

# 29

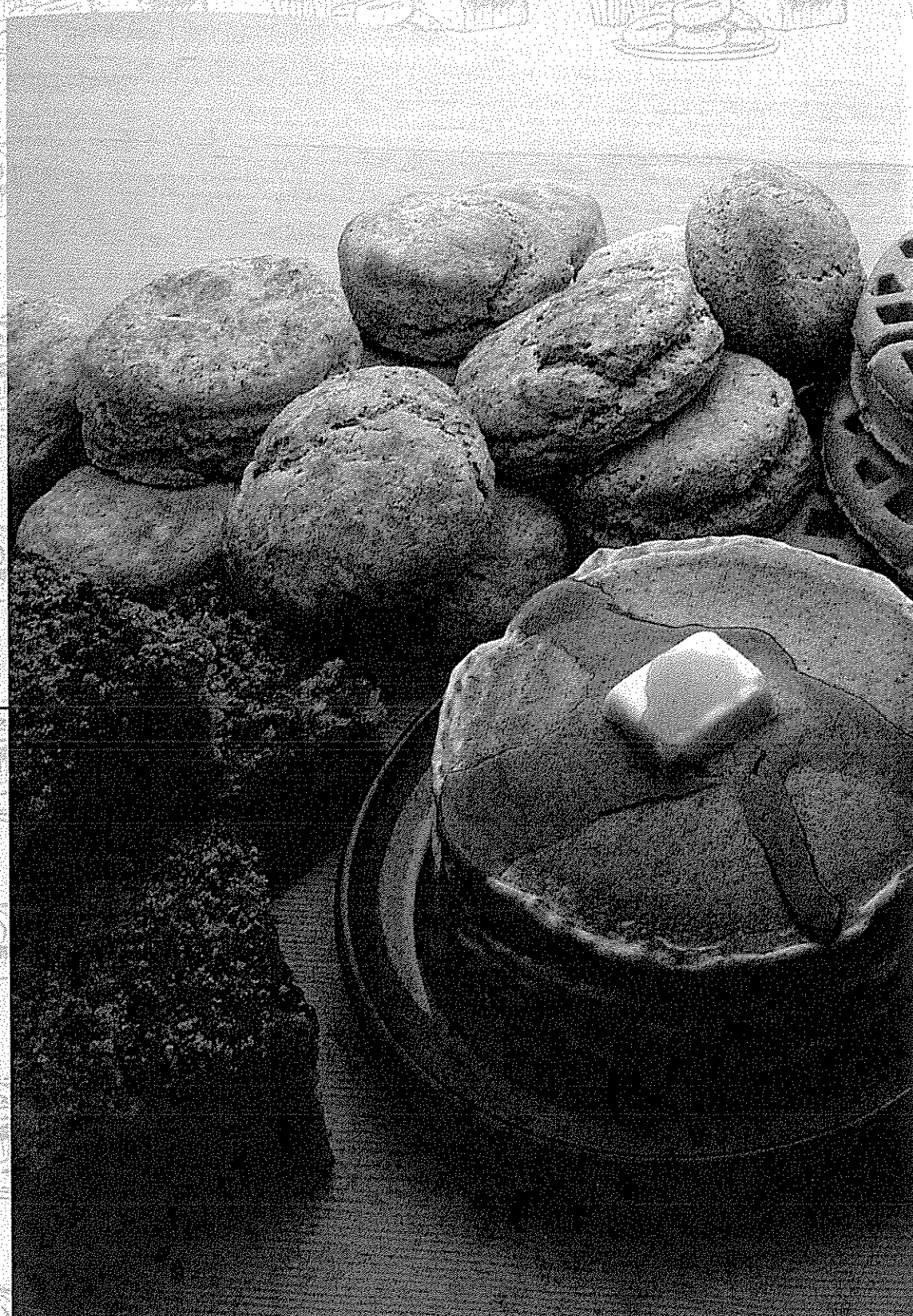
# Quick Breads

## CHAPTER

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Basics

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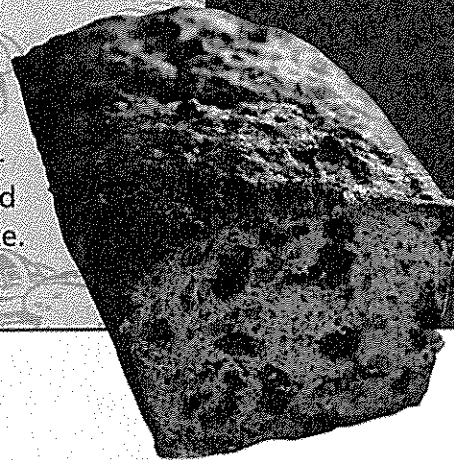
# Quick Bread Basics

## OBJECTIVES

After reading this section, you will be able to:

- Identify the characteristics of quick breads.
- Explain the functions of quick bread ingredients.
- Compare quick bread doughs and batters.
- Prepare quick breads.

**QUICK** breads are baked goods that can be served at breakfast, at lunch, or with dinner. Some examples of quick breads are pancakes, biscuits, muffins, scones, waffles, and loaf breads. These tender and flavorful baked goods don't require a lot of time or equipment to produce. As the name implies, quick breads can be made quickly.



## KEY TERMS

- pour batter
- drop batter
- tunnels

## ✕ TYPES OF QUICK BREADS

Quick breads are those products that have a bread- or cake-like texture, but don't contain yeast. Therefore, quick breads don't need to rise or proof before baking. Instead of using yeast, quick breads use chemical leavening agents such as double-acting baking powder and baking soda.

Quick breads are typically baked on sheet pans or in loaf and muffin pans. Quick breads can be plain, lightly glazed, sprinkled with confectioner's sugar, or frosted. They can be served warm or cold. Quick breads include biscuits, scones, soda breads, muffins, pancakes, and waffles.

Typical ingredients in a quick bread product are flour, eggs, fat, sugar, salt, a chemical leavening agent, and a liquid.

■ **Flour.** Flour is the foundation of quick breads. A combination of hard and soft wheat flours produces the best quick bread products.

■ **Eggs.** Eggs provide added volume and structure. They are a natural leavening agent.

■ **Fat.** Fat is used to keep the baked product moist and tender. It also aids in creaming, or mixing.

■ **Sugar.** Sugar and other sweeteners, such as brown sugar or molasses, improve the flavor and color of quick breads. Sugar also aids in creaming.

■ **Salt.** Salt strengthens gluten and adds flavor.



**Fig. 29-1.** These ingredients are used in quick breads.

■ **Leavening agents.** Leavening agents, such as double-acting baking powder or baking soda, allow quick breads to leaven, or rise.

■ **Liquid.** The liquid, typically milk, adds moisture. It allows the dry ingredients to be blended into a batter or dough. Liquid also helps produce gluten.

The same ingredients are used in most quick breads. See Fig. 29-1. However, the proportion of these ingredients varies. The proportion of ingredients is determined by the product being made.

The flour used in quick breads ranges from wheat to oatmeal. Grains such as bran and cornmeal are often added for flavor and texture. Spices, nuts, fruits, and other ingredients may be added to alter the flavor of the product.

Quick breads are produced by one of three methods: the biscuit method, the blending method, or the creaming method.

- The biscuit method requires cutting the fat into the dry ingredients. This is done until the fat and dry ingredients resemble corn meal. Then the liquid ingredients are added. This process produces flaky items such as biscuits.

- The blending method combines the liquid, sugar, liquid fat, and eggs at the same time. Then the dry ingredients are added to the mixture. The liquid fat and sugar act as a tenderizer. The blending method is most commonly used to make muffins and fruit breads.

- The creaming method involves using solid shortening instead of liquid fat. In this method, the sugar and pre-softened shortening are creamed together with a mixer on low speed until the mixture is light and fluffy. The eggs are then added one at a time. After the eggs are added, the dry and liquid ingredients are alternately added. Muffins made by the creaming method are more cake-like in texture.

The type of quick bread and the consistency of its dough or batter determine which method you should use.

- **Doughs.** Quick breads can be made from soft doughs or batters. See Fig. 29-2. Soft doughs are thicker in consistency than batters. They can be

**Fig. 29-2.**

QUICK BREAD PRODUCTS	AMOUNT OF FLOUR	AMOUNT OF LIQUID	CONSISTENCY
Biscuits (soft doughs)	Three parts	One part	Sticky, pliable
Pancakes (pour batters)	One part	One part	Thin, pours
Muffins & Fritters (drop batters)	Two parts	One part	Thick, forms in drops

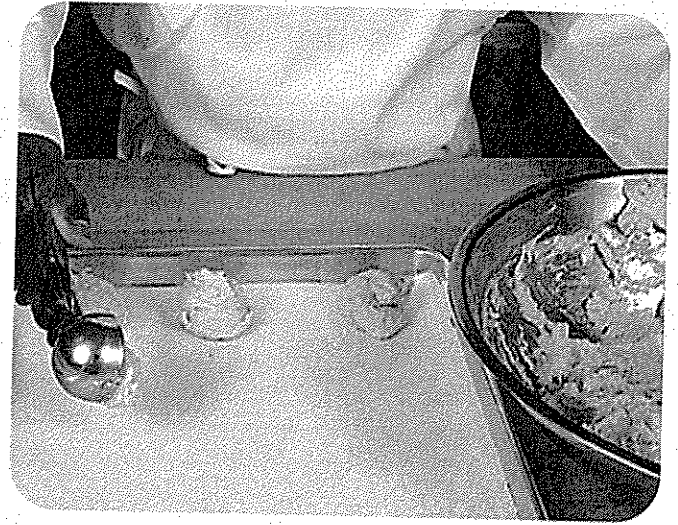
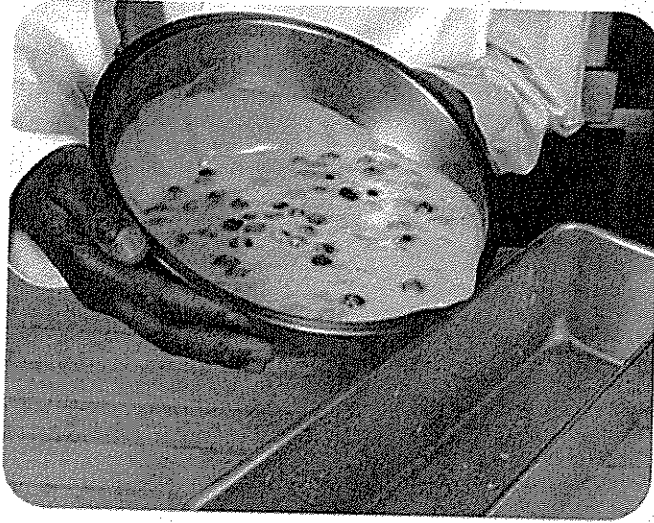


Fig. 29-3. Pour batters and drop batters have different consistencies.

rolled and cut into shapes prior to baking while batters cannot. Baking powder biscuits and scones are examples of soft dough quick breads.

■ **Batters.** Quick bread products, such as pancakes and muffins, are made from either a pour batter or drop batter. **Pour batters** vary in consistency. Some are so thin they can be poured from the mixing bowl to the cookware just like water. Others are almost as thick as drop batters. **Drop batters** are so thick they need to be scraped or dropped from a portion or ice cream scoop to the cookware. See Fig. 29-3.

## CULINARY TIP

**NUTRIENTS IN QUICK BREADS**—Quick breads are an excellent source of nutrients. They contain carbohydrates, protein, B vitamins, and iron. If you add fruits and nuts to your mixture, you can provide additional vitamins and minerals. By using whole grain flours, you will add fiber to the baked product.

## ✕ LOAF BREADS

Loaf breads are similar in preparation to muffins. Like other quick bread products, loaf breads are made from flour, leavening agents, eggs, fat, sugar, salt, and a liquid. Baking powder is the chemical leavening agent used in loaf breads.

Loaf breads are made from a drop batter or a very thick pour batter. The baked product should have a uniform texture. The crust should be lightly browned, but not thick. The crumb should be tender and moist, not tough or dry. Loaf breads also should have rounded tops with a split down the center. See Fig. 29-4.



Fig. 29-4. The interior of a loaf bread should be moist and tender. What other characteristics indicate quality?

## KEY Science SKILLS

### BAKING SODA VERSUS BAKING POWDER

Baking soda is sodium bicarbonate, or  $\text{NaHCO}_3$ . Since baking soda is a base, it can be mixed with an acid to produce carbon dioxide or  $\text{CO}_2$ . The  $\text{CO}_2$  is what actually leavens the baked good. If you look through formulas that call for baking soda, there also should be an ingredient that's acidic, such as vinegar, fruit juice, or buttermilk. This acid is needed for the  $\text{CO}_2$  to be produced.

If a formula calls for baking powder, an acidic ingredient probably isn't used. This is because baking powder is a combination of baking soda, cornstarch, and a powdered acid such as cream of tartar. As the baked good mixture is heated, the acid within the baking powder mixes with the baking soda and produces the  $\text{CO}_2$  necessary to leaven the baked good.

#### APPLY IT!

Try this experiment to see how carbon dioxide is produced with baking soda and baking powder:

1. Add one teaspoon of baking powder to one bowl and one teaspoon of baking soda to another bowl. Add a tablespoon of water to each bowl. Record your observations.
2. Repeat the experiment, but this time pour a tablespoon of vinegar in each bowl instead of water. Record your observations.

■ **Mixing.** The time spent mixing loaf bread batter is crucial. Undermixing will result in a lumpy batter with dry pockets of flour. Overmixing will overdevelop the gluten. The batter will be stringy or elastic. The end product will be tough and will have **tunnels**, or large, irregular holes, in the crumb. When mixing loaf bread batter, you should mix the batter lightly. Mix it only long enough to blend all the ingredients.

■ **Flavor.** You can alter the flavor of loaf breads by substituting or adding ingredients. For instance, add walnuts, cranberries, or zucchini to make walnut bread, cranberry bread, or zucchini bread. You can also use bananas or pumpkin to make banana bread or pumpkin bread.

### ✕ PREPARING LOAF BREADS

Once the mixture is ready, allow it to relax for 3–5 minutes. Then you can bake it. To produce loaf breads, follow these guidelines:

1. Gather and assemble all ingredients, utensils, and smallwares.
2. Grease the bottom of deep pans, such as loaf pans.
3. Prepare the loaf bread batter using either the creaming or blending method. The choice will depend on the formula.
4. Heat a conventional oven to 400°F.
5. Scale the appropriate amount of loaf bread batter into the greased pans. Allow the batter to rest. Place the loaf pans in the oven.
6. Place a shallow trough of oil down the center of the top of the loaf bread batter. This will prevent uneven splits.
7. Bake at 400°F for the length of time specified in the formula. Check for doneness. If the loaf is firm to the touch and springs back, it is done.
8. Remove the loaf breads from the oven. See Fig. 29-5.

## ✕ QUICK BREADS & GLUTEN

Unlike yeast breads, very little gluten is developed in quick breads. This is a desired result. Quick breads should be tender, not chewy. Too much gluten will result in a less tender product.

Quick breads use leavening agents, such as baking soda or baking powder instead of yeast and fermentation to rise. They won't work if there is too much gluten in the mixture. Too much gluten will make the mixture heavy instead of light.

## ✕ LEAVENING QUICK BREADS

Leavening agents allow quick breads to rise quickly without proofing. A leavening agent is a substance that causes dough or batter to rise. The two most common leavening agents are double-acting baking powder and baking soda.

■ **Purchasing leavening agents.** Purchase leavening agents, such as baking powder, in the smallest unit possible. It's true that you may receive better prices when buying in larger quantities. However, if the leavening agents are not used within a short time, they will deteriorate. This will result in low-quality baked products. The money saved buying bulk quantities is then wasted. Leavening agents must maintain their freshness in order to be effective.

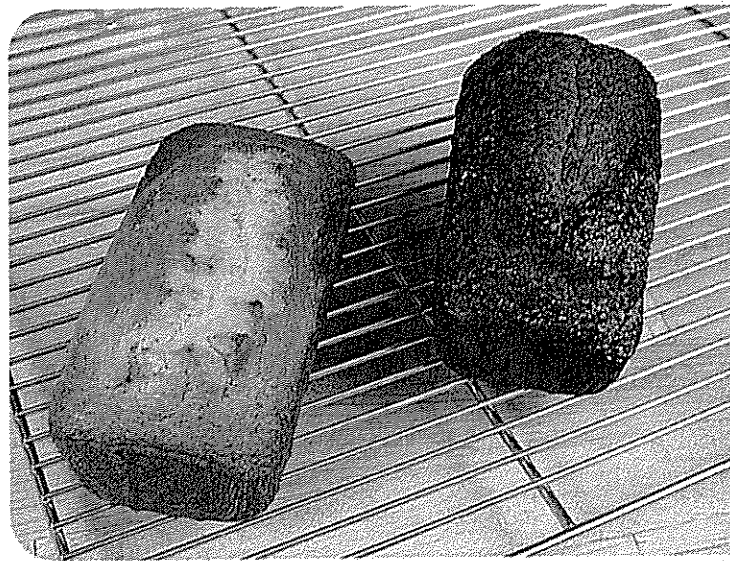


Fig. 29-5. Loaf breads are done when they are firm to the touch and spring back.

■ **Storing leavening agents.** Store leavening agents in air-tight containers. Keep the containers in a cool, dry place. Always keep the lids on the containers, even if you use the leavening agents frequently throughout the day. This will prevent contamination, moisture absorption, and spillage.

If cared for properly, baking soda and baking powder can have a shelf life of 2–4 months. They can lose approximately 10% of their potency each month.

### SECTION 29-1 Knowledge Check

1. Name three characteristics of quick breads.
2. Explain how quick bread doughs differ from batters.
3. How are quick breads leavened?

#### MINI LAB

Evaluate one formula for biscuits, one for muffins, and one for a loaf bread. Determine what equipment would be needed to prepare the batters and doughs. Compare results with your classmates.

# Making Biscuits

## OBJECTIVES

After reading this section, you will be able to:

- Explain the biscuit method of mixing.
- Identify quality characteristics of biscuits.
- Prepare quality biscuits.

**BISCUITS** are a popular baked item in many foodservice operations. They are typically served at breakfast. Biscuits vary greatly in shape, size, and filling, and are simple to make. Proper mixing is the key to producing quality biscuits. Overmixing will produce tough biscuits.

## KEY TERMS

- biscuit method
- deflate



## ✕ THE BISCUIT METHOD

The basic ingredients in biscuits are flour, a leavening agent, shortening, sugar, salt, and milk. Sometimes eggs and butter are used to improve quality and flavor.

Eggs also build structure. They increase the volume of biscuits, acting as a natural leavening agent. If you decide to add eggs to your biscuit mixture, you will need to adjust the amount of other leavening agents in the formula.

The biscuit method is used most often when making dough products such as biscuits and scones. As you have read, the **biscuit method** involves cutting in the fat with the dry ingredients. This method typically is performed by using a mixer on low speed. Be careful not to overmix.

To make biscuits using the biscuit method, use the following procedure:

1. Gather and assemble all ingredients, utensils, and smallwares.

2. Prepare the sheet pan. Grease the sheet pan with a commercial pan grease or line the pan with parchment paper.
3. Scale, or measure, the ingredients. The measurements must be exact if the biscuits are to maintain quality.
4. Sift all the dry ingredients into the mixing bowl.
5. Cut the shortening into the dry ingredients. This will result in a mixture containing small pieces of fat. This step can be performed using the mixer with either the paddle or pastry knife attachments.
6. Whisk the eggs and milk together in a separate stainless steel bowl.
7. Add the combined liquid ingredients to the flour mixture. Mix lightly. Be careful not to overmix. Overmixing will make the biscuits tough.



**Fig. 29-6.** Using your fingertips to knead biscuit dough keeps the dough from becoming tough.

8. Take the mixed dough to a pre-floured bench and set it down. Flour the top of the dough by dusting it with bread flour.
9. Knead the dough lightly using your fingertips only. Then fold it in half and rotate it 90°. Continue this process about 5–10 times. Do not overknead. Overkneading will make the biscuits tough. The dough should be soft and elastic, but not sticky. See Fig. 29-6.
10. Allow the dough to rest 15 minutes before rolling.

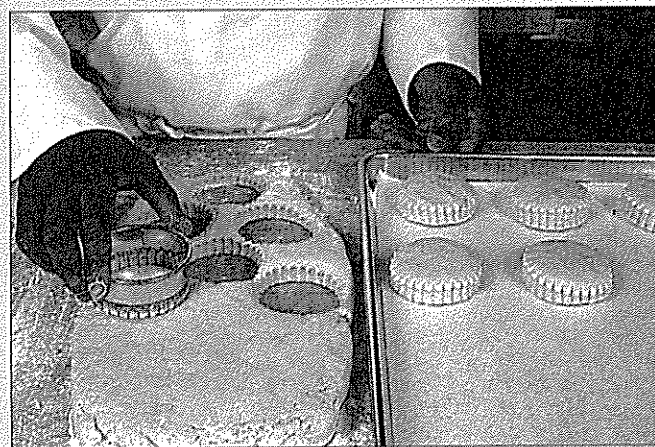
## CULINARY TIP

**CUTTING BISCUITS**—When cutting biscuits into shapes, make your cuts as close together as possible. The goal is to eliminate scrap. Scraps will need to be reworked, rerolled, and cut, and reworked dough is tougher. For this reason, a pastry cutter or knife often is the best tool to use when cutting biscuit dough into shapes.

## Cutting & Forming Biscuits

After the dough is prepared, you are ready to shape your biscuits. Biscuits can be rolled and cut into a variety of shapes.

1. Roll the prepared dough onto a pre-floured surface. The dough should be rolled out to about ½-inch in thickness.
2. Check the dough's depth. Make sure the dough is uniform in thickness. Biscuits double in height during baking.
3. Cut the dough into shapes using a round hand cutter or pastry knife. When using a hand cutter, be sure to cut straight into the dough. Do not twist the cutters. Twisting can prevent the dough from rising correctly. See Fig. 29-7A below.



4. Place the raw biscuits on a sheet pan lightly greased with commercial pan grease or lined with parchment paper. The sides of the dough should not be touching. Brush the tops of the raw biscuits with egg wash prior to baking. This will make the crust golden in color. See Fig. 29-7B below.





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### Biscuits & Scones

The American biscuit is not a true biscuit by European standards. For example, a biscuit in England is what Americans call a cracker or cookie. The closest equivalent to the American biscuit in England is called a scone. The scone, however, is much richer than the biscuit.

In 18th-century England, scones were often served with afternoon tea. Today, afternoon tea with scones is still popular in British foodservice establishments.



It is suggested that the American biscuit came into existence during colonial times. Early British colonists brought scone recipes with them, but were unable to obtain the fresh butter and eggs that gave scones their richness. Being resourceful, they substituted lard and omitted eggs. This new American biscuit was different from scones, but still very tasty.

Today, biscuits are a popular side item. They accompany menu items at just about every meal, from breakfast to dinner. Scones are also popular with hotels and upscale restaurants that offer afternoon tea.

## Baking Biscuits

As soon as the biscuits are shaped and placed on the sheet pan, allow them to relax for 10 minutes before baking. This will allow the gluten to react and help the chemical reaction of the baking powder or baking soda. Place the sheet pans in a hot conventional oven. Oven temperature should be between 400°F and 425°F. Bake the biscuits for approximately 8–10 minutes. The tops of the biscuits should be lightly browned.

Remove the sheet pans from the oven and allow the biscuits to cool on wire racks. Serve the biscuits immediately. Butter, jam, preserves, and honey can accompany the biscuits.

### ✕ QUALITY BISCUITS

When checking the quality standards for biscuits, you should first make sure the mixture is thoroughly blended. This must be achieved without overmixing. If the mixture is overmixed, the baked product will lack quality.

Rolled and cut biscuits should be light, tender, and flaky. Properly kneading and cutting the dough determines this quality. Overkneading or twisting the hand cutters can **deflate**, or cause the dough to lose volume. Biscuits should have high volume.

The following quality standards should be achieved when baking biscuits.

- **Appearance.** Rolled and cut biscuits should all be the same size. They should have flat tops and straight sides.
- **Color.** Biscuits should have a golden brown crust. The crumb should be creamy or flaky, depending on the type of biscuit.
- **Texture.** Rolled and cut biscuits should be light, tender, and flaky. Flaky biscuits should easily separate into layers when broken apart. This separation is due to the fat that melts between the layers during baking. The fat separates the layers. See Fig. 29-8.

**Fig. 29-8.** Quality biscuits are a favorite accompaniment to many meals.



■ **Flavor.** Biscuits should have a pleasing, delicate flavor. A bitter flavor may indicate too much baking powder or baking soda. You may want to add different flavor ingredients to the mixture to increase quality. Such ingredients include herbs, chives, cheese, and bacon.

## ✕ COOLING & SERVING BISCUITS

Biscuits can be cooled on wire racks after baking. However, they are best served when hot. You can serve biscuits throughout the day. Most food-service operations offer them at all meals. Honey, jam, preserves, and butter can be spread on biscuits to add more flavor.

### SECTION 29-2

## Knowledge Check

1. Summarize the biscuit method of mixing.
2. Explain how biscuits are cut and formed.
3. Name three quality standards or characteristics of biscuits.

### MINI LAB

Working in teams, prepare biscuit dough. Practice rolling and cutting the biscuit dough. Bake the dough and serve the biscuits to the class. Evaluate each team's product for tenderness, flakiness, and flavor.

# Making Muffins

## OBJECTIVES

After reading this section, you will be able to:

- Explain the blending method of mixing.
- Explain the creaming method of mixing.
- Identify quality characteristics of muffins.
- Prepare quality muffins.

**MUFFINS** can be bread- or cake-like in texture depending on the method used to mix the ingredients. Muffins can be different shapes and sizes. Muffins usually have fruit or nuts added to the mixture to add flavor and texture to the baked product.

## KEY TERMS

- blending method
- creaming method



## ✕ THE BLENDING METHOD

The blending method is used to produce muffins, loaf breads, pancakes, and waffles. The blending method involves using oil or liquid fat to blend the ingredients. Batters for these baked goods are sometimes interchangeable. For example, bran muffin batter can be poured into a loaf pan instead of a muffin pan. The end result is bran loaf bread instead of bran muffins. You only would need to adjust the baking time.

The basic ingredients in muffins are flour, leavening agent, eggs, oil, sugar, salt, and a liquid. Flour blends may be used to increase the nutritional value of the product.

## CULINARY TIP

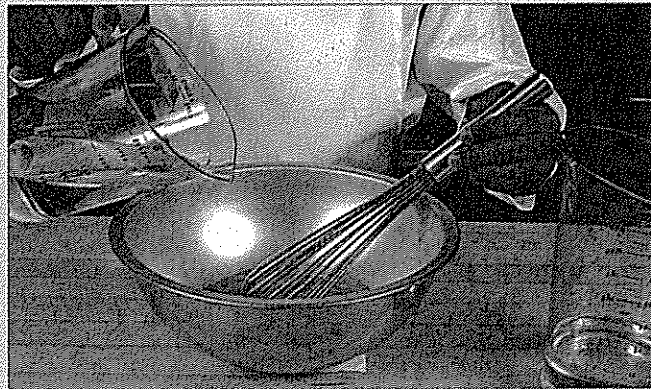
**USING LINERS**—To bake muffins that have a moist, tender exterior, line the muffin pans with paper cups. If you want muffins with a crust, omit the liners. Instead, grease the bottoms and sides of the muffin pans.

Muffins are made from a drop batter. They are leavened by a leavening agent, such as baking powder. The structure of the muffin is achieved when the flour, starches, gluten, and egg proteins coagulate during heating. To blend muffins:

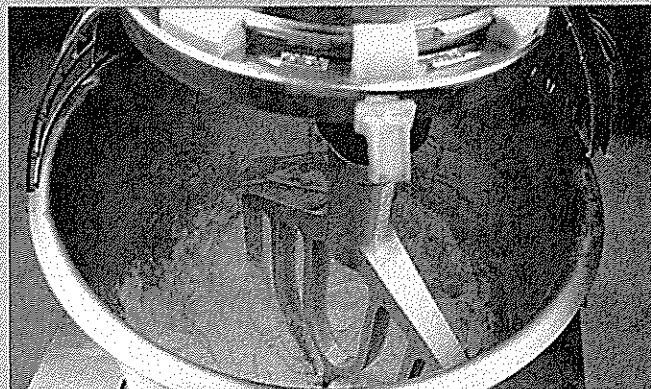
1. Sift the dry ingredients into a separate mixing bowl. Add sifted, dry ingredients to the liquid and sugar mixture. See Fig. 29-9A below.



2. Combine and blend the liquid ingredients with the sugar until smooth. See Fig. 29-9B below.



3. Mix together until the dry ingredients are just moistened. Do not overmix. This will make the batter tough. The batter should look lumpy. See Fig. 29-9C below.



## ✕ THE CREAMING METHOD

When preparing cake-like muffins made with solid shortening, you will need to use the **creaming method** of mixing. The creaming method involves combining the sugar and fat first until light and fluffy. Use the following steps for the creaming method.

1. Gather and assemble all ingredients, utensils, and smallwares.
2. Scale the ingredients.
3. Sift the dry ingredients into a separate mixing bowl and set aside.
4. Combine the solid fat and the sugar in the mixing bowl until smooth, fluffy, and creamy. Use the paddle attachment on the mixer.
5. Add the eggs one at a time. Blend well after each addition.
6. Add the flour and liquid ingredients alternately in approximately three parts. Continue to mix until the batter is smooth.

## ✕ DIVIDING MUFFIN BATTER

Dividing the muffin batter involves transferring the batter from the bench mixing bowl into individual muffin pans. To avoid overmixing the batter, scrape downward from the outer edge of the mixing bowl.

It's also important to divide the batter evenly. This will ensure that the muffins are uniform in size. Using a portion scoop can help achieve this. You also can drop the batter into the pan by hand. To do this well requires practice. When filling the muffin pans, only fill them half full. Leave enough space for rising.

## ✕ BAKING MUFFINS

When baking muffins, dry and liquid ingredients can be mixed ahead of time. Once they are combined, however, you will need to bake the muffins immediately. Otherwise, your muffins could lose volume. To bake muffins, follow these procedures.

1. Set the conventional oven temperature at 385°F–400°F and grease the muffin pan with commercial pan grease.
2. Using a portion scoop, lift the batter from the mixing bowl and drop or pour it into the prepared muffin pan. A portion scoop will provide equal-size muffins. Do not mix the batter when scooping it out. See Fig. 29-10.
3. Garnish the muffin batter with sugar, nuts, or streusel (STROO-suhl) toppings.
4. Place the muffin pans in the oven. Bake for the time listed on the formula. Test for doneness by pressing on the top of the muffin. If it springs back, it's done. The tops also should be a golden brown color.
5. Remove the muffin pans from the oven and let the pans cool on wire racks until the muffins are warm.
6. Turn the muffins out of the pan onto the cooling rack. If muffins stick, tap the bottom of the pan to loosen them.

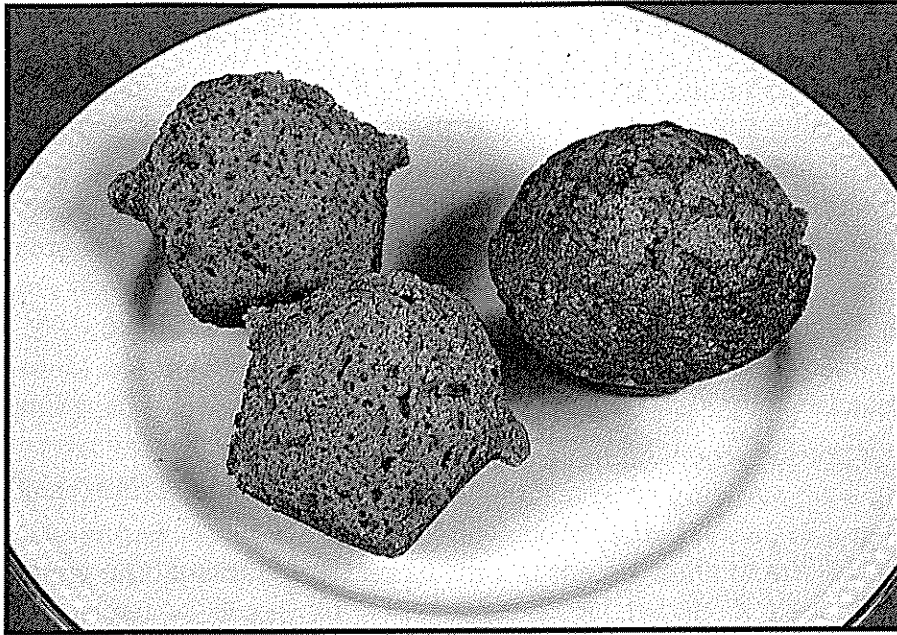
## ✕ QUALITY MUFFINS

Quality standards for muffins are similar to those for other quick breads. See Fig. 29-11. The tops should be golden brown, and the walls shouldn't be too thick. Muffins should be tender and moist. The crumb should break apart without crumbling. When producing muffins, ensure that the following quality characteristics are present.

- **Appearance.** Muffins should be round in shape with dome-shaped tops. They should be uniform in size.
- **Color.** Muffins should have a golden brown surface.
- **Texture.** The grain should be even. The muffin should be tender and moist, not dry or brittle. Muffins should not be filled with tunnels. Tunnels are a sign of overmixing.
- **Flavor.** The flavor should be sweet and pleasant with no bitter aftertaste from too much leavening.

**Fig. 29-10.** A portion scoop will help you maintain consistency in the size of muffins. What impact could inconsistent size have in baking?





**Fig. 29-11.** Muffins should have a uniform shape and size, golden crust, and an even interior crumb.

## **X** COOLING & SERVING MUFFINS

Muffins are cooled in the pans until they are warm. The muffin pans should be placed on wire racks to allow air to circulate around the pans.

Muffins are better if made daily and served immediately. Muffin batter can be premade and refrigerated for three days prior to baking. It also can be frozen for two weeks. You can freeze muffin batter either before or after portioning.

To thaw the frozen batter, place it in the refrigerator. Allow it to thaw overnight. The batter will be ready to bake in the morning.

Muffins are served at breakfast, lunch, and sometimes dinner. They may be accompanied by jams and jellies.

### SECTION 29-3

## Knowledge Check

1. Contrast the blending and creaming methods.
2. Describe how to portion muffin batter.
3. Name three quality standards for muffins.

### MINI LAB

Working in teams, make a variety of muffins. Evaluate the quality characteristics of each team's finished product. Compare the results.