

**Soy At Home Series No. 3**

# **Make Your Own Soy Flour**



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Soaked and dried or roasted soybeans can be cracked into grits or ground more finely into flour. Grits can be used like whole soybeans but they cook more quickly, and soy flour can easily be added to bakery products. Baked goods enhanced with soy flour have a fine texture, characteristic light yellow color, stay fresh longer, and are softer and more moist than baked products made entirely with grain flours. When used to make fried bakery goods, soy flour reduces fat absorption.

#### *Basic preparation of soy flour or grits – wet heat method*

##### Ingredients

water  
baking soda  
mature soybeans, debris removed

##### Method

1. **Blanch the beans:** Bring 5 cups water to a boil for each cup of soybeans. Add a pinch of baking soda to the boiling water and then add the soybeans. Cook at a low boil for 20 to 25 minutes. Drain and rinse the soybeans in cool water.
2. **Dry the beans:** Spread the beans in a single layer on a baking sheet and dry them in a low oven (about 200° F or 95° C), stirring occasionally; this should take an hour or longer. The beans may also be placed in the sun to dry for 2 or 3 days. Be sure the beans are clean before proceeding with the recipe.
3. **Grind to grits or flour:** Use a grain mill, blender, or hand crusher to grind the beans coarsely into grits or more finely into flour. If desired, toast the grits or flour lightly in a dry skillet over moderate heat, stirring occasionally, to enhance the nutty flavor.

#### *Basic preparation of soy flour or grits – dry heat method*

##### Ingredients

mature soybeans, debris removed  
water

##### Method

1. **Soak the beans:** Cover the soybeans with several times their volume of water and soak for 8 hours. Drain the beans.
2. **Bake the beans:** Spread the beans in a single layer on a baking sheet and bake them at 350° F (175° C) for 15 minutes. Stir the beans and bake for 10 minutes longer, stirring once or twice more. The beans may also be baked in a covered pan over a campfire or cooking stove.
3. **Grind to grits or flour:** Use a grain mill, blender, or hand crusher to grind the beans coarsely into grits or more finely into flour.

#### *Storage*

Soy flour or grits can be kept from 3 to 12 months when stored in a dry, cool environment. They should be kept in a closed container on the shelf. If possible, refrigerate or freeze soy flour for longer storage or if in a hot, humid environment.

# Cooking with Soy Flour and Grits

Soy flour is extremely easy to use, although it cannot totally replace wheat flour in baking because it lacks gluten, a protein that provides the structure for baked products. Always stir soy flour before measuring. For general use, mix a little soy flour (about 10%) with all-purpose or other wheat flour while the dough is being mixed. An easy way to do this is to put a rounded tablespoonful of soy flour into a cup and then fill the cup with wheat flour. The final product will look and taste very much like the original version. If a higher proportion of soy flour is used, there may be a difference in the flavor of the bread. The dough may also require a little more liquid and the bread may need to be cooked at a slightly lower temperature so it does not brown too quickly.

Soy flour may be substituted for up to 25% of the wheat flour in quick breads, and for up to 15% of the grain flour in yeast-raised breads. Soy flour increases the protein content of the recipe. Bread made with 88% wheat flour and 12% soy flour will have a 40% higher protein content than bread made with wheat flour alone.

Soy grits are boiled like whole soybeans, but cook much faster. Cooking time depends on how small the grits are – fine grits cook in about 20 minutes, and coarser grits cook in 40 minutes to an hour. Put grits into a pan with about three times their volume in water and bring to a boil; reduce heat and simmer, covered, until grits are tender. Stir plain cooked grits into soups, sauces, and casseroles, or mix with ground meat to use as a meat extender. Grits can also be cooked together with brown rice or other whole grains. Add herbs, spices, and vegetables as desired. In general, soy grits can be used anywhere you would use chopped or mashed whole soybeans.

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## Cornbread Recipe

1 cup all-purpose flour or  
whole wheat pastry flour  
1/2 cup cornmeal  
1/2 cup soy flour  
2 Tbsp. granulated sugar  
1 Tbsp. baking powder  
1/2 tsp. salt  
1 cup soymilk or dairy milk  
1/4 cup melted butter or oil  
1 egg

1. Preheat the oven to 425° F. Coat a 9" x 9" pan with cooking spray.
2. Stir together the all-purpose flour, cornmeal, soy flour, sugar, baking powder, and salt in a large mixing bowl. Set aside.
3. Whisk together the soymilk, melted butter, and egg in a small bowl. Add the liquid ingredients to the dry ingredients and stir just until moistened. Pour the batter into the prepared pan.
4. Bake for 20 to 25 minutes, until lightly browned and a toothpick inserted in the center comes out clean.

Makes 9 servings

Per serving: 174 calories, 5 g protein, 22 g carbohydrate, 7 g fat (3.6 g saturated when made with butter)

# Rise 'n' Shine Pancakes

2 cups all-purpose flour  
1/3 cup soy flour  
2 Tbsp. granulated sugar  
1 Tbsp. baking powder  
1/2 tsp. salt  
1 1/2 cups milk or soymilk  
2 eggs  
3 Tbsp. vegetable oil  
1 cup fresh or frozen blueberries (do not thaw)  
syrup for topping (optional)

1. Combine the all-purpose flour, soy flour, sugar, baking powder, and salt. Set aside.
2. Beat the milk, eggs, and oil together in a mixing bowl. Add the dry ingredients and mix to combine.
3. Pour 1/4 cup batter on a medium-hot griddle and spread to a circle. When small bubbles appear on the surface of the pancake, top with about six blueberries, then turn and finish cooking until golden on both sides. Repeat with remaining batter. Serve warm with syrup, if desired.

Makes 12 pancakes

Per serving (1 pancake): 160 calories, 5 g protein, 22 g carbohydrate, 6 g fat (1.4 g saturated).

# Golden Dinner Rolls

2 cups plus 2 Tbsp. warm water (110° F)  
2 packages (1/4 oz. each) or 5 tsp. active dry yeast  
5 1/4 cups bread flour  
3/4 cup soy flour  
1/4 cup granulated sugar  
2 1/2 tsp. salt  
2 Tbsp. shortening

1. Put the warm water in a bowl and sprinkle with the yeast. Stir to dissolve the yeast, then set aside.
2. Mix the bread flour, soy flour, granulated sugar, salt, and shortening in a large bowl with an electric mixer at low speed.
3. Gradually add the yeast mixture to the flour mixture, mixing with a dough hook or a wooden spoon.
4. Scrape down the bowl and continue mixing until the dough forms a ball. Add additional water or flour if needed. Dough should be soft and smooth, but not sticky. If kneading by hand, dough should be turned out onto a floured board and kneaded 6-8 minutes until dough is smooth and elastic.
5. Place dough in lightly oiled bowl. Cover with plastic wrap and allow dough to rise in a warm place.
6. When dough has doubled (about 45-60 minutes), divide dough to make 36 rolls. Coat two cookie sheets with cooking spray. Shape dough into balls and place 1" apart on prepared cookie sheets.
7. Let dough rise in a warm place until doubled in size (about 20 minutes). While dough rises, preheat the oven to 350° F.
8. Bake 18-20 minutes. If the rolls begin to brown too quickly, cover them loosely with aluminum foil during the last 5 minutes of baking.
9. Remove immediately from pan or sheet. Cool on a wire rack.

Makes 36 rolls

Per serving (1 roll): 93 calories, 3 g protein, 17 g carbohydrate, 1 g fat (0.3 g saturated)

# Nutrients

Soy contains high quality (“complete”) protein. In addition to traditional nutrients, soy is also rich in phytochemicals like isoflavones, saponins, and sterols that offer many health benefits.

***1/2 cup soy flour:***

183 calories  
15 g protein  
15 g carbohydrate  
9 g fat (1.3 g saturated fat)  
4.0 g dietary fiber

*Source: USDA Nutrient Database*

***1/4 cup (before cooking) soy grits***

168 calories  
16 g protein  
13 g carbohydrate  
9 g fat (2 g saturated fat)  
5 g dietary fiber

*Source: manufacturer information*

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