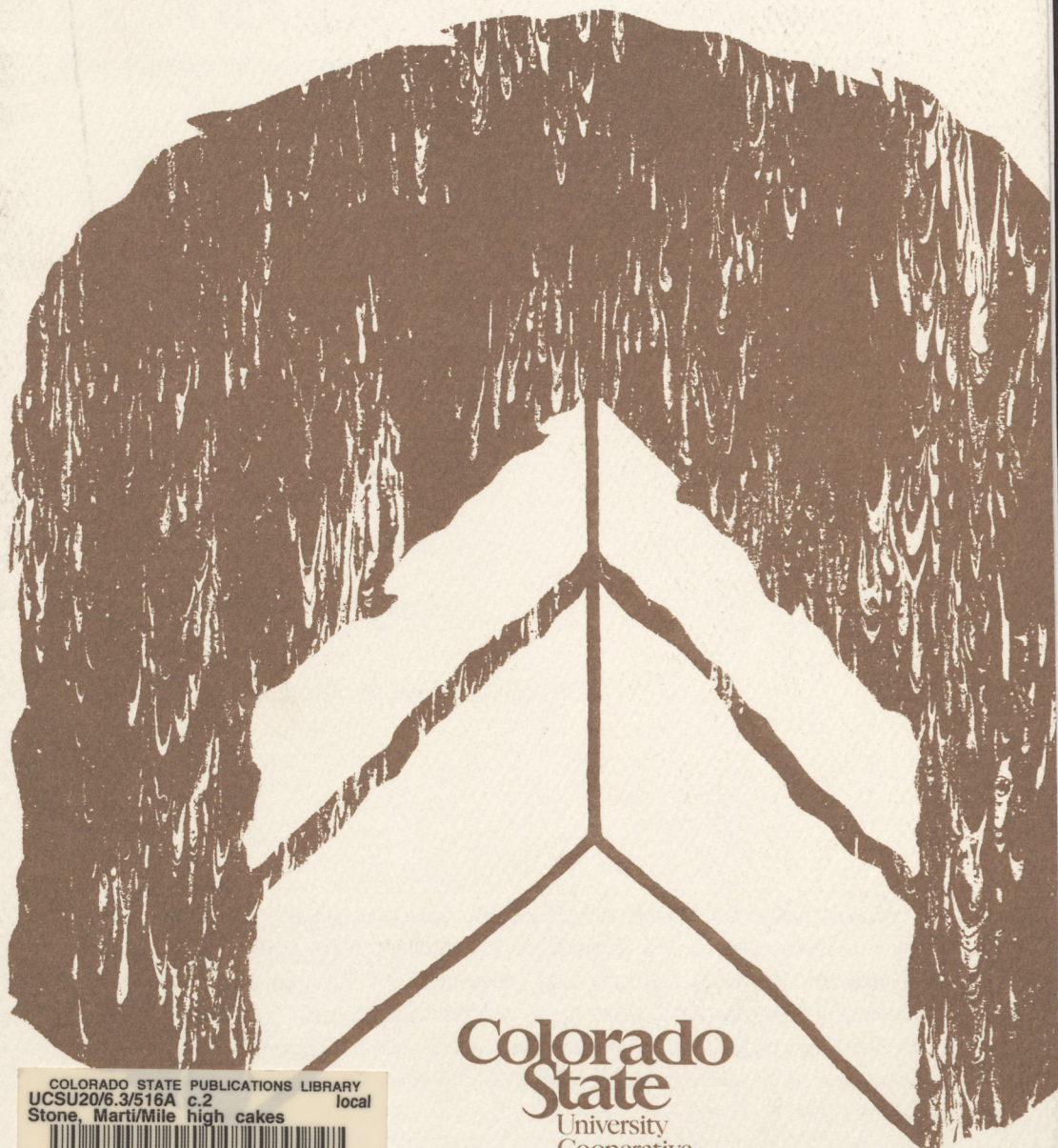


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Recipes for High Altitudes
Bulletin 516A

Mile High Cakes



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ACKNOWLEDGEMENTS

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Formerly published as ES Technical Bulletin 556S.

Special thanks to the Fall, 1991, Food Theory and Application Class for modifying and testing selected recipes.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Milan A. Rewerts, director of Cooperative Extension, Colorado State University, Fort Collins, Colorado. Cooperative Extension programs are available to all without discrimination. To simplify technical terminology, trade names of products and equipment occasionally will be used. No endorsement of products named is intended nor is criticism implied of products not mentioned.

2,500 Revised 5/92

MILE HIGH CAKES

Revised from Recipes for High Altitude Cakes

August 1980

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March 1992

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INTRODUCTION

Success in baking has often been considered a measure of one's ability as a cook. Newcomers to Colorado may discover to their dismay that their favorite recipes do not produce the fine cakes to which they are accustomed. They may find that their cakes rose too high and flowed over the top of the pan, or rose and then fell. The product may also be porous and crumbly. Since failures can often be explained by differences in altitude, the purpose of this bulletin is to present selected and tested recipes for altitudes of 5,000 feet, 7,500 feet, and 10,000 feet.

As the altitude increases the air pressure decreases and changes in recipes must be made to compensate for the difference. The usual modification in a cake containing shortening is to reduce the baking powder. For each 2,500 foot rise in altitude, the baking powder is reduced approximately 1/4 to 1/2 teaspoon per 2 cups of flour. A reduction in sugar, and/or fat, and an increase in liquid as the altitude increases may also improve the cake. However, contrary to popular opinion, there is no set rule for the baker to use in modifying a sea level recipe to adapt it for high altitude use. The modifications depend on the amounts of and relationship between the various ingredients of the original recipe. Therefore, we have designed recipes that are particularly suitable to Colorado, and have not tried to modify the innumerable good recipes which are in use at sea level.

TYPES OF CAKES

A variety of recipes have been included in this revised version of bulletin 516A, August, 1980. Several of the recipes have been modified to be lower in fat, cholesterol, and sodium. For others, adjustments that will reduce sodium and/or fat and cholesterol have been noted.

The first group of recipes consists of cakes in which egg whites, egg yolks, or whole eggs are the leavening agents. Angel food, chiffon cakes and sponge cakes belong in this class. Another group is composed of those which contain shortening or oil and are leavened with baking powder or soda. These may contain either whole eggs or egg whites. For variety, additional cakes such as sour cream cake, gingerbread, applesauce cake, carrot cake, light and dark fruit cakes, and oatmeal cake have been included.

INGREDIENTS

Cake flour was used for most recipes. Some, however, specify the use of all-purpose flour. Cake flour is manufactured particularly to produce light and tender cakes. All-purpose flour will not yield as fine or light a product. For best results, the type of flour specified for each recipe should be used.

Double-action baking powder was used in developing these recipes but other types may be used. According to experiments in this laboratory, one and one-half times as much single-action baking powder as a given amount of double-action baking powder should be used to produce the same amount of leavening action.

Eggs should be fresh and stored in the refrigerator.

The recipes have been adapted to the types of shortening that are available in the supermarket. These are shortenings with or without emulsifying agents added. Most shortenings contain emulsifying agents now, although the label does not always carry the information. The emulsified types of shortenings are preferred. The other shortenings may be used, but the volume of the cake may be somewhat reduced. When margarine or non-emulsified shortenings are used, mixing times should be slightly increased. It also may be necessary to reduce the liquid slightly.

GENERAL INSTRUCTIONS

At increased altitudes, recipes have been found to be more sensitive to slight changes. Therefore, it is important to follow carefully the instructions given for each recipe. Be sure that measurements are exact and note especially the adding and subtracting of amounts by tablespoons from cups of flour and liquid. Always use measuring spoons or cups when definite amounts of ingredients are specified.

When measuring flour and baking powder, do not pack, but spoon lightly and level off. Always sift flour before measuring. Brown sugar and shortening should be packed into the cup or spoon to give accurate measurements. Shortening should be at room temperature for best results.

Cakes are easier to remove from pans if the pans are first greased with shortening, butter, margarine, or non-stick spray. If preferred, the pan may be dusted with flour after greasing. Do not grease the sides of the pan unless specified. After the batter has been poured into the pan it is advisable to cut through it several times with a spatula to release the pockets of air which may be trapped in it. Air pockets may cause holes to appear in the cake.

A pan of definite size has been suggested for each recipe, although other sizes of pans may be used if the total area of each is the same.

MIXING METHOD

Electric mixers, both upright and portable, have been used to develop the recipes given in this booklet. Speeds recommended should be observed carefully. Use medium or high speed (the number will depend upon the make of your mixer) for creaming shortening and sugar and for adding eggs. Use low speed for adding dry ingredients and liquid. Scrape down sides of bowl frequently with a rubber scraper.

Cakes made with an electric mixer will be uniform every time they are made if care is taken in measuring ingredients, if mixing times are carefully watched, and if baking conditions are the same.

BAKING TIMES AND TEMPERATURES

Baking times for recipes may vary, depending upon the accuracy of the oven. Remove the cake when it appears to be done whether or not the exact time specified for the recipe has expired. To test for doneness, press the surface of the cake lightly. If it springs back, the cake may be removed from the oven. Another indication that a cake is done is that it pulls away from the sides of the pan. Remove the cake from the pan after it has cooled about 15 minutes. Let it cool on a rack before frosting or storing it.

The oven regulator on some ovens varies so it is always wise to check the temperature with an oven thermometer. If the oven temperature is either too high or too low, have the regulator adjusted by the dealer or learn what setting is necessary to obtain the temperature needed inside the oven.

The baking temperatures given were used in electric ovens, but should be comparable for gas ovens. The amount of correction of the baking temperature depends on the particular oven and must be determined by the individual.

WHAT TO EXPECT FROM A RECIPE

If directions are followed carefully, each of the following recipes will yield an excellent cake in relation to the ingredients used. A cake with relatively larger amounts of sugar and shortening will give a finer, more velvety type of a cake than a less rich recipe. However, cakes from less rich recipes will be very acceptable.

The sponge cake will be light, springy, slightly moist, and contain relatively large air cells. The shortening-type cakes should have slightly rounded tops, a light brown surface, and a velvety, fine-grained interior.

Basic recipes have been tested for three specific altitudes. If the altitude at which you live is not exactly 5,000 feet, 7,500 feet, or 10,000 feet, use the recipe adapted for the nearest altitude.

NUTRIENT INFORMATION

Nutrient information has been tabulated for the cakes and frostings separately. This can be found on the last pages of this bulletin. In calculating the nutrient values large eggs, skim milk, and canola oil were used for the cakes. Margarine was used in the frosting recipes.

ANGEL FOOD CAKE

5,000 feet

Oven Temperature: 400 degrees F

1 cup plus 1 tablespoon sifted cake flour
1 cup sugar
14 egg whites
1/4 teaspoon salt
2 teaspoons cream of tartar
1/2 cup sugar
1/2 teaspoon vanilla
1/2 teaspoon almond extract

Directions:

1. Sift together flour and 1/2 cup sugar 3 times.
2. Place egg whites, salt, and cream of tartar into mixing bowl and beat at high speed until soft, but not stiff peaks form.
3. With the mixer running, add 1/2 cup sugar slowly close to the beaters. Add vanilla and almond extract. Beat until quite stiff, but not dry peaks.
4. Add sifted flour-sugar mixture by fourths. Mix on low speed 10 seconds after each of the first 3 additions and 20 seconds after the last addition. Scrape down the sides constantly during this mixing.
5. Pour batter into a 10-inch ungreased tube pan.
6. Bake at 400 degrees F for approximately 30 minutes.
7. Remove from oven and allow to cool in inverted pan.

Altitude Adjustments:

7,500 feet: Increase flour by 2 tablespoons. Reduce sugar to 3/4 cup plus 2 tablespoons.

10,000 feet: Increase flour to 1-1/4 cup. Reduce sugar to 3/4 cup. Increase the baking temperature to 425 degrees F.

Reduced Sodium: Omit salt.

Variations:

Chocolate Angel Food Cake

Substitute 1/4 cup sifted cocoa for 1/4 cup cake flour in step 1. Omit the almond extract. Increase the vanilla to 1-1/2 teaspoons.

Spice Angel Food Cake

Sift with the flour 1/2 teaspoon nutmeg, 1/4 teaspoon cloves, and 1 teaspoon cinnamon. Omit vanilla and almond extracts.

CHIFFON CAKE

5,000 feet

Oven temperature: 350 degrees F

- 2-1/2 cups sifted cake flour
- 1 cup sugar
- 1-1/4 teaspoon baking powder
- 1/2 cup vegetable oil
- 2 egg yolks, unbeaten
- 1 cup cold water
- 2 teaspoons vanilla
- 1 cup egg whites (6-7 extra large)
- 1/2 teaspoon cream of tartar

Directions:

1. Mix and sift flour, sugar, and baking powder into mixer bowl. Make a well in center and add oil, egg yolks, water, and vanilla.
2. Mix 1 minute on low speed of upright mixer or medium of portable mixer, scraping frequently.
3. Place egg whites and cream of tartar in another mixer bowl and, using clean beaters, beat to stiff but not dry peaks.
4. Add beaten egg whites to batter by thirds. With a rubber spatula, fold 15 strokes after the first and second additions and 25 after the third.
5. Pour batter into an ungreased 10-inch tube pan.
6. Bake at 350 degrees F for 55 to 65 minutes or until done.
7. Remove from oven and allow to cool in inverted pan.

Altitude Adjustments:

- 7,500 feet: Same as 5,000 feet.
- 10,000 feet: Reduce baking powder to 1 teaspoon in plain chiffon. Reduce baking powder to 3/4 teaspoon in orange chiffon. Lemon and Pineapple Chiffon- same as 5,000 feet.

Variations:

Lemon Chiffon Cake

In place of 1 cup of the water, substitute 3/4 cup plus 2 tablespoons cold water and 2 tablespoons of strained lemon juice. Omit the vanilla and add 1 tablespoon grated lemon rind.

Orange Chiffon Cake

In place of the 1 cup of water, substitute $\frac{3}{4}$ cup cold water and $\frac{1}{4}$ cup strained orange juice. Omit the vanilla and add 1 tablespoon grated orange rind.

Pineapple Chiffon Cake

In place of the 1 cup of water, substitute 1 cup cold, unsweetened pineapple juice.

WHOLE EGG SPONGE CAKE

5,000 feet

Oven temperature: 350 degrees F

3 egg yolks
3/4 cup water
1 teaspoon vanilla
1-1/2 tablespoons lemon juice*
1 tablespoon lemon rind
3/4 cup sugar
1-1/4 cup sifted cake flour
1/4 teaspoon salt
6 egg whites
1/2 teaspoon cream of tartar

Directions:

1. Place egg yolks, water, vanilla, lemon juice, and lemon rind into mixer bowl.
2. Beating at high speed, gradually add the sugar and continue beating until the batter is thick and lemon colored (approximately 2-3 minutes), scraping frequently.
3. Add the flour and salt and beat 1 minute on low speed, scraping frequently.
4. Beat egg whites and cream of tartar in a separate bowl with clean beaters to form very stiff, but not dry peaks.
5. Add beaten egg whites by thirds to batter, folding 10 strokes after the first and second addition and 15 after the third addition.
6. Pour batter into an ungreased 8-inch tube pan.
7. Bake at 350 degrees F for 40 to 50 minutes.
8. Remove from oven and cool in inverted pan.

* If you desire a stronger lemon flavor, use 3 tablespoons lemon juice and omit 1-1/2 tablespoons of the water.

Altitude Adjustments:

7,500 feet: Same as 5,000 feet.

10,000 feet: Increase flour by 2 tablespoons.

Reduced Sodium: Omit the salt.

WHITE CAKE

5,000 feet

Oven temperature: 375 degrees F

2-1/2 cups sifted cake flour
2-1/2 teaspoons baking powder
1/4 teaspoon salt
1-1/2 cups sugar
1/2 cup vegetable oil
1-1/4 teaspoon vanilla
1-1/4 cup skim milk
5 egg whites

Directions:

1. Grease and flour pans.
2. Mix and sift flour, baking powder, salt and sugar into mixer bowl.
3. Add oil, vanilla, milk, and egg whites.
4. Beat 30 seconds on low speed, scraping frequently.
5. Beat 7-1/2 minutes on high speed. Scrape twice during this beating.
6. Pour batter into pans.
7. Bake at 375 degrees F for the time recommended below.*
8. Remove from oven and cool in pans about 12 minutes.
9. Remove from pans and allow to finish cooling on rack.

* Oblong, 9x13x2-inch- 30 to 35 minutes (small cake)

Two 8-inch layers- 25 to 28 minutes

24 cupcakes (1/2 full)- 23 to 25 minutes

Altitude Adjustments:

7,500 feet: Same as 5,000 feet.

10,000 feet: Reduce baking powder to 1-1/2 teaspoons. Reduce sugar by 1 table-
spoon.

Reduced Sodium: Omit salt.

WHITE OIL CAKE

5,000 feet

Oven temperature: 375 degrees F

- 2-1/4 cups sifted cake flour
- 1-1/4 teaspoon baking powder
- 1/2 teaspoon salt
- 1/3 cup vegetable oil
- 1/2 cup skim milk
- 1/2 cup water
- 1 teaspoon vanilla
- 1/2 cup egg whites (3-4)
- 1/4 teaspoon cream of tartar
- 1 cup sugar

Directions:

1. Grease and flour two 8-inch pans.
2. Mix and sift flour, baking powder, and salt into mixer bowl.
3. Add oil, milk, water, and vanilla.
4. Beat for 2 minutes on medium speed, scraping frequently.
5. In separate bowl with clean beaters, beat egg whites and cream of tartar until stiff, but not dry peaks form.
6. Gradually add sugar to beaten egg whites and beat to a stiff meringue.
7. Add meringue to batter and fold in, using about 40 strokes.
8. Pour batter into pans.
9. Bake at 375 degrees F approximately 27 minutes.
10. Remove from oven and cool in pans about 12 minutes.
11. Remove from pans and allow to finish cooling on rack.

Altitude Adjustments:

7,500 feet: Same as 5,000 feet.

10,000 feet: Decrease sugar by 1 tablespoon. Increase egg whites by 2 tablespoons.

Reduced Sodium: Omit salt.

TWO-EGG CAKE

5,000 feet

Oven temperature: 375 degrees F

- 2 cups sifted cake flour
- 1-1/2 teaspoons baking powder
- 1/2 teaspoon salt
- 1/3 cup shortening
- 1 cup sugar
- 1 teaspoon vanilla
- 2 eggs, beaten
- 3/4 cup skim milk

Directions:

1. Grease and flour two 8-inch cake pans or one 9x13x2-inch cake pan.
2. Mix and sift flour, baking powder, and salt together. Set aside.
3. Cream shortening in mixer bowl until light. Add sugar and vanilla gradually and cream until light and fluffy (about 5 minutes on medium speed).
4. Add beaten eggs and beat one minute on medium speed.
5. Add flour mixture and milk together by fourths, mixing one minute on low speed after each addition.
6. Pour batter into prepared pan(s).
7. Bake at 375 degrees F for 25 to 30 minutes.
8. Remove from oven and cool for about 12 minutes.
9. Remove from pans and allow to finish cooling on rack.

Altitude Adjustments:

- 7,500 feet: Reduce baking powder 1-1/4 teaspoon. Increase milk by 3 tablespoons.
- 10,000 feet: Reduce baking powder to 1 teaspoon. Increase milk by 3 tablespoons.
- Reduced Sodium: Omit salt.

Variations:

Cocoa Cake

Substitute 1/2 cup sifted cocoa for 1/2 cup flour.

Spice Cake

Add 1/2 teaspoon nutmeg, 1/4 teaspoon cloves, and 1 teaspoon cinnamon to the flour mixture.

YELLOW CAKE

5,000 feet

Oven temperature: 375 degrees F

- 3 cups sifted cake flour
- 2-1/2 teaspoons baking powder
- 2/3 cup shortening
- 1-1/2 cups sugar
- 2 teaspoons vanilla
- 2 egg yolks
- 1/4 cup water
- 1-1/2 cups skim milk
- 4 stiffly beaten egg whites

Directions:

1. Grease and flour two 8-inch layer or two 9-inch square pans.
2. Mix and sift flour and baking powder together.
3. Cream shortening and sugar in mixer bowl until light and fluffy (about 5 minutes on medium speed).
4. Add vanilla, egg yolks and water and beat 2 minutes on medium speed.
5. Add flour mixture and milk together by fourths, mixing one minute on low speed after each addition.
6. Fold in stiffly beaten egg whites (about 75 strokes or 1 minute on low speed of mixer).
7. Pour batter into prepared pans.
8. Bake at 375 degrees F for 25 to 30 minutes.
9. Remove from oven and cool in pan for about 12 minutes.
10. Remove from pans and allow to finish cooling on rack.

Altitude Adjustments:

- 7,500 feet: Reduce baking powder to 1-7/8 teaspoon.
- 10,000 feet: Reduce baking powder to 1-1/8 teaspoon.

CHOCOLATE CAKE

5,000 feet

Oven temperature: 375 degrees F

- 2 cups sifted cake flour
- 1/2 cup cocoa
- 2 teaspoons baking powder
- 1 cup sugar
- 2/3 cup vegetable oil
- 1 teaspoon vanilla
- 2 eggs
- 1 cup skim milk

Directions:

1. Grease and flour pans.
2. Mix and sift flour, cocoa, baking powder, and sugar into mixer bowl.
3. Add oil, vanilla, eggs, and milk.
4. Beat 30 seconds on low speed, scraping frequently.
5. Beat 7-1/2 minutes on medium speed of an upright mixer or 6 minutes on high speed of a portable mixer, scraping 4 to 5 times.
6. Pour batter into prepared pans.
7. Bake at 375 degrees F for the time recommended below.*
8. Remove from oven and cool in pan for about 12 minutes.
9. Remove from pan and allow to finish cooling on rack.

- * Oblong, 9x13x2-inch- about 30 to 35 minutes. Reduce heat to 350 degrees F.
Two layers, 8-inch- about 28 minutes.
24 cupcakes (1/2 full)- about 25 minutes.

Altitude Adjustments:

- 7,500 feet: Reduce baking powder to 1-3/4 teaspoon.
- 10,000 feet: Reduce baking powder to 1-1/2 teaspoons. Increase milk by 1 table-
spoon.

CHOCOLATE SOUR CREAM CAKE

5,000 feet

Oven temperature: 350 degrees F

- 1-3/4 cup sifted cake flour
- 1/2 cup cocoa
- 3/4 teaspoon baking soda
- 1-1/4 cup sugar
- 6 egg whites
- 1/2 cup sour cream
- 1/2 cup lowfat yogurt
- 1 teaspoon vanilla

Directions:

1. Grease and flour pans.
2. Mix and sift flour, cocoa, soda, and sugar. Set aside.
3. Beat eggs at high speed until thick and lemon colored.
4. Combine sour cream, yogurt, and vanilla. Add this mixture, and the sifted dry ingredients to the beaten eggs.
5. Beat 30 seconds on low speed, scraping frequently.
6. Beat 3 minutes on medium high of upright mixer or high speed of portable mixer, scraping several times.
7. Pour batter into pans.
8. Bake at 350 degrees F for the time recommended below.*
9. Remove from oven and cool in pan about 12 minutes.
10. Remove from pan and allow to finish cooling on rack.

* Two layers, 8-inch- 27 to 32 minutes.
18 cupcakes (1/2 full)- about 29 minutes.

Altitude Adjustment:

- 7,500 feet: Reduce baking soda to 5/8 teaspoon. Increase baking temperature to 375 degrees F.
- 10,000 feet: Reduce baking soda to 1/2 teaspoon. Increase baking temperature to 375 degrees F.

BURNT SUGAR CAKE

5,000 feet

Oven temperature: 375 degrees F

- 2-1/2 cups sifted cake flour
- 1-7/8 teaspoon baking powder
- 1/2 teaspoon salt
- 1-1/2 cups sugar
- 1/3 cup shortening
- 2 eggs
- 1 teaspoon vanilla
- 1 cup skim milk
- 3 tablespoons burnt sugar syrup*

Directions:

1. Grease and flour pans.
2. Mix and sift flour, baking powder, salt, and sugar into mixer bowl.
3. Add shortening, eggs, vanilla, milk, and burnt sugar syrup.
4. Beat 30 seconds on low speed, scraping frequently.
5. Beat 4-1/2 minutes on high speed, scraping 4-5 times.
6. Pour batter into pans.
7. Bake at 375 degrees F for the time recommended below.**
8. Remove from oven and cool in pan about 12 minutes.
9. Remove from pans and allow to finish cooling on rack.

* **Burnt sugar syrup:** Stir and melt slowly in a heavy skillet 1/2 cup sugar. Allow it to brown well. Add 1/2 cup boiling water and cook until smooth. Cool before using. Left-over syrup may be used in frosting or stored covered in the refrigerator.

**Oblong, 9x13x2-inch- 30 to 35 minutes.

Two layers, 9-inch- 28 to 30 minutes.

24 cupcakes (1/2 full)- approximately 25 minutes.

Altitude Adjustments:

7,500 feet: Reduce baking powder to 1-1/4 teaspoon.

10,000 feet: Reduce baking powder to 7/8 teaspoon. Reduce sugar to 1-1/4 cups.

Reduced Sodium and Cholesterol: Omit salt. Replace the 2 eggs with the same equivalent of an egg substitute.

CARROT CAKE

5,000 feet

Oven temperature: 350 degrees F

- 3/4 cup vegetable oil
- 1-1/4 cups sugar
- 4 eggs
- 1/2 cup skim milk
- 2 cups shredded carrots
- 1 8-oz. can crushed pineapple, undrained
- 2-1/2 cup all-purpose flour
- 2 teaspoons cinnamon
- 1 teaspoon baking soda
- 1/2 teaspoon salt
- 1/2 cup raisins

Directions:

1. Grease bottom and sides of bundt cake pan.
2. Mix together oil, sugar, eggs, milk, carrots, and pineapple in large bowl.
3. Mix and sift flour, cinnamon, soda, and salt.
4. Add dry ingredients to liquid mixture and mix until well blended.
5. Blend in raisins.
6. Pour batter into prepared pans.
7. Bake at 350 degrees F for 40 to 45 minutes or until toothpick inserted in center comes out clean.
8. Remove from oven and cool in pan for 30 minutes.
9. Remove from pan and frost with Cream Cheese Frosting*, if desired.

* Cream Cheese Frosting

- 6-oz. cream cheese, softened
 - 1 tablespoon milk
 - 2 teaspoons vanilla
 - 1-1/2 cups sifted confectioners sugar
1. Blend cream cheese, milk, and vanilla together.
 2. Gradually beat in powdered sugar.
 3. Spread on cooled cake.

Altitude Adjustments:

7,500 feet: Same as 5,000 feet.

10,000 feet: Same as 5,000 feet.

Adjustments for Health: Reduce sugar to 1 cup, vegetable oil to 1/2 cup, and eggs to 2. Substitute 2-1/4 cups whole wheat flour for the 2-1/2 cups all-purpose flour. Omit the salt. Reduce the baking time to 30-40 minutes or until toothpick comes out clean.

OATMEAL CAKE

5,000 feet

Oven temperature: 350 degrees F

- 1-1/3 cups boiling water
- 1-1/4 cups quick-cooking oats
- 1/2 cup margarine (1 stick)
- 1 cup brown sugar, packed
- 1 teaspoon vanilla
- 3 eggs
- 1-1/2 cups sifted all-purpose flour
- 1/2 cup sugar
- 1 teaspoon baking soda
- 1/2 teaspoon salt
- 3/4 teaspoon cinnamon
- 1/4 teaspoon nutmeg

Directions:

1. Pour boiling water over oats in mixing bowl, cover, and let stand for 20 minutes.
2. Grease and flour the bottom of a 9x9x2-inch pan.
3. Add margarine, brown sugar, vanilla and eggs to oat mixture.
4. Beat 1 minute on medium speed.
5. Mix and sift flour, sugar, soda, salt, cinnamon, and nutmeg. Add to the above mixture and mix 1 minute on low speed.
6. Pour batter into pan. Bake at 375 degrees F for 60 minutes or until done.
7. Frost hot cake with frosting given below.*
8. Turn oven to broil, return frosted cake to oven, and broil until frosting is bubbly and lightly browned.

*Frosting

- 1/4 cup margarine (1/2 stick)
 - 1/2 cup firmly packed brown sugar
 - 3 tablespoons cream (may use undiluted evaporated milk)
 - 1/3 cup chopped nuts
 - 3/4 cup shredded coconut
1. Blend together margarine, brown sugar, and cream.
 2. Add chopped nuts and shredded coconut and mix.
 3. Spread on top of hot cake and broil until bubbly.

Altitude Adjustments:

7,500 feet and 10,000 feet: Same as 5,000 feet.

Adjustments for Health: Omit the salt. Substitute an equivalent amount of egg substitute for the eggs. Omit the frosting.

APPLESAUCE CAKE

5,000 feet

Oven temperature: 350 degrees F

- 1 cup sifted all-purpose flour
- 1 cup whole wheat flour
- 1/2 teaspoon cinnamon
- 1/4 teaspoon nutmeg
- 1/2 teaspoon cloves
- 1 teaspoon baking soda
- 1/2 teaspoon baking powder
- 1/2 teaspoon salt
- 2/3 cup sugar
- 1/2 cup vegetable oil
- 1-1/4 cups applesauce
- 2 eggs
- 1 cup raisins
- 1/2 cup nuts, optional

Directions:

1. Grease and flour the desired pans.*
2. Reserve 1 tablespoon flour and stir into nuts and raisins until they are well coated.
3. Mix and sift flours, cinnamon, nutmeg, cloves, soda, baking powder, salt, and sugar into mixer bowl.
4. Add oil, applesauce, and eggs.
5. Mix 30 seconds on low speed, scraping frequently.
6. Beat 3-1/2 minutes on medium speed, scraping the bowl 3-4 times.
7. Stir in flour-coated raisins and nuts.
8. Pour batter into pans.
9. Bake at 350 degrees F for the time recommended below.*
10. Remove from oven. Immediately loosen cake from pan by running a thin spatula around the edges. Turn cake onto wire rack to cool.
11. Cover tightly or wrap the cooled cake to prevent drying.

* One 9x9x2-inch- 35 to 40 minutes.

24 cupcakes- 20 to 23 minutes.

If a larger cake is desired, increase all ingredients by one-half and bake in a 9x13x2-inch pan approximately 50 minutes.

Altitude Adjustments:

7,500 feet: Omit baking powder. Increase baking temperature to 375 degrees F.

10,000 feet: Same as 7,500 feet.

Adjustments for Health: Omit the nuts. Substitute an equivalent amount of egg substitute for the eggs. Omit the salt.

GINGERBREAD

5,000 feet

Oven temperature: 350 degrees F

2-1/3 cups sifted all-purpose flour
3/4 teaspoon baking soda
1/4 teaspoon cinnamon
1/4 teaspoon nutmeg
1/4 teaspoon allspice
1 teaspoon ginger
1/2 cup sugar
1/3 cup vegetable oil
2 eggs
3/4 cup molasses
2/3 cup water

Directions:

1. Grease and flour the bottom of a 9x9x2-inch pan.
2. Mix and sift flour, soda, cinnamon, nutmeg, allspice, ginger, and sugar into mixer bowl.
3. Add oil, eggs, molasses, and water.
4. Beat 30 seconds on low speed, scraping frequently.
5. Beat 3 minutes on medium speed, scraping 4-5 times.
6. Pour batter into pans. Spread from center so batter is slightly higher at edges.
7. Bake at 350 degrees F for 40 to 45 minutes.
8. Remove from the oven, leave in pan, and cut in squares. Serve warm.

Altitude Adjustments:

- 7,500 feet: Reduce baking soda to 1/2 teaspoon. Increase baking temperature to 375 degrees F.
- 10,000 feet: Reduce baking soda to 1/2 teaspoon and sugar to 1/3 cup. Increase baking temperature to 375 degrees F.

LIGHT FRUIT CAKE

5,000 feet

Oven temperature: 275 degrees F

- 1/2 pound (8oz.) dried apricots
- 1/2 pound (8oz.) candied pineapple
- 1/2 pound (8oz.) candied cherries
- 1/4 pound (4oz.) pecan halves
- 3/8 pound (6oz.) almonds, blanched and slivered
- 1/8 pound (2oz.) Brazil nuts
- 1/4 pound (4oz.) diced candied citron
- 1/2 pound (8oz.) white raisins
- 1/4 pound (4oz.) diced candied orange peel
- 1/4 pound (4oz.) diced candied lemon peel
- 2 cups all-purpose flour (Reserve 1/2 cup to mix with fruit and nuts)
- 1/8 teaspoon salt
- 3 tablespoons shortening
- 3 tablespoons sugar
- 8 egg whites
- 1/3 cup orange juice
- 1/3 cup honey
- 1/2 cup flaked coconut

Directions:

1. Grease four 7-1/2 x 3-3/4 x 2-1/4-inch pans and line with paper (waxed, brown or parchment). Cut paper to fit bottom of pans. Cut strips to extend 1/4-inch above sides of pan. Fit into pans and grease insides of papers. Cut papers to fit over tops of pans and grease on one side.
2. Dice apricots. Cover with water and bring to a boil to soften. Drain well. Dice pineapple.
3. Place all the fruit and nuts in a large mixing bowl. Stir in 1/2 cup reserved flour and mix until all pieces are evenly coated.
4. Add salt to remaining 1-1/2 cups of flour and stir.
5. In large bowl, cream shortening and sugar until light and fluffy. Add egg whites one at a time, mixing thoroughly after each addition. After the last egg white has been added, continue beating until the batter is well blended.
6. Blend orange juice with honey.
7. Beat the flour mixture and the orange juice mixture alternatively into the sugar mixture. Mix well after each addition.
8. Add coconut to fruit and nut mixture. Pour batter into this mixture and blend thoroughly to distribute the fruit and nuts evenly.

9. Pack mixture to within 3/4-inch of the prepared pans, rounding mixture slightly on top when packing.
10. Cover tops of pans with paper, greased side toward batter.
11. Bake cakes at 275 degrees F for about 2 hours or until done. Papers may be removed from tops of pans the last few minutes of baking if the cakes need to brown more.
12. Remove cakes from oven. Set pans on racks and allow to cool 20 minutes. Remove cakes from pans and carefully take off paper.
13. When completely cooled, cakes may be glazed and decorated before wrapping for storage or they may be wrapped in a brandy-soaked cloth and stored in plastic bags. When slicing cakes use a very sharp knife to avoid tearing fruit and nuts.

Altitude Adjustments:

- 7,500 feet: Increase egg whites to 10.
- 10,000 feet: Same as 7,500 feet.

DARK FRUIT CAKE

5,000 feet

Oven temperature: 275 degrees F

- 1/2 pound pitted dates
- 1/2 pound candied pineapple
- 3/4 pound diced candied citron
- 1/4 pound diced candied orange peel
- 3/4 pound diced candied lemon peel
- 1/2 pound currants
- 1/2 pound seedless raisins
- 1/2 pound candied cherries
- 1/2 pound almonds, blanched and slivered
- 1/2 pound pecan halves
- 3 cups all-purpose flour
- 1-1/2 teaspoons cinnamon
- 1 teaspoon nutmeg
- 1/2 teaspoon allspice
- 1/2 teaspoon salt
- 1/2 cup shortening
- 1/2 cup sugar
- 8 egg whites
- 1/2 cup orange juice
- 1/2 cup honey

Directions:

1. Grease five 7-1/2 x 3-3/4 x 2-1/4-inch pans and line with paper (waxed, brown, or parchment). Cut paper to fit bottoms of pans. Cut strips to extend 1/4-inch above sides of pans. Fit into pans and grease insides of papers. Cut papers to fit over tops of pans and grease on one side.
2. Slice dates and pineapple. Add citron, orange peel, and lemon peel. Leave currants, raisins, and cherries whole. Place all fruits and nuts into a large mixing bowl.
3. Add 1 cup flour to the fruit and nuts and mix until all pieces are evenly coated.
4. Sift remaining 2 cups flour with cinnamon, nutmeg, allspice and salt.
5. Cream shortening until light. Add sugar gradually and cream until light and fluffy. Add egg whites and mix thoroughly.
6. Blend orange juice with honey.
7. Beat the flour mixture and the orange juice mixture alternating with the flour mixture. Mix well after each addition.
8. Pour batter over floured fruit and blend thoroughly to distribute the fruits and nuts evenly.

9. Pack mixture to within 3/4-inch of top of prepared pans rounding the mixture slightly on top.
10. Cover tops of pans with paper, greased side toward batter.
11. Bake cakes in preheated 275 degree F oven for about 2-1/2 hours or until done. Lift papers from tops of pans the last few minutes of baking if cakes need to brown more.
12. Remove cakes from oven. Set pans on racks and allow to cool 20 minutes. Remove cakes from pans and carefully take off paper.
13. When completely cooled, cakes may be glazed and decorated before wrapping for storage or they may be wrapped in brandy-soaked cloth and stored in plastic bags. When slicing cake, use a very sharp knife to avoid tearing fruit and nuts.

Altitude Adjustments:

7,500 feet: Increase egg whites to 10.

10,000 feet: Same as 7,500 feet.

GLAZE FOR FRUIT CAKE

1/2 cup orange juice

1/2 cup light corn syrup

Bring orange juice and syrup to a rolling boil. Use pastry brush to cover cake with hot glaze. Immediately decorate with fruit and nuts. Bring mixture back to a boil and again brush hot glaze over cakes. Let glaze dry before wrapping cake for storage.

STORAGE

When completely cool, cakes may be wrapped first in wax paper, then in aluminum foil. If preferred, cakes may be wrapped in cheese cloth soaked in brandy or wine then wrapped in foil. Store cakes in a cool place for at least one week before serving.

FROSTINGS

Chocolate Frosting

Melt together:

- 3 tablespoons fat (may be shortening, margarine, or butter)
- 3 squares unsweetened chocolate (3 oz.)

Blend in:

- 1/3 cup milk
- 1 teaspoon vanilla
- 1/4 teaspoon salt
- 2 cups sifted confectioners' sugar (approximately)

Stir until smooth. Place in bowl of ice water and beat until thick enough to spread.

Yield: about 3 cups

Cocoa Frosting

Sift together:

- 1/3 cup cocoa
- 2-2/3 cups confectioners' sugar (approximately)

Add:

- 1/3 cup soft butter or margarine
- 3-4 tablespoons milk

Stir until well blended and of spreading consistency.

Yield: about 3-1/4 cups

White Frosting

Melt in saucepan:

- 1/2 cup fat (may be shortening, margarine, or butter)

Remove from heat and blend in:

- 2-1/2 tablespoons flour
- 1/4 teaspoon salt

Stir in slowly:

- 1/2 cup milk

Bring to a boil, stirring constantly. Boil 1 minute. Remove from heat.

Stir in:

- 1/2 teaspoon vanilla
- 3 cups sifted confectioners' sugar (approximately)

Place in pan of ice water and beat until thick enough to spread.

Yield: about 4 cups

Burnt Sugar Frosting

Melt in saucepan:

1/2 cup butter (if desired, you may brown the butter for additional flavor)

Remove from heat and blend in:

2-1/2 tablespoons flour

1/4 teaspoon salt

Stir in slowly:

2 tablespoons burnt sugar syrup (recipe with Burnt Sugar Cake)

6 tablespoons milk

Bring to boil, stirring constantly. Boil 1 minute. Remove from heat.

Stir in:

1/2 teaspoon vanilla

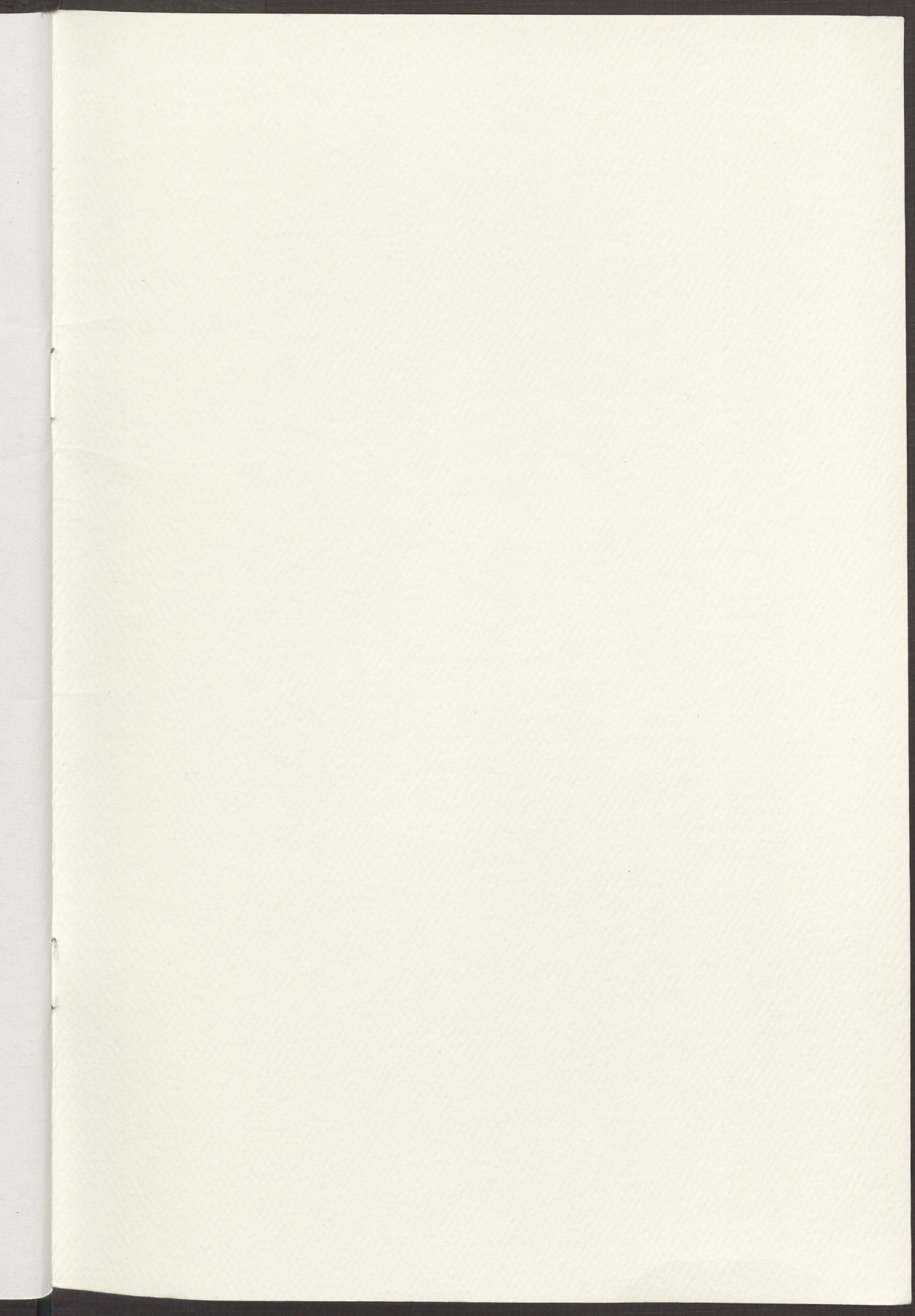
3 cups sifted confectioners' sugar (approximately)

Place in pan of ice water and beat until thick enough to spread.

Yield: about 4 cups

CAKE PRODUCT	SERVING SIZE	CALORIES	PROTEIN (g)	CARBOHYDRATES (g)	TOTAL SUGAR (g)	FIBER (g)	FAT (g)	SATURATED FAT (g)	POLYUNSAT. (mg)	CHOLESTEROL (mg)	SODIUM
Angel Food Cake	1 piece; 1/18	96	3.0	21.1	16.1	0.1	0.0	0.0	0.0	0	72
Chiffon Cake	1 piece; 1/18	164	2.8	22.9	10.9	0.3	6.8	0.5	1.4	30	42
Whole Egg Sponge Cake	1 piece; 1/16	84	2.4	16.1	9.2	0.2	1.1	0.3	0.1	52	57
White Cake	1 piece; 1/16	204	3.0	32.6	19.2	0.4	6.9	0.4	1.5	0	62
White Oil Cake	1 piece; 1/16	176	2.4	26.1	12.7	0.4	6.5	0.3	1.3	0	113
White Oil Cake, no salt	1 piece; 1/16	176	2.4	26.1	12.7	0.4	6.9	0.4	1.5	0	40
Two Egg Cake	1 piece; 1/16	152	2.2	23.6	12.9	0.3	5.5	1.4	1.3	35	116
Yellow Cake	1 piece; 1/16	246	3.5	35.5	19.5	0.5	10.2	2.6	2.5	35	26
Chocolate Cake	1 piece; 1/16	199	2.9	24.9	12.7	0.4	10.4	1.0	2.1	35	55
Chocolate Sour Cream Cake	1 piece; 1/16	135	3.3	27.0	16.1	0.4	2.2	1.3	0.1	3	29
Burnt Sugar Cake	1 piece; 1/16	203	2.6	34.7	21.3	0.4	6.1	1.5	1.5	35	123
Burnt Sugar Cake, no salt & egg substitute	1 piece; 1/16	203	2.5	34.8	21.3	0.4	6.2	1.5	1.8	0	54
Carrot Cake	1 piece; 1/16	271	4.2	37.8	22.1	1.5	11.9	0.9	2.5	70	102
Modified Carrot Cake	1 piece; 1/16	204	3.6	31.8	19.1	2.5	7.9	0.6	1.8	35	21
Oatmeal Cake	1 piece; 1/16	182	3.4	32.8	19.7	1.3	4.4	0.9	1.3	52	159
Modified Oatmeal Cake	1 piece; 1/16	181	3.3	32.9	19.7	1.3	4.3	0.8	1.7	0	91
Applesauce Cake	1 piece; 1/16	221	3.5	31.0	19.1	2.2	10.2	0.8	3.2	35	93
Applesauce Cake, no nuts, no salt, & egg substitute	1 piece; 1/16	196	2.8	30.7	18.9	1.9	7.8	0.5	1.9	0	24
Gingerbread	1 piece; 1/16	140	2.7	18.7	5.1	0.6	6.1	0.5	1.3	35	10
Light Fruit Cake	1 piece; 1/75	83	1.5	12.7	7.8	1.0	3.3	0.6	0.7	0	9
Dark Fruit Cake	1 piece; 1/75	99	1.5	18.9	12.6	1.2	2.6	0.5	0.6	0	25

FROSTING PRODUCT	SERVING SIZE	CALORIES	PROTEIN (g)	CARBOHY- DRATES S (g)	TOTAL SUGAR (g)	FIBER (g)	FAT (g)	SATURATED FAT (g)	POLYUNSAT. FAT (g)	CHOLE- TEROL (mg)	SODIUM (mg)
Chocolate	1/16; 3T	110	0.8	17.7	16.2	0.1	5.1	1.9	0.8	0	66
Cocoa	1/16; 3-1/2T	122	0.5	22.4	21.4	0.2	4.2	0.9	1.2	0	47
White	1/16; 4T	150	0.5	25.3	24.3	0.0	5.8	1.1	1.8	0	108
Burnt Sugar	1/16; 4T	153	0.4	25.9	24.9	0.0	5.8	1.1	1.8	0	107
Cream Cheese	1/16; 2-1/2T	86	0.8	12.3	12.3	0.0	3.9	2.4	0.1	12	32
Oatmeal Cake	1/16; 2T	133	1.5	9.3	8.9	1.5	8.2	3.9	1.9	0	46



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