; blend in soda mixture, mixing until well blended. Divide batter between two greased 1 1/2 quart (8"x4") glass loaf dishes. Cover and let rise in warm place until doubled, about 45 minutes.** Cook each loaf, uncovered, 6 minutes or until no doughy spots remain. Cool 5 minutes; loosen edges and remove from pan. Cool completely. To serve, slice and toast in toaster or under broiler until edges are brown. Two loaves.

**For conventional oven: Follow directions to **. Then, let rise in warm place (80 F) until dough reaches top of pan (about 45 minutes). Bake in 350 F oven for 40-45 minutes.

With 16 slices per loaf, each 1.5 ounce slice has: 83 calories, 3 grams protein, 16 grams carbohydrates, .7 grams fiber, .6 grams fat, 1.7 milligrams cholesterol, .9 milligrams iron, 83 milligrams sodium.

5. Convection Oven

A convection oven has a fan which creates currents of air within the cooking chamber. This process eliminates hot and cold air zones within the chamber, thereby reducing baking time by about 30 percent. Follow manufacturer's directions.

Problems That Might Arise

A good loaf of bread is symmetrical, with an evenly browned crust. It is fine in texture with no large air bubbles. The “crumb” is slightly moist, soft and tender. The bread has a fresh, tempting aroma and a pleasing, well baked wheat-like flavor.

Some Causes of Failures

It's impossible to judge for certain what was done wrong by looking at a loaf of bread. However, a variety of causes can be suggested. Sometimes the flour used is the total problem. It can be too old and cause crumbly, “short” dough; a flour too low in protein produces a loaf that is poor in volume and texture. To keep flour fresh, store in airtight containers; it may be kept in the refrigerator or freezer.

Although all-purpose flours are lower in protein than bread flours, it is still possible to bake good bread with these flours if some simple recipe modifications are made. Most home recipes direct the baker to combine all the ingredients with only a partial amount of flour when beginning the process. This mixture should be beaten longer to insure better gluten development. The dough should be beaten for 4 to 5 minutes with a wooden spoon, or about 3 minutes with an electric mixer. Kneading time should be reduced to 8 to 10 minutes instead of the 12 to 15 minutes recommended for bread flour.

Over kneading is a possibility because of the lower protein content. Check your recipe to see if it contains about 3 percent shortening by weight. This seems to improve the bread (approximately 2 tablespoons of shortening per 6 cups of flour). Do not let the dough over rise.

Bread flour will produce the highest quality finished products because of the higher protein content. If a recipe calling for all-purpose flour is used, use a little less bread flour (about 1½ tablespoons per cup) and increase kneading time to about 12 to 15 minutes.

Causes of Poor Quality

Outside Appearance

Poor Shape:	Improper shaping of loaf; too much dough for pan; insufficient rising time; inadequate heat circulation in oven.
Too Small:	Too much salt; not enough yeast; insufficient rising period; oven temperatures too high; incorrect water temperature for yeast.
Too Pale:	Not enough sugar; temperature of dough during mixing and rising too high; oven temperature too low.
Too Large:	Not enough salt; too much yeast; rising period too long; oven temperature too low.
Too Dark:	Too much sugar; insufficient rising time; oven temperature too high.
Uneven Color:	Improper shaping of loaf; incorrect placement in oven; uneven heat in oven.
Tough:	Not enough shortening; insufficient rising time; overbaking.
Too Thick Crust:	Crusting of dough during rising time; oven temperature too low; overbaking.
Cracks:	Crusting of dough during rising; cooling loaf too quickly.
Blisters:	Improper shaping of loaf; temperature of rising too low; rising time too long.
Lack of Shred:	Overkneading; rising time too long.
Stretch Marks on side of Loaves:	Evidence of some rising in oven.
“Flying” top crust (air space beneath crust):	Sugar proportion wrong; dough too stiff; insufficient rising time; crusting of dough during rising; overkneading.

Inside Appearance

Poor Color:	Too much yeast; temperature of dough during mixing and rising too high; rising time too long; oven temperature too low.
Streaks:	Crusting of dough; improper mixing of dough; too much flour used during kneading and shaping loaf.
Coarse:	Dough too soft; temperature of dough during mixing and rising too high; rising time too long.
Uneven:	Dough too soft; too much flour used during kneading and shaping; improper punching and shaping.
Poor Texture:	Too much flour; wheat flour substitutes; temperature of dough during mixing and rising too high; rising time too long; overkneading.
Flavor:	Wrong proportions of ingredients; temperature of dough during mixing and rising too high; rising too long.

Tips for Yeast Baking

- Differences in amount of flour needed depends on kind of flour and humidity in the air.
- A rest period will allow gluten to relax and make handling easier.
- Vigorous beating speeds up gluten formation. Kneading develops the gluten, forms a mesh that traps the gas formed by the yeast. Overkneading stretches the gluten to the breaking point and destroys the gas trapping mesh.
- To test for rising, put fingers into dough. If dent remains, it is ready to bake. Do not overraise.
- Honey may be substituted for sugar, cup for cup. (This is not true when baking cookies and cakes.)
- Use 3½ cups whole wheat flour for 4 cups white flour.
- Water temperatures for yeast vary for compressed, active dry, instant blend dry yeast and the quick rise type. Follow package directions.
- Test for doneness: sounds hollow when thumped on top.

Purposes of Ingredients

- Yeast: Leavening, produces carbon dioxide
- Salt: Regulates yeast growth and gives flavor
- Sugar: Yeast food, increases tenderness and browning
- Liquid: Dissolves yeast and sugar and develops gluten. Water doughs make a more crusty product and greater volume. However, milk doughs produce a finer texture and better flavor and hasten browning, as well as making a complete protein.
- Shortening: Tenderizes

DAKOTA BREAD

A Centennial Project of the North & South Dakota Wheat Commissions

1 package active dry yeast
1/2 cup warm water (105 to 115 F)
2 tablespoons sunflower oil
1 egg
1/2 cup cottage cheese
1/4 cup honey
1 teaspoon salt
2 to 2 1/2 cups bread flour
1/2 cup whole wheat flour
1/4 cup wheat germ
1/4 cup rye flour
1/4 cup oatmeal
2 tablespoons cornmeal

Sprinkle yeast in warm water; stir to dissolve.

In a large bowl, mix sunflower oil, egg, cottage cheese, honey and salt. Add dissolved yeast and 2 cups bread flour, beating until flour is moistened. Gradually stir in whole wheat flour, wheat germ, rye flour and oats, plus enough bread flour to make a soft dough.

On a floured surface, knead dough about 10 minutes or until dough is smooth and elastic. Place dough in greased bowl; cover loosely with oiled plastic wrap.

Let rise in warm place until doubled in size, about 30 minutes.

Punch down dough. Shape into one round loaf. Place in a greased glass pie pan sprinkled with cornmeal. Cover with oiled plastic wrap and let rise until doubled in size, about 1 hour.

Brush with egg white and sprinkle with wheat germ, sunflower kernels or oat meal.

Bake at 375 degrees for 30 to 40 minutes.

If too dark, cover loosely with foil the last 10 to 15 minutes of baking. Remove from pie pan and cool on a wire rack.

Yield: 1 loaf (2 pounds)

Optional: Add 1 cup of cooked barley with the whole wheat flour. (Cook 1/2 cup 'Quick' pearl barley for 10 minutes to make 1 cup of cooked barley.)

With 16 slices per loaf, each 1.5 ounce slice has 127 calories, 4 grams protein, 22 grams carbohydrates, 2.6 grams fat, 1 gram dietary fiber, 17 milligrams cholesterol, 1.2 milligrams iron, 171 milligrams sodium.

PITA BREAD

Middle Eastern Pocket Bread

- 1 package active dry yeast
- 1 cup warm (110 F) water, divided
- 1 tablespoon vegetable oil
- 1 cup whole wheat flour
- 2 1/2 cups all-purpose flour, divided (approximate)
- 1 teaspoon salt

Dissolve yeast with 1/2 cup warm water in large bowl. Stir in remaining water mixed with oil. Vigorously stir in salt and flours, 1/2 cup at a time until a soft dough that can be kneaded is formed. Turn dough onto floured surface. Let dough rest while washing and oiling bowl. Knead dough about 10 minutes until elastic, adding flour only to manage the dough. Place dough in bowl, turned oiled side up, cover and let rise at room temperature until doubled, about 1 1/2 hours.

Punch dough and roll into long cylinder on very lightly floured surface. Cut into 12 equal sections. Form each section into a smooth ball by bringing the smooth sides down to underneath and pinching. Set each aside and let rest covered with a towel about 5 minutes.

With heavy rolling pin on lightly floured surface, roll each ball out, flipping circles and using just enough flour on surface to keep it from sticking. Make rounds as evenly flat as possible, about 6 inches in diameter and 1/4-inch thick.

Place 3 to 4 circles on baking sheets sprinkled with cornmeal or wheat germ to prevent sticking. Move oven shelf to lowest rack and let circles rest while oven preheats to 500 F.

Work quickly so heat is not lost. Put pitas on bottom baking shelf. Bake 1 1/2 minutes without peeking, dough will begin to puff up. Continue baking 1 to 2 more minutes. Little browning will occur since there is no sugar in recipe. Remove from oven, cool and eat fresh with a variety of fillings or wrap and store in refrigerator or freezer. Makes 12 6-inch pitas.

Each pita has 148 calories, 23 grams carbohydrates, 1.4 grams fat and 4.3 grams protein.

Sweet Roll Dough for Rolls and Coffee Cakes

Approximately 1 dozen medium sized rolls

- 1 package active dry yeast
- 1/4 cup sugar
- 1/2 teaspoon salt
- 2 to 2 1/4 cups bread flour*, divided
- 1/2 cup water (120 to 130 F)
- 1/2 cup milk (120 to 130 F)
- 1 egg
- 1/4 cup shortening or vegetable oil

Mix together yeast, sugar, salt and 1 1/4 cup of flour. Stir in water and milk. Add egg and shortening and beat until smooth, about 3 minutes. Mix in enough remaining flour to make dough easy to handle.

Turn dough onto lightly floured board; knead until smooth and elastic, about 12 minutes. Place in greased bowl; turn greased side up. (At this point, dough can be covered and refrigerated 3 to 4 days.) Cover; let rise in warm place until doubled, about 1 hour. (Dough is ready if impression remains when touched.)

Punch down dough. Shape dough into desired rolls. Cover and let rise until doubled. Bake 12 to 15 minutes at 375 F.

Whole Wheat Bread

2 loaves (9x5x3)

- 1 package active dry yeast
- 1/3 cup dry milk
- 2 teaspoons salt
- 2 to 2 1/2 cups bread flour, divided*
- 2 cups water (115 degrees F)
- 1/4 cup molasses
- 2 tablespoons softened shortening
- 3 cups whole wheat flour
- 1/4 cup cracked wheat

Stir together undissolved yeast, dry milk, salt and two cups bread flour. Add water, molasses and shortening. Beat vigorously until dough sheets off wooden spoon. Add whole wheat flour and cracked wheat to make dough manageable. (The softer the dough, the moister the bread.)

Knead dough about 10 minutes. Place in lightly greased bowl, turning to grease all sides. Cover with plastic wrap and towel. Let rise until doubled in warm room (80 degrees) or over bowl of hot water. Punch down. Let rest 10 to 15 minutes, shape, place in greased pans and let rise until dent remains when finger is pressed in corner of dough.

Bake at 375 F for 35 to 40 minutes. Remove from pans **immediately** and brush with oil. Let cool on rack out of draft and then place in plastic bag and seal with closure.

*All purpose enriched white flour may be substituted. Due to the lower protein content, more flour may be needed, about 1/2 tablespoon per cup of flour. For example: Quick White Bread calls for 4 1/2 to 5 cups bread flour. Add 6 to 8 tablespoons (approximately 1/2 cup) to make 5 to 5 1/2 cups all-purpose enriched white flour. Kneading time would be shorter—about 8 minutes.

Quick White Bread

2 loaves

(From start to finish in 2 hours)

- 4 1/2 to 5 cups bread flour*, divided
- 2 packages active dry yeast
- 1/3 cup non-fat dry milk
- 2 teaspoons salt
- 2 tablespoons sugar
- 2 cups water (120 to 130 degrees)
- 2 tablespoons oil
- Oil

Combine 2 cups flour, yeast, non-fat dry milk, salt and sugar. Stir together. Add water and stir well. Add oil and beat with mixer 3 minutes or with wooden spoon about 5 minutes. Stir in remaining flour, enough to make a soft dough. Knead on lightly floured surface about 10 to 12 minutes. Cover dough with bowl; let rest 20 minutes. Shape into two loaves, place in 2 greased 8 1/2 x 4 1/2 x 2 1/2 loaf pans, and brush lightly with oil. Let rise in warm place until doubled, about 30 to 45 minutes. Bake in 400 degree oven for 30 to 40 minutes. Remove immediately from pans. Brush with oil and cool on wire rack.



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