

UNIT 5

Yeast Rolls

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Introduction

The early Egyptians are credited with making leavened bread as we know it today. The first leavened bread was probably made by accident when the dough was left too long and started to bubble and rise because of wild yeast spores. When part of this “soured dough” was added to the fresh yeast, it made gases, which produced a light loaf.

As early as 10,000 years ago, community bakeries in Egypt were used to bake bread for everyone. In the early days of America, settlers adopted the practice of Indians and made bread from maize or Indian corn. Later, they grew wheat and baked their bread at home due to a lack of community bakeries. In the mid-17th century, baking industries were started, and many people began to buy bread. Today, bread is often baked at home to provide the texture, shape, and taste not available from commercial bakeries.

Centuries have come and gone, but the art of making yeast rolls continues. Through the years, energetic 4-H'ers have learned many ways to create delightful and fancy masterpieces using yeast dough. The aroma and flavor of freshly baked bread remains as appealing today as in days gone by. The nutritive quality of rolls makes them a valuable food for both youth and adults.

You will learn:

- To make a variety of yeast rolls using the batter and conventional methods.
- The principles of yeast doughs.
- The nutritional value of breads and cereals.
- The characteristics of good yeast rolls.
- How to store yeast rolls.

You will also:

- Do a demonstration to show others what you have learned in this project.
- Keep a record of what you have done in this project.
- Assist other 4-H'ers with their bread project.

Bread—A Nutritious Food!

Bread is an inexpensive source of energy. It is high in carbohydrates and a good source of protein, iron, thiamine, riboflavin, niacin, and other nutrients. Whole grain breads and cereals also contain important amounts of B vitamins, including folic acid and B₆; minerals, including magnesium and zinc; and fiber. Yeast rolls fit in the Bread, Cereal, Rice, and Pasta Group of the Food Guide Pyramid.

You should have at least six servings from this food group each day. If you are watching calories, look for recipes that have a minimum of fat and sugar. What counts as a serving? One slice of bread, one yeast roll, 1/2 English muffin, 1 ounce of ready-to-eat cereal, or 1/2 cup cooked rice or noodles.

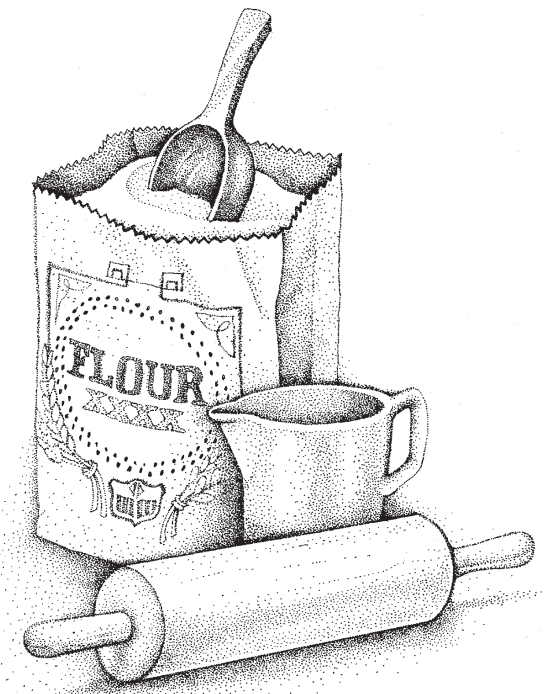
By law, bread and flour sold in Kentucky must be “enriched,” and the term must be printed on the label. This means that the thiamine, riboflavin, niacin, and iron that is lost in milling flour must be replaced in order to raise the level of nutrients to approximately that of whole wheat flour, meeting the standard established by the federal Food and Drug Administration.

The Ingredients... and What They Do

FLOUR—Flour, the main ingredient for bread, helps to determine the quality of the finished product. All-purpose flours are usually blends of hard and soft wheat in proportions to give satisfactory results for most home bread making.

All-purpose flour may be a blend of hard-wheat flours, soft-wheat flours, or both hard- and soft-wheat flours. Hard-wheat flour contains a high quality gluten that is strong, giving the dough the ability to stretch. (Gluten is the mixture of proteins in cereal grains that serve to make the dough adhesive and form the structure of the bread.) Proteins in the flour react with liquid to form the gluten. Flour having a high-protein content will absorb more liquid. For this reason, most recipes call for an approximate measure of flour.

It is important to have the right combination of flour and liquid. Too much liquid in proportion to flour weakens the gluten, and too little makes the gluten too strong, and it will not stretch sufficiently. Beating and kneading doughs help to develop gluten, which is important for increasing volume in bread. (You will learn more about the types of flours in 4JH-06PA, *Yeast Breads*.)



LIQUID—The liquid used in making yeast bread may be milk, water, a combination of milk and water, or potato water (water that potato peels have been cooked in). Bread made with water has a crusty top, while bread made with milk has a softer and browner crust. Potato water produces a coarser bread and a slightly larger loaf. Milk provides more nutritive value and is recommended over water or potato water.

FAT—Fat may be either butter, margarine, lard, or vegetable shortening. Fat helps to give bread a soft, tender crumb.

YEAST—Yeast is a living plant that feeds on sugar and produces the carbon dioxide that causes the bread to rise. Yeast is available in dry form (needs no refrigeration) or in compressed yeast cakes (must be refrigerated). Look for the date on the package to be sure the yeast is still fresh.

SUGAR—Sugar furnishes food for the yeast. Sugar also adds flavor and tenderness and helps to brown the crust of the bread.

SALT—Salt adds flavor and helps to control action of the yeast. Bread can be made without salt, but the color and texture will be affected. (The bread will have slightly less volume and a grayer color.)

EGGS—Eggs are not a basic ingredient of bread but are often used to add color, flavor, and food value.

Activity

Visit the grocery and study the different types of flour. Read the label on all-purpose flour and look for the enriched flour name. What nutrients were added that make the flour enriched? What percent of the recommended dietary allowances would each of these provide for one serving?

Let's Get Started Before You Bake

1. Read the recipe carefully and be sure you understand any unfamiliar terms or procedures, such as kneading, punching down, and rising.
2. Check to see that the liquid is the correct temperature for the yeast (105° to 115°F). You may use a candy thermometer to check the temperature. Too high a temperature will prevent the rolls from rising. Too low a temperature will not start the yeast to work.
3. Remember, it is important to work the right amount of flour into the dough. Too much flour will make a tough roll with a white surface.
4. Preheat the oven at least 10 minutes to the temperature given in the recipe before placing rolls in the oven.
5. To scald milk, heat until tiny bubbles form around the edge of the pan and the milk reaches about 180°F.
6. If rolls are to be frozen, cool them on a cake rack and wrap well in moisture-proof paper. Small rolls can be defrosted on a rack in a covered electric skillet at 350°F or in the oven.



Mixing Methods

In making yeast bread, there are several ways ingredients may be combined. Usually it is better to add flour to liquid (rather than adding liquid to flour) since most recipes call for a measured amount of liquid and an approximate amount of flour. Add flour to liquid until the right consistency is reached. Liquid should be between 105° and 115°F to avoid killing the yeast plant.

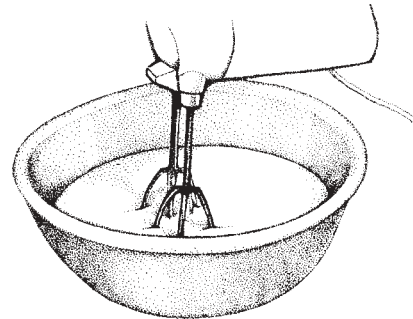
You may use compressed yeast cakes or granules. Dissolve the cake form in lukewarm liquid. Dissolve dry yeast granules in warm liquid or distribute them throughout the dry ingredients and then add the liquid.

Conventional Method

All ingredients are added before dough is kneaded and allowed to rise. Basic yeast rolls are an example of this method.

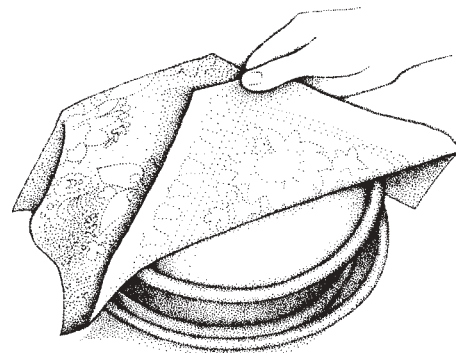
Batter Method

Ingredients are beaten as they are added. Beating helps to develop gluten and eliminates the need for kneading.



Sponge Method

This is a seldom-used method in which dissolved yeast, part of the flour, liquid, and sometimes sugar are combined to form a very soft batter (sponge). The sponge is allowed to rise until it is full of bubbles (three to 12 hours); then remaining ingredients are added to form dough. Dough is usually kneaded and allowed to rise as in the conventional method. No recipe using this method is included in this project book.

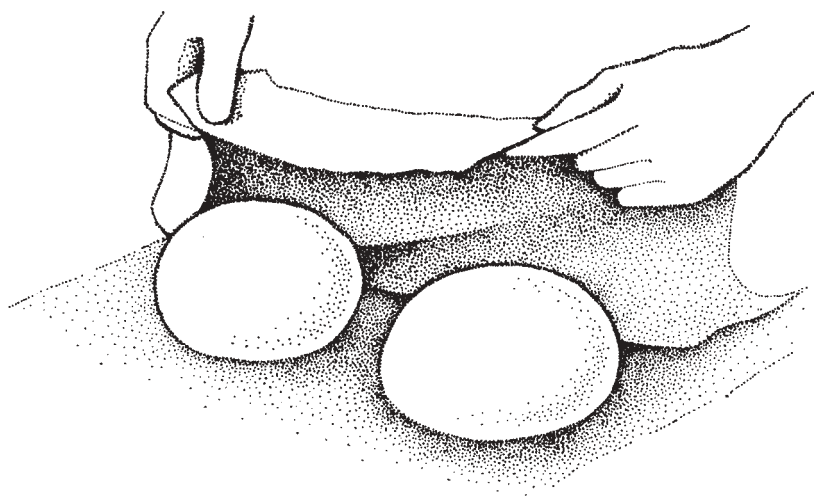
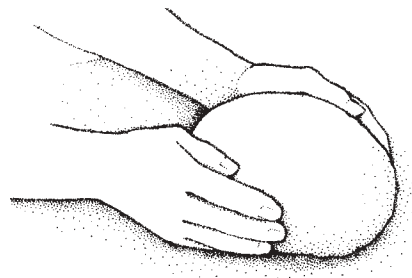


Kneading Dough

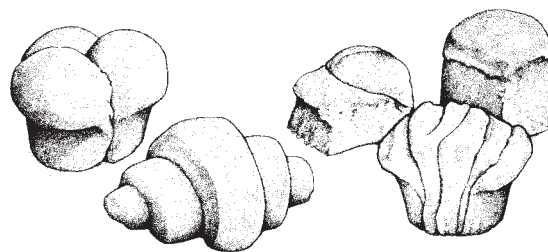
Many recipes call for “kneading the dough.” Dough is kneaded for three reasons: (1) to mix ingredients, (2) to incorporate air, and (3) to develop the gluten of the wheat flour. After mixing the dough according to the recipe, knead as follows:

1. Shape the dough into a ball.
2. Sprinkle only enough flour on a board or pastry cloth to keep the dough from being sticky. Remember, moisture content of flour differs, and sometimes it takes more flour than at other times.
3. Flatten the dough slightly. Pull the back sides of the flattened dough toward you, folding the dough over as you bring it forward.
4. With the heel of your hand, gently push the dough away from you. Do not press hard on the dough; this makes it stick to your hands and to the pastry cloth or board.
5. Repeat this folding, pushing motion until the dough is smooth and elastic—about eight to 10 minutes or 200 strokes. Use a consistent, rhythmic movement in kneading.

Now you are ready to start making yeast rolls. Try the recipes below. Use both conventional and batter methods. You may find a recipe in a book for the sponge method. Remember to evaluate each product when it is completed.



Recipes



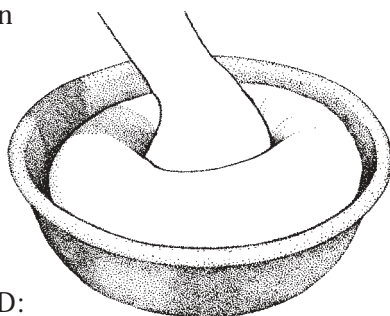
PLAIN ROLLS

2 cups milk
4 tablespoons sugar
1/2 cup fat
2 teaspoons salt
1 package dry yeast or yeast cake
1/4 cup lukewarm water
6 cups all-purpose flour

Scald the milk, add the sugar, fat, and salt and allow to cool to lukewarm (105° to 115°F). Add yeast dissolved in 1/4 cup water and then mix with enough flour to make as soft a dough as can be handled. Knead dough until smooth and elastic.

Place dough in a well-greased bowl, brush with melted fat and cover with a clean, dry cloth. Set bowl in warm place and allow dough to rise until it has doubled in bulk. Punch the dough down, shape the rolls, and place on a greased pan. Cover, set in a warm place, and allow to rise until doubled in size.

Bake at 400°F for 15 to 20 minutes. YIELD: about 4 dozen.



Nutrition Facts

Per serving:
80 Calories
2 gm Fat
2 gm Protein
14 gm Carbohydrate
30 mg Sodium
0 mg Cholesterol
0 gm Dietary fiber

Food Guide Pyramid

1 serving Bread, Rice, Cereal, and Pasta Group
1/2 serving Fat, Oils, and Sweets Group

BEATEN BATTER FOR ROLLS

3 1/4 cups sifted all-purpose flour*
1 cake or package yeast
1/2 cup milk
1/2 cup water
1/4 cup sugar
1/4 cup oil
1 teaspoon salt
2 eggs

Stir together 1 cup flour and dry yeast. If cake yeast is used, dissolve in 1/4 cup of lukewarm water and reduce water in recipe to 1/4 cup. Heat milk, water, sugar, oil, and salt over low heat only until warm (105° to 115°F), stirring to blend. Add liquid ingredients to flour-yeast mixture and beat until smooth, about 2 minutes on mixer or 300 strokes by hand. Blend in eggs. Add 1 cup flour and beat 1 minute on medium speed or 150 strokes by hand. Stir in enough flour to make a thick batter.

Cover and let rise in a warm place until light and bubbly, about 1 hour. Stir down. Grease 18 muffin cups and spoon batter into cups until two-thirds full. Cover with lightly oiled plastic wrap or waxed paper. Let rise in a warm place until light, about 30 minutes.

Bake at 375°F degrees for 20 to 25 minutes. Remove from pans immediately. YIELD: 18 rolls.

*If using self-rising flour, omit salt.

Nutrition Facts

Per serving:
130 Calories
4 gm Fat
3 gm Protein
21 gm Carbohydrate
140 mg Sodium
20 mg Cholesterol
0.5 gm Dietary fiber

Food Guide Pyramid

1 serving Bread, Rice, Cereal, and Pasta Group
1/2 serving Fat, Oils, and Sweets Group

BASIC SWEET ROLL DOUGH

2 cups milk
1/3 cup sugar
2 teaspoons salt
1/2 cup fat
2 eggs
1 yeast cake or package
1/4 cup lukewarm water
6 cups all-purpose flour

Scald the milk; add the sugar, salt, and fat; and allow to cool until lukewarm. Beat the eggs well and add to mixture. Add yeast dissolved in lukewarm water and enough flour to make a soft dough. Place in well-greased bowl; cover with a cloth and set in a warm place until the dough has doubled in bulk.

Punch dough down. Shape rolls and place in greased muffin pan. If a baking sheet is used, place rolls 1 inch apart. Cover and set in warm place. Allow to rise until light and bake at 375° to 400°F for 15 to 20 minutes.

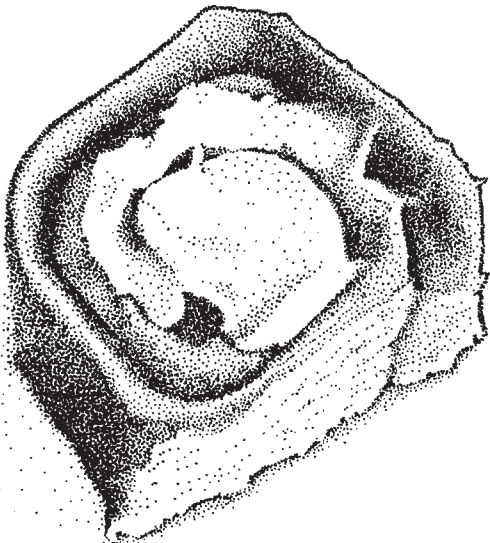
Nutrition Facts

Per serving:
90 Calories
2.5 gm Fat
2 gm Protein
14 gm Carbohydrate
125 mg Sodium
10 mg Cholesterol
0 gm Dietary fiber

Food Guide Pyramid

1 serving Bread, Rice, Cereal, and Pasta Group
1/2 serving Fat, Oils, and Sweets Group

For additional recipes and information on shaping rolls, see University of Kentucky Cooperative Extension publication, *Yeast Breads and Rolls* (FCS3-117).



CINNAMON ROLLS

1 recipe Basic Sweet Roll Dough
1/4 cup melted butter or margarine
1 cup sugar
1 tablespoon cinnamon
2 tablespoons milk
Confectioners' sugar icing, if desired

Let dough rise in the bowl. Punch down and let rest 10 minutes. Divide dough in fourths. Roll one-fourth into long narrow sheet, about 1/4 inch thick and 6 inches wide. Brush with melted butter. Mix sugar and cinnamon and sprinkle one-fourth over dough. Roll up like jelly roll, sealing edges. Cut into 1-inch slices. Place cut side down in well-greased pan or muffin pans. Brush top with milk and sprinkle with cinnamon sugar. Follow same directions with remaining dough.

Cover and let rise until light, about 45 minutes. Bake at 350°F for about 25 minutes. After removing from pan and cooling slightly, rolls may be dipped in confectioners' sugar icing. YIELD: about 4 dozen rolls.

Confectioners' Sugar Icing

3/4 cup sifted confectioners' sugar
2 1/2 to 3 teaspoons milk

Mix sugar and milk to make a soft frosting.

Variations: You may make pecan rolls by adding 1 cup chopped pecans to the sugar mixture. Cinnamon can be omitted, if desired. Or, you may add 1/2 cup raisins to brown sugar mixture.

Nutrition Facts

Per serving:
 120 Calories
 3 gm Fat
 2 gm Protein
 20 gm Carbohydrate
 140 mg Sodium
 10 mg Cholesterol
 0 gm Dietary fiber

Food Guide Pyramid

1 serving Bread, Rice, Cereal, and Pasta Group
 2 servings Fat, Oils, and Sweets Group

CEREAL BRAN ROLLS

$\frac{2}{3}$ cup boiling water
 1 cup bran-type cereal
 $\frac{1}{2}$ cup butter or margarine
 $\frac{1}{4}$ cup brown or white sugar
 $\frac{1}{4}$ cup nonfat dry milk
 1 teaspoon salt
 $\frac{2}{3}$ teaspoon baking powder
 $\frac{1}{4}$ teaspoon baking soda
 1 package yeast, granular or compressed
 $\frac{1}{3}$ cup lukewarm water
 1 egg, beaten
 2 $\frac{1}{2}$ cups all-purpose flour*

In a mixing bowl, pour $\frac{2}{3}$ cup boiling water over cereal, butter, and sugar and set aside to cool.

Combine flour, nonfat milk, salt, baking powder, and baking soda. Dissolve yeast in lukewarm water. Add beaten egg and yeast solution to cooled bran mixture. Stir in flour mixture, cover, and let rise until double in size in a warm, draft-free place. Stir batter down, pull off small pieces of dough, roll smooth and place in greased muffin pans. Cover and let rise until double in size (about 1 hour).

Bake at 400°F until top crust is brown, about 15 to 20 minutes. YIELD: about 2 dozen rolls.

Variations: Add raisins to bran-type cereal or use a cereal with raisins. Or, you may add $\frac{1}{2}$ cup finely chopped pecans to batter.

*When using self-rising flour, omit salt and baking powder.

Nutrition Facts

Per serving:
 100 Calories
 4 gm Fat
 2 gm Protein
 14 gm Carbohydrate
 150 mg Sodium
 20 mg Cholesterol
 0.5 gm Dietary fiber

Food Guide Pyramid

1 serving Bread, Rice, Cereal, and Pasta Group
 1 serving Fat, Oils, and Sweets Group

4-H SOFT PRETZELS

3 $\frac{1}{2}$ cups unsifted flour (approximately)
 2 tablespoons sugar
 1 teaspoon salt
 1 package dry yeast
 1 cup water
 1 tablespoon butter
 1 egg yolk, beaten
 1 tablespoon water
 Coarse salt

Mix 1 cup flour, sugar, salt, and undissolved yeast. Heat 1 cup water and butter to 120° to 130°F. Gradually add to dry ingredients and beat 2 minutes with electric mixer at medium speed. Add $\frac{1}{2}$ cup flour. Beat at high speed 2 minutes. Stir in enough additional flour to make a soft dough. On floured board or cloth, knead 5 minutes. Place in a greased bowl; turn dough to grease top. Cover; let rise in warm, draft-free place for 40 minutes.

Divide dough into 12 equal pieces. Roll each into a 20-inch rope. Shape each piece into a 4-H clover. Place on greased baking sheets. Cover; let rest 5 minutes.

Mix egg yolk and 1 tablespoon water; brush on pretzels. Sprinkle with coarse salt. Bake in 400°F oven for 15 minutes or until done. Cool on racks. YIELD: 1 dozen.

Nutrition Facts

Per serving:
 170 Calories
 2 gm Fat
 6 gm Protein
 32 gm Carbohydrate
 270 mg Sodium
 20 mg Cholesterol
 1 gm Dietary fiber

Food Guide Pyramid

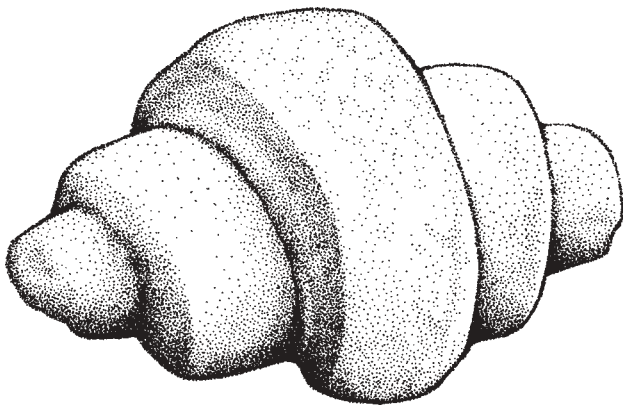
2 servings Bread, Rice, Cereal, and Pasta Group
 $\frac{1}{2}$ serving Fat, Oils, and Sweets Group

Tips on Storing Breads

- Remove breads from pans as soon as they are taken from the oven.
- Cool bread on rack or across the bread pan so air can circulate around it.
- Do not wrap until thoroughly cooled.
- Bread stales less quickly in a breadbox at room temperature than in a refrigerator. However, in hot, humid weather, keeping bread in the refrigerator helps prevent growth of mold.
- Freeze bread as soon as it has cooled after baking in a moisture-vapor-resistant material or place it in a freezer container or carton. Exclude as much air as possible from the package.
- Most breads will hold their fresh eating quality in a freezer at a temperature of 0°F or lower. For optimum flavor, use plain bread or rolls within six months after freezing; breads with fruit and nuts within three months.

Demonstrations

- Show how to make roll variations using sweet dough.
- Make rolls using the batter method.
- Make dough using conventional method, including kneading.
- Make cereal bran rolls.
- Make soft pretzels.

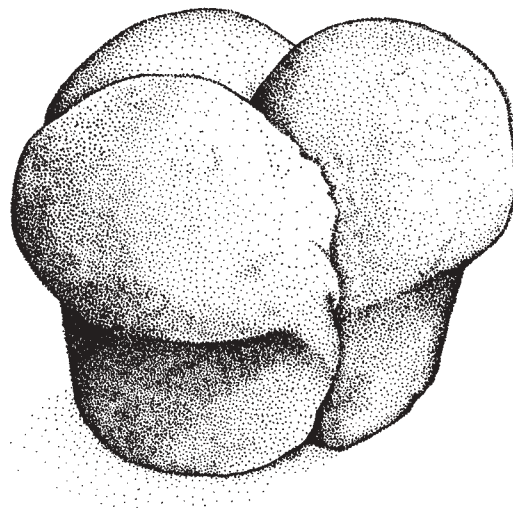


Citizenship Activities

- Make rolls for community dinners or bazaars.
- Help someone who is disabled or ill prepare rolls.
- Do a demonstration on making rolls for a community function.
- Prepare a handout sheet on the nutritive value of bread to be used in a grocery store for a sack stuffer.
- Make sweet rolls as a treat for a nursing home patient who has a birthday.

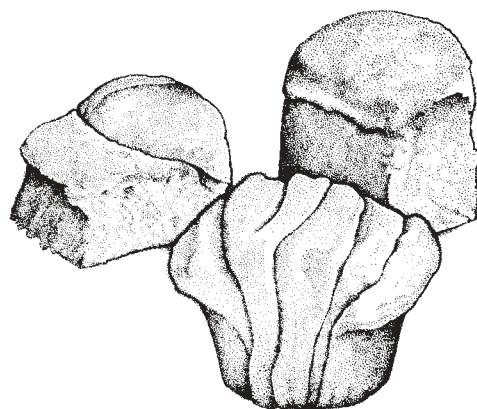
Helping Other 4-H'ers

- Organize and serve as a project leader for younger members.
- Present demonstrations to clubs or other bread or foods project groups on techniques of bread preparation.
- Assist with conducting bread exhibits or bakeoff judging.
- Write news articles and do radio programs to encourage more people to become involved in the 4-H breads program as a member or leader in 4-H.
- Prepare displays and school bulletin boards to encourage participation in the breads project.
- Assist 4-H'ers with keeping records and preparing project demonstrations.



Judging Your Rolls

Each time you make yeast rolls you should evaluate them to see what you did well and what you need to improve. Use the following score sheet to judge your rolls.



Yeast Rolls Score Sheet

	Excellent	Good	Needs to Improve
Appearance			
Symmetrical and well proportioned			
Smooth, well-rounded top			
Even, golden-brown color			
Thin, tender crust			
Free of lumps or wrinkles			
Crumb			
Slightly moist			
Uniform, fine grain			
Elastic or springy feeling			
Free of doughy streaks			
Flavor and Aroma			
Well blended, characteristic of ingredients			
Pleasing aroma			
Slightly sweet and nut-like flavor			

Yeast Roll

Project Record Form



Name _____ Address _____

School _____ Grade _____ Birth Date _____ Current Date _____

In filling out this record, summarize information in outline form when appropriate. List the most important accomplishments at the top of the list. Designate the level of participation with the appropriate letter. local (L), county (C), area (A), state (S), regional (R), national (N), or international (I). Use numbers (digits) to show size or quantity, when appropriate.

A. List new things you learned in this project or activity.

B. Show size and scope of this project. (List everything you have done in this project.)

Type of Bread	Number of Times Prepared	Comments
Rolls (conventional)		
Rolls (batter method)		
Sweet rolls		
Bran cereal rolls		
Cinnamon rolls		
Pretzels		
Other (list)		

C. List demonstrations, talks, exhibits, radio and television appearances, newspaper articles written, tours, workshops, camps, judging events, and field trips that you participated in throughout this project.

D. List awards, trips, medals, plaques, trophies, ribbons, scholarships, and other recognition received in this project.

E. List your leadership participation in this project or activity. Include things you have done by yourself and in cooperation with others in planning 4-H programs; leading discussions; helping younger members with demonstrations, talks, and exhibits; and assisting with camps, achievement shows, and workshops. Indicate the number of 4-H members you have assisted and give your specific responsibilities.

F. List your citizenship and community service experiences in this project. Include those things that contributed to the welfare of your club or group, other individuals, or your community and give your specific responsibilities.

G. Attach a short story in which you tell about things learned, satisfactions experienced, and difficulties encountered this year in this project.

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