

Cake and Mix Recipes for High Altitudes in New Mexico

To find more resources for your home, family or business, visit the College of Agriculture and Home Economics on the World Wide Web at www.cahe.nmsu.edu.

New Mexico State University is an equal opportunity/affirmative action employer and educator. NMSU and the U.S. Department of Agriculture cooperating.

Revised for electronic distribution July 2003

Las Cruces, NM

5C



Cooperative Extension Service • Circular 293
College of Agriculture and Home Economics

CONTENTS

| | |
|--|-------|
| Introduction | |
| Types of cakes | 2 |
| Ingredients | 2 |
| General instructions | 2 |
| Mixing method | 3 |
| Baking times and temperatures | 3 |
| What to expect from a recipe | 3 |
| Cake recipes | |
| Angel food cakes | 4-5 |
| Chiffon cakes | 6-7 |
| Variety cakes | 8-28 |
| Frosting recipes | 29-30 |
| Homemade mix recipes | 31 |
| Quick mix recipe | 32 |
| Principal cities and towns in New Mexico and their elevations | 33 |

Cake and Mix Recipes for High Altitudes in New Mexico

Revised by Martha Archuleta, Extension specialist

INTRODUCTION

Success in baking has often been considered a measure of one's ability as a cook. Newcomers to New Mexico discover that favorite recipes don't produce a familiar fine cake. Cakes may rise too high and flow over the top of the pan, or rise and then fall. Perhaps a more porous and crumbly product is noted. Failures often can be explained by differences in altitude. The purpose of this circular is to present selected and tested recipes for altitudes of 5,000, 7,500 and 10,000 feet.

As altitude increases, air pressure decrease. So 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. Reducing sugar and increasing liquid as the altitude increases may also improve the cake. However, contrary to popular opinion, there is no set rule to use in modifying a sea level recipe to adapt it to high-altitude use. Modifications depend upon the amounts of and relationships among the various ingredients of the original recipe. Therefore, we have collected recipes that are particularly suitable to New Mexico.

Types of Cakes

General recipes that may be modified to produce other interesting products are included in this circular.

The first group consists of cakes in which egg white, egg yolk or whole eggs are the leavening agents. Angel food and sponge cakes belong in this class. Another group is composed of those that contain shortening 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 cakes, 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 recipes, 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, use the type of flour specified for each recipe.

Eggs should be relatively fresh and stored in the refrigerator.

General Instructions

At higher altitudes, cakes are more sensitive to slight changes it is important to carefully follow the directions given for each recipe. Be sure that measurements are exact and especially note the addition or subtraction of amounts by tablespoons from cups of flour or liquid. Always use measuring spoons or cups when definite amounts of ingredients are specified.

When measuring flour and baking powder, do not pack them, 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 waxed paper cut to fit the bottom of pans, is used. The pan should be greased, fitted with the waxed paper and the paper greased. If preferred, the pan may be dusted with flour after greasing. Do not grease sides of the pan unless specified. After the batter has been poured into the pan, cut through it several times with a spatula to release the pockets of air that may be trapped in it and cause holes in the cake. When the cake is removed from the pan, lift the waxed paper off immediately.

Pan size is given for each recipe, although other sizes may be used if the total area is the same.

Mixing Method

Electric mixers, both upright and portable, were used to develop these recipes. Observe recommended mixing speeds. Use medium or high speeds (the numbering depending on the make of your mixer) for creaming shortening and sugar and adding eggs. Use low speeds 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 on the accuracy of the oven. Remove the cake when it appears to be done, whether or not the exact time specified in the elapsed recipe has expired. To test for doneness, press the surface of the cake lightly. If it springs back, remove cake from the oven. A cake is also done when it pulls away from the sides of the pan. Remove the cake from the pan after it has cooled about 15 minutes and immediately pull off the waxed paper. Cool cake completely on a wire rack before frosting or storing it.

The oven regulators vary, so it is always wise to check the temperature with an oven thermometer. If the oven temperature is 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.

Baking temperatures in electric and gas ovens are comparable.

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 cake than a less rich recipe. However, cakes from less rich recipes will be very acceptable.

The sponge cake should 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 velvety, fine-grained interior.

The recipes have been tested for three specific altitudes. If the altitude at which you live is not exactly 5,000, 7,500 or 10,000 feet, use the recipe adapted for the nearest altitude (table 1).

ANGEL FOOD CAKE

5,000 ft

Oven temperature: 400°

1 cup plus 1 Tbsp sifted cake flour
1 cup sugar
1 3/4 cups egg whites (refrigerator temperature)
1/4 tsp salt
2 tsp cream of tartar
1/2 tsp almond extract
1/2 tsp vanilla
1/2 cup sugar

Directions

- Sift flour and 1 cup sugar together three times.
- Place egg whites, salt and cream of tartar into mixing bowl and beat at high speed until fairly stiff (not stiff peak).
- Slowly add 1/2 cup sugar, close to beater. Add almond extract and vanilla. Beat until quite stiff but not dry.
- Add sifted sugar-flour mixture by fourths. Mix on low speed 10 seconds after each of first three additions and 20 seconds after last addition. Scrape down sides constantly while mixing.
- Pour batter into a 10-inch, ungreased tube pan.
- Bake at 400°, for approximately 30 minutes.
- Remove from oven and cool in inverted pan.

Altitude Adjustments

7,500 ft: Increase flour to 1 cup plus 2 Tbsp. Reduce the 1 cup of sugar to 3/4 cup plus 2 Tbsp.

10,000 ft: Increase flour to 1 1/4 cups. Reduce the 1 cup of sugar to 3/4 cup. Increase the baking temperature to 425°.

Variations

Chocolate Angel Food Cake: Substitute 1/4 cup sifted cocoa for 1/4 cup cake flour in step 1. Omit almond extract and increase vanilla to 1 1/2 tsp.

Spice Angel Food Cake: Sift 1/2 tsp nutmeg, 1/4 tsp cloves and 1 tsp cinnamon with the flour. Omit vanilla and almond extracts.

This unique variation of plain angel food is nice for an autumn dessert when served with whipped cream. A topping of whipped cream mixed with crushed peanut brittle, crushed peppermint candy or fresh or frozen fruit is delicious on slices of angel food cake.

CHIFFON CAKE

5,000 ft

Oven temperature: 350°

- 2 1/2 cups sifted cake flour
- 1 1/2 cups sugar
- 1 1/2 tsp baking powder
- 1 tsp salt
- 1/2 cup cooking oil (room temperature)
- 4 egg yolks, unbeaten (refrigerator temperature)
- 3/4 cup cold water
- 2 tsp vanilla
- 1 cup egg whites (6-7 extra large)
- 1/2 tsp cream of tartar

Directions

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

Altitude Adjustments

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

10,000 ft: *Plain Chiffon*: Reduce baking powder to 1 tsp.

Orange Chiffon: Reduce baking powder to 3/4 tsp.

Lemon and Pineapple Chiffons: Same as 5,000 ft.

Variations

Lemon Chiffon Cake: In place of the 3/4 cup cold water, substitute 1/2 cup plus 2 Tbsp cold water and 2 Tbsp strained lemon juice. Omit vanilla and add 1 Tbsp grated lemon rind.

Orange Chiffon Cake: In place of the 3/4 cup cold water, substitute 1/2 cup cold water and 1/4 cup strained orange juice. Omit vanilla and add 1 Tbsp grated orange rind.

Pineapple Chiffon Cake: In place of the 3/4 cup cold water, substitute 3/4 cup cold, unsweetened pineapple juice.

EGG YOLK SPONGE CAKE

5,000 ft

Oven temperature: 350°

12 egg yolks
1/2 tsp salt
1/2 tsp cream of tartar
1 tsp vanilla
1 tsp lemon extract
1/2 cup plus 1 Tbsp water
1 cup sugar
1 1/2 cups plus 1 1/2 Tbsp sifted cake flour

Directions

- Place egg yolks, salt, cream of tartar, vanilla and lemon extract in mixer bowl and beat until blended.
- Beat at high speed, gradually add the water.
- Add sugar slowly and continue beating at high speed until thick and lemon colored. (This will take 3 minutes or more total beating time.)
- Sift 1/4 of the flour over mixture and beat 10 seconds on low speed.
- Sift in remainder of flour and beat 20 seconds on low speed.
- Pour batter into an ungreased, 8-inch tube pan.
- Bake at 350° for 40-50 minutes.
- Remove from oven and cool in inverted pan.

Altitude Adjustments

7,500 ft: Increase flour to 2 cups minus 1 1/2 tsp.

10,000 ft: Increase flour to 2 cups plus 2 1/2 Tbsp. Increase water to 3/4 cup minus 1 1/2 Tbsp. Increase baking temperature to 375°.

WHOLE EGG SPONGE CAKE

5,000 ft

Oven temperature: 350°

6 egg yolks (refrigerator temperature)
1 1/2 Tbsp water
1 tsp vanilla
1 1/2 Tbsp lemon juice. If you desire a stronger lemon flavor, use 3 Tbsp lemon juice and omit water.
1 Tbsp grated lemon rind
1 cup sugar
1 1/4 cups plus 1 Tbsp sifted cake flour
1/2 tsp salt
6 egg whites (refrigerator temperature)
1/2 tsp cream of tartar

Directions

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

Altitude Adjustments

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

10,000 ft: Increase flour to 1 1/4 cups plus 2 Tbsp.

WHITE CAKE

5,000 ft

Oven temperature: 375°

2 1/2 cups sifted cake flour
2 1/2 tsp baking powder
1/2 teaspoon salt
1 1/2 cups plus 1 Tbsp sugar
1/2 cup plus 2 Tbsp shortening (room temperature)
1 1/4 tsp vanilla
1 cup plus 3 Tbsp milk (refrigerator temperature)
5 egg whites (refrigerator temperature)

Directions

- Grease and flour pans or line bottom of pans with waxed paper.
- Mix and sift flour, baking powder, salt and sugar into mixer bowl.
- Add shortening, vanilla, milk and egg whites.
- Beat 30 seconds on low speed, scraping frequently.
- Beat 7 1/2 minutes on high speed. Scrape twice during this beating.
- Pour batter into pans.
- Bake at 375°.

Oblong 9x13x2-inch (small cake): 30-35 minutes.

Two 8-inch layers: 25-28 minutes.

24 cupcakes (half full): 23-25 minutes.

- Remove from oven and cool in pan about 12 minutes.
- Remove from pan and finish cooling on rack.

Altitude Adjustments

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

10,000 ft: Reduce baking powder to 1 1/2 tsp.
Reduce sugar to 1 1/2 cups minus 1 Tbsp.

WHITE OIL CAKE

5,000 ft

Oven temperature: 375°

2 1/4 cups sifted cake flour
1 1/4 tsp baking powder
1/2 tsp salt
1/2 cup cooking oil
1/2 cup minus 1 Tbsp milk
1/2 cup water
1 tsp vanilla
1/2 cup egg whites (3-4)
1/4 tsp cream of tartar
1 cup sugar

Directions

- Grease and flour or line two 8-inch layer pans with waxed paper.
- Mix and sift flour, baking powder and salt into mixer bowl.
- Add oil, milk, water and vanilla.
- Beat 2 minutes on medium speed, scraping frequently.
- In separate mixing bowl, beat egg whites and cream of tartar until stiff but not dry.
- Gradually add sugar to beaten egg whites and beat to a stiff meringue.
- Add meringue to batter and fold in, using about 40 strokes.
- Pour batter into pans.
- Bake at 375° for approximately 27 minutes.
- Remove from oven and cool in pans about 12 minutes.
- Remove from pans and finish cooling on rack.

Altitude Adjustments

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

10,000 ft: Decrease sugar to 1 cup minus 1 Tbsp. Increase egg whites to 1/2 cup plus 2 Tbsp.

YELLOW CAKE

5,000 ft

Oven temperature: 350° or 375°

3 cups sifted cake flour
2 1/2 tsp baking powder
1 tsp salt
1 1/2 cups sugar
1 cup shortening (room temperature)
1 1/4 cups plus 2 Tbsp milk (refrigerator temperature)
2 tsp vanilla
4 eggs (refrigerator temperature)

Directions

- Grease and flour or line bottom of pans with waxed paper.
- Mix and sift flour, baking powder, salt and sugar into mixer bowl.
- Add shortening, milk, vanilla and eggs.
- Beat 30 seconds on low speed, scraping frequently.
- Beat 7 1/2 minutes on high speed of portable mixer.
- Pour batter into pans.
- Bake.

Oblong 9x13x2-inch pan: 350° for approximately 40 minutes.

Three 8-inch layers: 375° for 25 minutes.

36 cupcakes (half full): 375° for approximately 20 minutes.

- Remove from oven and allow to cool in pans about 12 minutes.
- Remove from pans and allow to finish cooling on rack.

Altitude Adjustments

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

10,000 ft: Reduce baking powder to 1 1/8 tsp.

CHOCOLATE CAKE

5,000 ft

Oven temperature: 350° or 375°

2 1/2 squares unsweetened chocolate, melted
(2 1/2 ounces)
2/3 cup shortening
2 cups sifted cake flour
2 tsp baking powder
1/2 tsp salt
1 1/3 cups sugar
1 tsp vanilla
3 eggs (refrigerator temperature)
1 cup milk (refrigerator temperature)

Directions

- Grease and flour pans or line with waxed paper.
- Melt chocolate and shortening and cool slightly.
- Mix and sift flour, baking powder, salt and sugar into mixer bowl.
- Add chocolate shortening mixture, vanilla, eggs and milk.
- Beat 30 seconds on low speed, scraping frequently.
- Beat 7 1/2 minutes on medium-high speed of an upright mixer or 6 minutes at high speed with a portable mixer, scraping 4-5 times.
- Pour batter into pans.
- Bake.

Oblong 9x13x2-inch: 350° for approximately 30-35 minutes

Two layers, 8-inch: 375° for approximately 28 minutes.

24 cupcakes (two-thirds full): 375° for approximately 25 minutes.

- Remove from oven and cool in pan about 12 minutes
- Remove from pan and finish cooling on rack.

Altitude Adjustments

7,500 ft: Reduce baking powder to 1 3/4 tsp.

10,000 ft: Reduce baking powder to 1 1/2 tsp.
Increase milk to 1 cup plus 1 Tbsp.

CHOCOLATE SOUR CREAM CAKE

5,000 ft

Oven temperature: 350°

2 squares unsweetened chocolate (2 ounces)
1/4 cup hot water
1 3/4 cup sifted cake flour
3/4 tsp baking soda
1/2 tsp salt
1 1/2 cups sugar
3 eggs (refrigerator temperature)
1 cup commercial sour cream (8 ounces)
(refrigerator temperature)
1 teaspoon vanilla

Directions

- Grease and flour or line pans with waxed paper.
- Melt chocolate in hot water over low heat and cool .
- Mix and sift flour, soda, salt and sugar. Set aside.
- Beat eggs at high speed until thick and lemon-colored.
- Combine cooled chocolate mixture with sour cream and vanilla. Add this mixture and the sifted dry ingredients to the beaten eggs.
- Beat 30 seconds on low speed, scraping frequently.
- Beat 3 minutes on medium-high speed of upright mixer or 3 minutes at high speed of portable mixer, scraping several times.
- Pour batter into pans.
- Bake at 350°;

Two layers, 8-inch: 27-32 minutes

18 cup cakes (two-thirds full): approximately 29 minutes.

Altitude Adjustments

7,500 ft: Reduce soda to 5/8 tsp. Increase baking temperature to 375°.

10,000 ft: Reduce soda to 5/8 tsp. Increase baking temperature to 375°.

FUDGE CAKE

5,000 ft

Oven temperature: 350°

4 squares unsweetened chocolate (4 ounces)
1/2 cup shortening
2 cups sifted cake flour
2 tsp baking powder
1 tsp salt
2 1/4 cups sugar
1 1/2 cups milk (refrigerator temperature)
3 eggs (refrigerator temperature)
2 tsp vanilla
1 cup nuts, chopped and floured (optional)

Directions

- Grease and flour pans or line with waxed paper.
 - Melt chocolate and shortening together and cool slightly.
 - Mix and sift flour, baking powder, salt and sugar into mixer bowl. (Reserve 1 Tbsp for flouring nuts, if used.)
 - Add milk, eggs and vanilla.
 - Beat 30 seconds on low speed, scraping frequently.
 - Add melted and slightly cooled chocolate shortening mixture.
 - Beat 7 1/2 minutes on medium high speed of upright mixer or 7 1/2 minutes on high speed of portable mixer, scraping several times.
 - Stir in floured nuts, if used; pour batter into pans.
 - Bake at 350°.
- Two squares, 8-inch: approximately 48 minutes.*
28 cupcakes (two-thirds full): 30-35 minutes.
- Remove from oven and cool in pan about 12 minutes.
 - Remove from pan and finish cooling own rack.

Altitude Adjustments

- 7,500 ft: Reduce baking powder to 1 1/2 tsp. Increase baking temperature to 375°.
- 10,000 ft: Reduce baking powder to 1 1/2 tsp. Reduce sugar to 2 cups. Increase baking temperature to 375°.

BURNT SUGAR CAKE

5,000 ft

Oven temperature: 375°

- 2 1/2 cups sifted cake flour
- 1 7/8 tsp baking powder
- 1/2 tsp salt
- 1 1/2 cups sugar
- 1/2 cup shortening (room temperature)
- 2 eggs (refrigerator temperature)
- 1 tsp vanilla
- 1 cup milk (refrigerator temperature)
- 3 Tbsp burnt sugar syrup

Directions

- Grease and flour pans or line with waxed paper.
- Mix and sift flour, baking powder, salt and sugar into mixer bowl.
- Add shortening, eggs, vanilla, cold milk and burnt sugar syrup.
- Beat 30 seconds on low speed, scraping frequently.
- Beat 4 1/2 minutes on high speed, scraping 4 or 5 times.
- Pour batter into pans.
- Bake at 375°.

Oblong, 9x13x2-inch: 30-35 minutes.

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

24 cupcakes (half full): approximately 25 minutes.

- Remove from oven and cool in pan about 12 minutes.
- Remove from pan and finish cooling on rack.

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

Altitude Adjustments

- 7,500 ft: Reduce baking powder to 1 1/4 tsp.
- 10,000 ft: Reduce baking powder to 7/8 tsp. Reduce sugar to 1 1/4 cups.

CARROT CAKE

5,000 ft

Oven temperature: 350°

2 cups plus 1 Tbsp sifted all-purpose flour
2 cups sugar
1 1/4 tsp soda
1/4 tsp salt
2 tsp cinnamon
1/2 cups cooking oil
5 eggs (extra large)
3 cups (packed) finely grated raw carrots (6-8)

Directions

- Grease and flour or line with waxed paper a 9x13x2-inch pan.
- Mix and sift flour, sugar, soda, salt and cinnamon into mixer bowl.
- Add oil and blend 1 minute on low speed.
- Add eggs, one at a time, and beat on medium speed for 30 seconds after each.
- Add carrots and mix on low speed about 20 seconds.
- Pour batter into pan.
- Bake at 350° about 50 minutes or until done.
- Remove from oven and allow to cool in pan about 12 minutes.
- Remove from pan and frost with cream cheese frosting.

Cream Cheese Frosting: Soften and blend together 1/2 cup (1 stick) of margarine and one 8-ounce package cream cheese. Sift a 1-pound box of confectioner's sugar and gradually add to the margarine and cheese mixture. Blend well. Add 1/2 cup chopped nuts, if desired. Add a few drops of milk if frosting is too stiff.

Altitude Adjustments

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

10,000 ft: Reduce soda to 1 tsp.

OATMEAL CAKE

5,000 ft

Oven temperature: 350°

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

Directions

- Pour boiling water over oats in mixer bowl, cover and let stand 20 minutes.
- Grease and flour bottom of a 9x9x2-inch pan.
- Add margarine, brown sugar, vanilla and eggs to water-oat mixture.
- Beat 1 minute on medium speed of upright mixer or high speed of portable mixer.
- Mix and sift sugar, flour, soda, salt, cinnamon and nutmeg. Add to above mixture and mix 1 minute on low speed.
- Pour batter into pan and bake about 50 minutes or until done.
- Frost hot cake in pan with frosting. (See directions on next page.)
- Turn oven to broil, return frosted cake to oven and broil until frosting is bubbly and lightly browned.

Oatmeal Cake Frosting

1/4 cup (1/2 stick) margarine or butter, melted
1/2 cup firmly packed brown sugar
3 Tbsp cream (or undiluted evaporated milk)
1/3 cup chopped nuts
3/4 cup shredded coconut

Blend together margarine, brown sugar and cream. Add chopped nuts and shredded coconut; mix. Spread on top of hot cake. Broil until bubbly.

Altitude Adjustments

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

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

APPLESAUCE CAKE

5,000 ft

Oven temperature: 350°

2 cups sifted all-purpose flour
1/2 tsp cinnamon
1/4 tsp nutmeg
1/2 tsp cloves
1 tsp soda
1/2 tsp baking powder
1/2 tsp salt
1 cup sugar
1/2 cup shortening (room temperature) or 1/2 cup cooking oil
1 1/4 cups applesauce (canned, sweetened)
2 eggs
1 cup raisins
1/2 cup nuts (optional)

Directions

- Grease and flour bottom of pan or line with waxed paper.
- Reserve 1 Tbsp of flour and stir into the raisins and nuts until they are well coated.
- Mix and sift the flour, cinnamon, nutmeg, cloves, soda, baking powder, salt and sugar into mixer bowl.
- Add shortening, applesauce and eggs.
- Mix 30 seconds on low speed, scraping frequently.
- Beat 3 1/2 minutes on medium speed, scraping bowl 3 or 4 times.
- Stir in flour-coated raisins and nuts. Pour batter into pans.
- Bake at 350°

One square, 9x9x2-inch pan: 35-40 minutes.

20 cupcakes (two-thirds full): 20-23 minutes.

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

- Remove from oven. Immediately loosen cake from pan by running a thin spatula around the edges.
- Turn cake onto wire rack to cool.
- Cover tightly or wrap the cooled cake to prevent drying.

Altitude Adjustments

7,500 ft: Omit baking powder. Increase baking temperature to 375°.

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

GINGERBREAD

5,000 ft

Oven temperature: 350°

2 1/3 cups sifted all-purpose flour
 3/4 tsp soda
 1/2 tsp salt
 1/4 tsp cinnamon
 1/4 tsp nutmeg
 1/4 tsp allspice
 1 tsp ginger
 1/2 cup shortening (room temperature) or cooking oil
 2 eggs
 3/4 cup molasses
 2/3 cup water

Directions

- Grease and flour bottom of 9x9x2-inch pan.
- Mix and sift flour, soda, salt, cinnamon, nutmeg, allspice, ginger and sugar into mixer bowl.
- Be sure all ingredients are at room temperature. Add shortening, eggs, molasses and water.
- Beat 30 seconds on low speed, scraping frequently.
- Beat 3 minutes on medium speed, scraping 4 or 5 times.
- Pour batter into pan. Spread from center so batter is slightly higher at edges.
- Bake at 350° for 40-45 minutes.
- Leave in pan and cut in squares. Serve warm.

Altitude Adjustments

7,500 ft: Reduce soda to 1/2 tsp. Increase temperature to 375°.

10,000 ft: Reduce soda to 1/2 tsp and sugar to 1/3 cup. Increase baking temperature to 375°.

LIGHT FRUIT CAKE

5,000 ft

Oven temperature: 275°

Yield: About 5 pounds

1/2 lb dried apricots
1/2 lb candied pineapple
1/2 lb candied cherries
1/2 lb pecan halves
3/4 lb almonds, blanched and slivered
1/4 lb Brazil nuts
1/4 lb diced candied citron
1/4 lb white raisins
1/4 lb diced candied orange peel
1/4 lb diced candied lemon peel
2 cups sifted all-purpose flour
(reserve 1/2 cup of flour to mix with fruit and nuts)
1/4 tsp salt
2/3 cup sugar
4 eggs
1/3 cup orange juice
1/3 cup honey
1 cup flaked coconut
2/3 cup shortening

Directions

- 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 pans. Fit into pans and grease inside of papers. Cut papers to fit over tops of pans and grease on one side.
- Dice apricots. Cover with water and bring to boil to soften. Drain well. Dice pineapple.
- Sift and measure the flour, reserving 1/2 cup. Add salt to remaining 1 1/2 cups and sift.
- Place all the fruit and nuts in a large mixing bowl. Add the 1/2 cup of flour reserved for that purpose and mix until all pieces are evenly coated.

- Blend orange juice with honey.
- Cream shortening and sugar until light and fluffy. Add unbeaten eggs one at a time, mixing thoroughly after each addition. After last egg has been added, continue beating until batter is well blended.
- Beat in the flour mixture and orange juice mixture alternately. Mix well after each addition.
- Add coconut to fruit and nut mixture. Pour batter into this mixture and blend thoroughly to distribute fruit and nuts evenly.
- Pack mixture to within 3/4 inch of top of pans, which have been greased and lined with paper as described in step 1.
- Round cake mixture slightly on top when packing into pans.
- Cover tops of pans with paper, greased side toward batter.
- Bake cakes in preheated oven at 275° for about 2 hours or until done. Papers may be removed from tops of pans the last few minutes of baking if cakes need to brown more.
- Remove cakes from oven. Set pans on racks and allow to cool 20 minutes. Remove cakes from pans and carefully take off paper.
- 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 cake, use a very sharp knife to avoid tearing fruit and nuts.

Altitude Adjustments

7,500 ft: Increase eggs to 5.

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

DARK FRUIT CAKE

5,000 ft

Oven temperature: 275°
Yield: About 7 1/2 pounds

1 lb pitted dates
1/2 lb candied pineapple
3/4 lb diced candied citron
1/4 lb diced candied orange peel
3/4 lb diced candied lemon peel
1/2 lb currants
1 lb seeded raisins
1/2 lb candied cherries
1/2 lb almonds, blanched and slivered
1/2 lb pecanhalves
3 cups sifted all-purpose flour
1 1/2 tsp cinnamon
1 tsp nutmeg
1/2 tsp allspice
1/2 tsp salt
1 cup shortening
1 cup sugar
6 eggs, beaten
1/2 cup orange juice
1/2 cup honey

Directions

- 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 bottom of pans. Cut strips to extend 1/4 inch above pan sides. Fit into pans and grease inside of papers. Cut papers to fit over tops of pans and grease on one side.
- Slice dates and pineapple. Add citron, orange peel and lemon peel. Leave currants, raisins and cherries whole. Place all fruit and nuts in a large mixing bowl.
- Sift and measure flour, reserving 1 cup. Mix and sift remaining 2 cups flour with cinnamon, nutmeg, allspice and salt.

- Add the 1 cup of reserved flour to the fruit and nuts and mix until all pieces are evenly coated.
- Blend orange juice with honey.
- Cream shortening until light. Gradually add sugar and cream until light and fluffy. Add beaten eggs and mix thoroughly.
- Beat in alternately the flour mixture and orange juice mixture. Mix well after each addition.
- Pour batter over floured fruit and nuts and blend thoroughly to distribute fruit and nuts evenly.
- Pack mixture to within 3/4 inch of top of pans, which have been greased and lined with paper as described in step 1.
- Round cake mixture slightly on top when packing into pans.
- Cover tops of pans with paper, greased side toward batter.
- Bake cakes in preheated oven at 275° 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.
- Remove cakes from oven. Set pans on racks and allow to cool 20 minutes. Remove cakes from pans and carefully take off paper.
- 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 cake, use a very sharp knife to avoid tearing fruit and nuts.

Altitude Adjustments

- 7,500 ft: Increase eggs to 7.
10,000 ft: Same as 7,500 ft.

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 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 waxed 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 a week before serving.

FROSTINGS

NOTE: If any of the frostings seem a little thin, gradually add additional confectioners' sugar until the correct spreading consistency is reached.

CHOCOLATE FROSTING

Melt together:

3 Tbsp shortening (may use hydrogenated shortening, margarine, or butter)

3 squares unsweetened chocolate (3 oz.)

Blend in:

1/3 cup milk

1 tsp vanilla

1/4 tsp salt

2 cups sifted confectioners' sugar (approximately)

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

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 Tbsp milk

Stir until well-blended and of spreading consistency.

WHITE FROSTING

Melt in saucepan:

1/2 cup shortening (hydrogenated shortening, margarine or butter)

Remove from heat and blend in:

2 1/2 Tbsp flour

1/4 tsp salt

Stir in slowly:

1/2 cup milk

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

Stir in:

1/2 tsp vanilla

3 cups sifted confectioners' sugar (approximately)

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

BURNT SUGAR FROSTING

Melt in sauce pan:

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

Remove from heat and blend in:

2 1/2 Tbsp flour

1/4 tsp salt

Stir in slowly:

2 Tbsp burnt sugar syrup (see directions for making Burnt Sugar Cake)

6 Tbsp milk

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

Stir in:

1/2 tsp vanilla

3 cups sifted confectioners' sugar (approximately)

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

HOMEMADE MIXES FOR HIGH-ALTITUDE BAKING

Why use a mix? Mixes are convenient. Baking is quicker and simpler with mixes. Moreover, a homemade mix uses the cook's favorite flour, baking powder, shortening, and other ingredients, as well as fresh milk, butter and eggs. Thus, the cook can economize and be certain of the ingredients' freshness.

Proportions for 13 cups of all-purpose mixes for 5,000 feet

9 cups all-purpose flour (sift before measuring)

3 Tbsp baking powder (double-acting)

1 Tbsp salt

1/4 cup sugar

2 cups hydrogenated shortening (does not require refrigeration)

Directions

- Stir the baking powder, salt and sugar into flour.
- Sift together three times into a large mixing bowl or onto a large piece of plain paper.
- Cut in shortening with a pastry blender or two knives until the mix is the consistency of cornmeal.
- Store in tightly covered containers at room temperature.
- To measure the mix, pile it lightly into standard measuring cup and level off with a spatula.

Altitude Adjustments

7,500 ft: Decrease baking powder to 2 Tbsp plus 3/4 tsp.

10,000 ft: Decrease baking powder to 1 Tbsp plus 1 1/2 tsp.

QUICK MIX RECIPES

Other ingredients to add

| All-purpose | | | | | | | |
|---------------------|--------|------------|-----|--------|---------|---------|-----------|
| Product | mix | Milk | Egg | Sugar | Water | Fat | Flavoring |
| Biscuits | 3 cups | 2/3 cup | | | | | |
| Shortcake | 3 cups | 1/2 cup | 1 | 3 Tbsp | | | |
| Muffins | 3 cups | 1 cup | 1 | 2 Tbsp | | | |
| Pancakes | 3 cups | 1 1/2 cups | 2 | | | | |
| Pastry | 2 cups | | | | 1/4 cup | 1/4 cup | |
| Cookies, vanilla | 3 cups | 3/4 Tbsp | 1 | 1 cup | | | 1 tsp |

Table 1. Principal cities and towns in New Mexico and their elevations.*

| City/Town | Elevation (ft) | City/Town | Elevation (ft) |
|---------------|----------------|----------------------------|----------------|
| Alamogordo | 4,350 | Los Alamos | 7,400 |
| Albuquerque | 5,000 | Los Ranchos de Albuquerque | 4,950 |
| Artesia | 3,350 | Lovington | 3,900 |
| Aztec | 5,650 | Magdalena | 6,556 |
| Bayard | 5,800 | Melrose | 4,599 |
| Belen | 4,800 | Mora | 7,200 |
| Bernalillo | 5,050 | Mosquero | 5,550 |
| Bosque Farms | 4,864 | Mountainair | 6,500 |
| Carlsbad | 3,100 | Portales | 4,010 |
| Carrizozo | 5,450 | Raton | 6,650 |
| Chama | 7,900 | Reserve | 5,749 |
| Cimarron | 6,450 | Rio Rancho | 5,290 |
| Clayton | 5,050 | Roswell | 3,600 |
| Cloudcroft | 8,650 | Roy | 5,900 |
| Clovis | 4,300 | Ruidoso | 7,000 |
| Columbus | 4,020 | San Jon | 4,200 |
| Corona | 6,664 | Santa Fe | 7,000 |
| Corrales | 5,005 | Santa Rita | 6,300 |
| Cuba | 7,000 | Santa Rosa | 4,600 |
| Deming | 4,300 | Silver City | 5,900 |
| Dexter | 3,500 | Socorro | 4,600 |
| Eagle Nest | 8,250 | Springer | 5,800 |
| Elida | 4,345 | Taos | 7,000 |
| Española | 5,600 | Texico | 4,150 |
| Estancia | 6,100 | Tierra Amarilla | 7,460 |
| Farmington | 5,400 | Truth or Consequences | 4,250 |
| Fort Sumner | 4,050 | Tucumcari | 4,100 |
| Gallup | 6,500 | Tularosa | 4,500 |
| Grants | 6,450 | Vaughn | 5,950 |
| Hobbs | 3,650 | Wagon Mound | 6,200 |
| Hurley | 5,700 | | |
| Jemez Springs | 6,200 | | |
| Las Cruces | 3,900 | | |
| Las Vegas | 6,450 | | |
| Logan | 3,830 | | |
| Lordsburg | 4,250 | | |

*Rounded to the nearest 10 feet. Based on data from the U.S. Geological Survey's Geographic Names Information System—U.S. and Territories at www-nmd.usgs.gov/www/gnis/gnisform.html

INDEX

A

all-purpose mixes 31
Angel food cake 4
 Chocolate 5
 Spice 5
Applesauce cake 21

B

Biscuits 32
Burnt sugar cake 17

C

Carrot cake 18
Chiffon cake 6
 Lemon 7
 Orange 7
 Pineapple 7
Chocolate cake 13
 Chocolate angel food 5
 Chocolate sour cream 14
 Fudge 15
Cookies, vanilla 32

D

Dark fruit cake 26

E

Egg yolk sponge cake 8

F

Frostings and glazes 29
 Burnt sugar frosting 30
 Chocolate frosting 29
 Cocoa frosting 29
 Cream cheese frosting 18
 Fruit cake glaze 28
 Oatmeal cake frosting 20
 White frosting 30
Fruit cake 24
 Dark 26

Light 24
Fudge cake 15

G

Gingerbread 23

H

Homemade mixes 31
 Biscuits 32
 Cookies, vanilla 32
 Muffins 32
 Pancakes 32
 Pastry 32
 Shortcake 32

L

Light fruit cake 24

M

Muffins 32

O

Oatmeal cake 19

P

Pancakes 32
Pastry 32

S

Shortcake 32
Sponge cake 8
 Egg yolk 8
 Whole egg 9

V

Variety cakes
 Applesauce cake 21
 Burnt sugar cake 17
 Carrot cake 18

Fruit cake, dark 24
Fruit cake, light 24
Gingerbread 23
Oatmeal cake 19

W

White cake 10
White oil cake 11
Whole egg sponge cake 9

Y

Yellow cake 12

