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United States Food Administration



WHEATLESS RECIPES

Tested in the Experimental Kitchen of the Food Administration [Conservation Division] and the Department of Agriculture

WASHINGTON, APRIL, 1918

BAKING POWDER LOAF BREADS

(Using no Wheat.)

All measurements are level.—In the following recipes the weights given are accurate. The measurements are approximate; that is, they are given in the nearest fraction of a cup which a housewife ordinarily uses. It is convenient to remember in measuring unusual fractions that two level tablespoons are one-eighth cup.

METHOD.

Mix the melted fat, liquid, sirup, and egg. Combine the liquid and well mixed dry ingredients. Bake as a loaf in a moderately hot oven (205° C. or 400° F.) for one hour or until thoroughly baked.

Nuts, raisins, or dates may be added, making the breads more nutritious and very palatable.

LOAF BREADS.

OAT AND CORN FLOUR BREAD.

50 Per Cent Ground Rolled Oats.
50 Per Cent Corn Flour.

1 cup liquid.
2 to 4 tablespoons fat.
4 tablespoons sirup.
2 eggs.

6 teaspoons baking powder.
1 teaspoon salt.
1 $\frac{1}{4}$ cups (5 ounces) corn flour.
1 $\frac{1}{2}$ cups (5 ounces) ground rolled oats.

RICE AND BARLEY BREAD.

50 Per Cent Rice Flour.
50 Per Cent Barley Flour.

1 cup liquid.
2 to 4 tablespoons fat.
4 tablespoons sirup.
2 eggs.

6 teaspoons baking powder.
1 teaspoon salt.
1 $\frac{1}{2}$ cups (5 ounces) rice flour.
1 $\frac{1}{2}$ cups (5 ounces) barley flour.

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CORN FLOUR AND BUCKWHEAT BREAD.

50 Per Cent Corn Flour.
50 Per Cent Buckwheat.

1 cup liquid.	6 teaspoons baking powder.
2 to 4 tablespoons fat.	1 teaspoon salt.
4 tablespoons sirup.	1½ cups (5 ounces) corn flour.
2 eggs.	1 cup (5 ounces) buckwheat.

BARLEY AND OAT BREAD.

50 Per Cent Barley Flour.
50 Per Cent Ground Rolled Oats.

1 cup liquid.	6 teaspoons baking powder.
2 to 4 tablespoons fat.	1 teaspoon salt.
4 tablespoons sirup.	1½ cups (5 ounces) barley flour.
2 eggs.	1½ cups (5 ounces) ground rolled oats.

COMBINATION MUFFINS.**(Using no Wheat.)**

METHOD OF MIXING.

Add to the cup of milk the melted fat, sirup, and slightly beaten egg; sift the salt, baking powder, and flour together. Use a coarse sieve so that no part of the flour is wasted. Combine the two mixtures, stirring lightly without beating. Bake in a hot oven (437° F. or 225° C.) for 20 to 30 minutes, depending upon the size of the muffins.

These recipes make 24 small muffins (3 of which make a 2-ounce serving) or 8 very large muffins.

The ground rolled oats are the same as rolled oats ground in a food chopper. When using oats, mix them with the other sifted dry ingredients.

When corn meal is used, mix—do not sift—the ingredients.

SUGGESTIONS: The wheat substitute recipes given below show that a wide variety of combinations is possible even when limited to the use of a few substitutes.

All of the combinations are good. In nearly all cases a combination of substitutes makes a better product than the use of only one substitute.

Muffins containing oats have a particularly pleasant flavor.

Other substitutes used with buckwheat will modify the color and improve the flavor of the product. The use of molasses will also do this.

MUFFINS.**1. COMBINATION SUBSTITUTE MUFFINS.**

50 Per Cent Barley.
50 Per Cent Oats.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	1½ cups barley flour (4 ounces).
1 or 2 eggs.	1½ cups ground rolled oats (4 ounces).

2. COMBINATION SUBSTITUTE MUFFINS.

75 Per Cent Barley.
25 Per Cent Oats.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	2½ cups barley flour (6 ounces).
1 or 2 eggs.	½ cup ground rolled oats (2 ounces).

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3. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Buckwheat.
50 Per Cent Oats.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{4}$ cup buckwheat (4 ounces).
1 or 2 eggs.	$1\frac{1}{3}$ cups oats, ground (4 ounces).

4. COMBINATION SUBSTITUTE MUFFINS.

75 Per Cent Buckwheat.
25 Per Cent Oats.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$1\frac{1}{4}$ cups buckwheat (6 ounces).
1 or 2 eggs.	$\frac{1}{2}$ cup ground oats (2 ounces).

5. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Buckwheat.
50 Per Cent Corn Flour.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{4}$ cup buckwheat (4 ounces).
1 or 2 eggs.	1 cup corn flour (4 ounces).

6. COMBINATION SUBSTITUTE MUFFINS.

75 Per Cent Barley.
25 Per Cent Corn Flour.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$2\frac{1}{4}$ cups barley flour (6 ounces).
1 or 2 eggs.	$\frac{1}{2}$ cup corn flour (2 ounces).

7. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Ground Rolled Oats.
50 Per Cent Corn Flour.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$1\frac{1}{3}$ cups ground rolled oats (4 ounces).
1 or 2 eggs.	1 cup corn flour (4 ounces).

8. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Ground Rolled Oats.
75 Per Cent Corn Flour.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{1}{2}$ cup rolled oats, ground (2 ounces).
1 or 2 eggs.	$1\frac{1}{2}$ cups corn flour (6 ounces).

9. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Buckwheat.
50 Per Cent Barley.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{4}$ cup buckwheat (4 ounces).
1 or 2 eggs.	$1\frac{1}{2}$ cups barley flour (4 ounces).

10. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Buckwheat.
75 Per Cent Barley.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{4}$ cup buckwheat (2 ounces).
1 or 2 eggs.	$2\frac{1}{4}$ cups barley flour (6 ounces).

11. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Rice Flour.
50 Per Cent Buckwheat.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{4}$ cup rice flour (4 ounces).
1 or 2 eggs.	$\frac{3}{4}$ cup buckwheat (4 ounces).

12. COMBINATION SUBSTITUTE MUFFINS.

75 Per Cent Rice Flour.
25 Per Cent Buckwheat.

1 cup liquid.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$1\frac{1}{4}$ cups rice flour (6 ounces).
1 or 2 eggs.	$\frac{3}{8}$ cup buckwheat (2 ounces).

13. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Rice Flour.
75 Per Cent Buckwheat.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{8}$ cup rice flour (2 ounces).
1 or 2 eggs.	$1\frac{1}{4}$ cups buckwheat (6 ounces).

14. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Rice Flour.
75 Per Cent Ground Rolled Oats.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{8}$ cup rice flour (2 ounces).
1 or 2 eggs.	$1\frac{1}{4}$ cups ground rolled oats (6 ounces).

15. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Rice Flour.
50 Per Cent Ground Rolled Oats.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{8}$ cup rice flour (4 ounces).
1 or 2 eggs.	$1\frac{1}{4}$ cup ground rolled oats (4 ounces).

16. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Rice Flour.
75 Per Cent Barley Flour.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{8}$ cup rice flour (2 ounces).
1 or 2 eggs.	$2\frac{1}{4}$ cup barley flour (6 ounces).

17. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Rice Flour.
50 Per Cent Barley Flour.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{7}{8}$ cup rice flour (4 ounces).
1 or 2 eggs.	$1\frac{1}{2}$ cups barley flour (4 ounces).

18. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Buckwheat.
75 Per Cent Corn Flour.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{8}$ cup buckwheat (2 ounces).
1 or 2 eggs.	$1\frac{1}{2}$ cup corn flour (6 ounces).

19. COMBINATION SUBSTITUTE MUFFINS.

25 Per Cent Buckwheat.
75 Per Cent Ground Rolled Oats.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$\frac{3}{8}$ cup buckwheat (2 ounces).
1 or 2 eggs.	$1\frac{3}{4}$ cups ground rolled oats (6 ounces).

20. COMBINATION SUBSTITUTE MUFFINS.

75 Per Cent Corn Flour.
25 Per Cent Buckwheat.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$1\frac{1}{2}$ cups corn flour (6 ounces).
1 or 2 eggs.	$\frac{1}{2}$ cup buckwheat (2 ounces).

21. COMBINATION SUBSTITUTE MUFFINS.

50 Per Cent Corn Flour.
50 Per Cent Barley Flour.

1 cup milk.	4 teaspoons baking powder.
1 tablespoon fat.	1 teaspoon salt.
2 tablespoons sirup.	$1\frac{1}{2}$ cups barley flour (4 ounces).
1 or 2 eggs.	1 cup corn flour (4 ounces).

BISCUIT.**(Using no wheat.)****METHOD.**

Sift dry materials together. Work in fat well. Combine liquid and dry materials, handling lightly. Roll or pat $\frac{1}{2}$ inch thick and cut as biscuits. Bake in a hot oven.

Use a coarse sifter or mix instead of sifting if the flours are coarse, so that none is wasted.

Biscuits made of the substitutes are less like the normal wheat flour product, particularly in texture, than are the muffins, loaf breads, and cakes.

If one-fourth more liquid is used, a drop biscuit having better texture is the result.

1. BARLEY BISCUIT.

1 $\frac{1}{4}$ cups liquid.	6 teaspoons baking powder.
4 cups barley flour.	1 teaspoon salt.
3 tablespoons fat.	

Appearance, light, well risen, good shape.

Texture, good.

Color, somewhat dark, but typical of barley.

Flavor, typical of barley; good.

Comment. These biscuits do not get light and fluffy as wheat biscuits, but are still a desirable and edible product.

2. CORN FLOUR BISCUIT.

1 cup liquid.	6 teaspoons baking powder.
2 $\frac{3}{4}$ cups corn flour.	1 teaspoon salt.
3 tablespoons fat.	

Appearance, good.

Texture, very dry and close.

Color, white.

Flavor, corn flavor.

3. BUCKWHEAT-CORN FLOUR BISCUIT.

50 Per Cent Buckwheat.
50 Per Cent Corn Flour.

1 cup liquid.	3 tablespoons fat.
1 $\frac{1}{2}$ cups buckwheat.	6 teaspoons baking powder.
1 $\frac{1}{2}$ cups corn flour.	1 teaspoon salt.

Appearance, dark, but good shape.

Texture, good; similar to wheat.

Color, light chocolate color.

Flavor, typical buckwheat.

Comment, dough very soft, almost consistency of a drop biscuit.

4. CORN FLOUR-ROLLED OAT BISCUIT.

50 Per Cent Ground Rolled Oats.
50 Per Cent Corn Flour.

1 cup liquid.	3 tablespoons fat.
1 $\frac{1}{2}$ cups corn flour.	6 teaspoons baking powder.
1 cup ground oats.	1 teaspoon salt.

Appearance, rough, but appetizing.

Texture, light.

Flavor, very good.

Color, slightly dark; attractive.

CAKES.

(Cakes made with wheat flour substitutes containing no wheat flour.)

SPONGE CAKES, SPICE CAKES, AND CHOCOLATE CAKES.

BARLEY SPONGE CAKE.

1½ cups barley flour (3½ ounces).	1 tablespoon lemon juice.
1 cup sugar (7 ounces).	½ teaspoon salt.
4 eggs (7 ounces).	

CORN (FLOUR) SPONGE CAKE.

¾ cup corn flour (3½ ounces).	2 tablespoons lemon juice.
1 cup sugar (7 ounces).	½ teaspoon salt.
4 eggs (7 ounces).	

OAT SPONGE CAKE.

½ cup oat flour (2¾ ounces).	4 eggs (7 ounces).
¼ cup corn flour (1 ounce).	1 tablespoon lemon juice.
1 cup sugar (7 ounces).	½ teaspoon salt.

RICE SPONGE CAKE.

¾ cup rice flour (3½ ounces).	2 tablespoons lemon juice.
1 cup sugar (7 ounces).	½ teaspoon salt.
4 eggs (7 ounces).	

METHODS OF MIXING SPONGE CAKES.

Separate whites and yolks. Beat the yolks until thick and light lemon color. Beat sugar into the stiffened yolks and add the lemon juice. Fold in alternately the stiffly beaten whites and flour. Bake in an ungreased pan for 35 to 40 minutes. Start in a moderate oven (365° F. or 185° C.), and when about half done raise the temperature to that of a hot oven (400° F. or 205° C.).

RESULTS OF SPONGE CAKES.

These cakes are all very nice and light, texture and color good. Barley has characteristic flavor. Corn cake is especially tender and all are good textured. The extra lemon juice used with rice and corn seems necessary to improve the flavor.

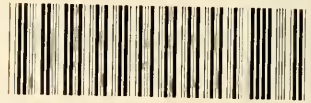
SPICE CAKE.

100 Per Cent Barley Flour.

½ cup fat.	6 teaspoons baking powder.
¾ cup sugar (4¾ ounces).	½ teaspoon ginger.
1 cup sirup (11½ ounces).	1 teaspoon cinnamon.
3 eggs.	½ teaspoon cloves.
¾ cup milk.	1 teaspoon allspice.
1 teaspoon vanilla.	3¾ cups barley flour (10 ounces).
1 teaspoon salt.	1 cup raisins.

METHOD.

Cream the fat, sugar, and egg yolk. Add the sirup and mix well. Add alternately the liquid and the dry ingredients sifted together. Add the raisins and fold in the well-beaten egg whites. Bake as a loaf for one hour in a moderate oven (350° F. or 170° C.). After 20 minutes raise the temperature to 400° F. or 205° C.).



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WHEATLESS RECIPES.

SPICE CAKE.

50 Per Cent Rice Flour.
50 Per Cent Buckwheat.

$\frac{1}{2}$ cup fat.
 $\frac{2}{3}$ cup sugar ($4\frac{2}{3}$ ounces).
1 cup sirup ($11\frac{1}{2}$ ounces).
3 eggs.
 $\frac{3}{4}$ cup milk (6 ounces).
1 teaspoon vanilla.
1 teaspoon salt.

6 teaspoons baking powder.
 $\frac{1}{2}$ teaspoon ginger.
1 teaspoon cinnamon.
 $\frac{1}{2}$ teaspoon cloves.
1 teaspoon allspice.
 $1\frac{1}{8}$ cups rice flour (5 ounces).
1 cup buckwheat (5 ounces).

METHOD.

Cream the fat, sugar, and egg yolk. Add the sirup and mix well. Add alternately the liquid and the dry ingredients sifted together. Add the flavoring and fold in the well beaten egg whites. Bake as a loaf for one hour in a moderate oven 350° F. (170° C.). After 20 minutes raise the temperature to 400° F. (205° C.).

CHOCOLATE CAKE.

50 Per Cent Ground Rolled Oats.
50 Per Cent Barley Flour.

$\frac{1}{2}$ cup fat.
 $\frac{2}{3}$ cup sugar ($4\frac{2}{3}$ ounces).
1 cup sirup ($11\frac{1}{2}$ ounces).
3 eggs.
 $\frac{3}{4}$ cup milk.
1 teaspoon salt.

6 teaspoons baking powder.
1 teaspoon cinnamon.
2 squares chocolate.
1 teaspoon vanilla.
 $1\frac{1}{8}$ cups ground rolled oats (5 ounces).
 $1\frac{1}{8}$ cups barley flour (5 ounces).

METHOD.

Cream the fat, sugar, and egg yolk. Add the sirup and mix well. Add alternately the liquid and the dry ingredients sifted together. Add flavoring and melted chocolate. Fold in well beaten egg white. Bake as a loaf about one hour, starting in a moderate oven 350° F. (177° C.). After 20 minutes raise to 400° F. (205° C.).

CHOCOLATE CAKE.

75 Per Cent Corn Flour.
25 Per Cent Ground Rolled Oats.

$\frac{1}{2}$ cup fat.
 $\frac{2}{3}$ cup sugar ($4\frac{2}{3}$ ounces).
1 cup sirup ($11\frac{1}{2}$ ounces).
3 eggs.
 $\frac{3}{4}$ cup milk.
1 teaspoon salt.

6 teaspoons baking powder.
1 teaspoon cinnamon.
2 squares chocolate.
1 teaspoon vanilla.
2 cups corn flour (8 ounces).
 $\frac{1}{2}$ cup ground rolled oats (2 ounces).

METHOD.

Cream the fat, sugar, and egg yolk. Add the sirup and mix well. Add alternately the liquid and the dry ingredients sifted together. Add flavoring and melted chocolate. Fold in well beaten egg whites. Bake as a loaf about one hour, starting in a moderate oven 350° F. (177° C.). After 20 minutes raise to 400° F. (205° C.).



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