K-STATE Research and Extension

Foods Project Leader
Pilot Project Webinar #4
March 6, 2012

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Your Presenters

Diane Mack,
4-H Youth Development Specialist

Karen Blakeslee,
Extension Associate, Food Science, Rapid Response Center

This pilot project is funded by a
Kansas 4-H Foundation Grow 4-H Initiative

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Any questions from the last webinar?

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4-H Record Keeping

Kansas

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4-H Record Keeping

Record keeping is an important life skill and all 4-H members are encouraged to keep written records of their 4-H year.

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Warm Up:

When we think of record keeping in 4-H as a life skill, what are some records that people need to keep in their adult life?

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4-H record keeping helps youth...

- Develop goal-setting skills by setting individual, project and group goals.
- Keep track of dates and important information.
- Document and show what has been achieved.
- Reflect on and understand the value of their learning experiences.
- Foster communication skills through writing and interpretation of 4-H project work

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4-H record keeping helps youth…

- Compare progress and growth from year to year.
- Provide assistance in managing resources, such as money and time.
- As an important resource for future use such as college or job applications and resumes
- Develop positive record-keeping habits.
- Understand the personal value of record keeping.

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Resources Available

Record Keeping
Awards

Kansas4-H.org

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Kansas 4-H

4-H Project Record

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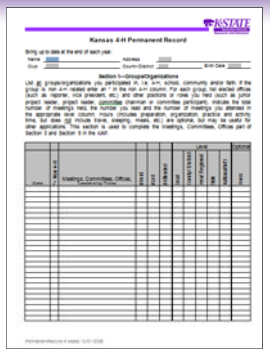
Kansas 4-H Permanent Record

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Record Keeping Tips

- **Tip #1:** Give each project member a copy of the Kansas 4-H Generic Project Record and the Kansas 4-H Permanent Record so they know what kind of information to record.
- **Tip # 2:** Record keeping can be reinforced at project meetings by taking some time at the end of the meeting to have members take notes for future reference.

- **Tip #3:** Check with your Local Extension Office about what record form or awards applications/portfolios are used in your extension unit and when they are due each year. This varies widely across Kansas. In addition to the above options, a number of units have some of their own forms/applications.
- **Tip #4:** There is a difference between records and awards

What are some specific records or pieces of information that should be kept related to a 4-H Foods project?

Please consider how you can help young people in your project group keep records this year.

Record keeping is a life skill they will use throughout their life

BUILDING BLOCKS OF BAKING

Preparation tips for baked goods

Food Safety at the Fair

- What is perishable?
  - High in moisture, protein and neutral acidity
  - Fillings and frostings
    - Contain egg custard
    - Contain cream cheese filling
    - Cheese fillings
  - Cream and meringue pies
  - Anything that needs refrigeration
- Herbs, vegetables, and garlic in oil
- **County Fairs that have refrigeration can allow perishable exhibits**
  - **Not allowed at State Fair 4-H Foods!**

Food Safety at the Fair

- What is non-perishable?
  - Cream cheese incorporated as an ingredient
  - Regular cheese incorporated as an ingredient
  - Eggs as an ingredient
  - Fruit and pecan pies
  - Commercial frostings
    - Cream Cheese
    - German Chocolate

Modified Foods

- Should be a quality product
- Attractive
  - Good color
- Properly leavened
  - Not compressed
- Proper size or shape
- Not gummy

Reduced or Fat Free

- Avoid over baking
  - These bake faster
  - Use lower temperature and shorter time
- Check for doneness
  - Toothpick
  - Temperature
- If dry, may need more fat substitute
- Lowfat margarines not good substitute for baked goods

Fat Substitutes

(Cakes, Muffins, Quick Breads)

- Pureed fruit
  - Start with ½ as much substitute, then add
- Eggs
  - Leave one whole for tenderness
  - 2 egg whites = 1 egg
  - Ground flax seed
    - 1 T + 3 T water = 1 egg

Fat Substitutes

- Butter, margarine, solid shortening
  - Half as much buttermilk, nonfat yogurt, skim milk
  - ¾ as much honey, molasses, maple syrup, chocolate syrup, fruit juice concentrate, fruit spreads
  - ¾ as much cooked mashed pumpkin, butternut squash, sweet potato
- Oil
  - 1:1/3 substitute ratio (ex: 1 cup flax = 1/3 cup oil)
  - ¾ as much buttermilk, nonfat yogurt, skim milk
  - Products brown more, adjust temp and time

Gluten-Free

- Strive for quality
  - Moistness, not too much
  - Nice crumb, fine grain
  - Not gummy
    - Too much gum (xanthan, guar gum, gelatin
  - Good height, not dense
- Pleasant flavor
  - No strong flavors from one ingredient
  - Usually several flours used

GF Chocolate Chip Cookies
www.landolakes.com

Gluten-Free

- Lighter color
  - Add ingredients for color
- Add fiber
  - Flax seed
  - Can cause dryness
- Cookies
  - Butter and shortening good combo
- Yeast Breads
  - Look like quick bread

GF Multi-Grain Bread
www.landolakes.com

Gluten-Free

- When substituting in gluten-free ingredients
  - Use 2-3 Tablespoons less GF flour
  - Add potato starch, tapioca starch, or corn starch to get a finer texture
  - Add 1 teaspoon xanthan gum for structure
  - May need extra chemical leavening, about 25% more
- GF batters will be runny
- GF products can stick! Use parchment paper
- For more color, bake with stoneware or glass

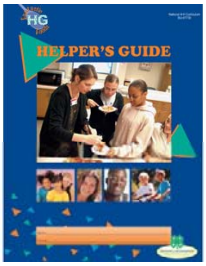
Thanks to Jo Maseburg and Sharon Davis
http://www.landolakes.com/mealideas/gluten-free-recipes.cfm

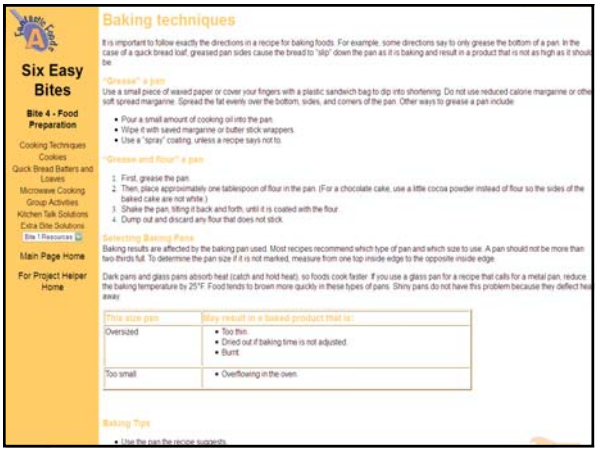
Nutrition

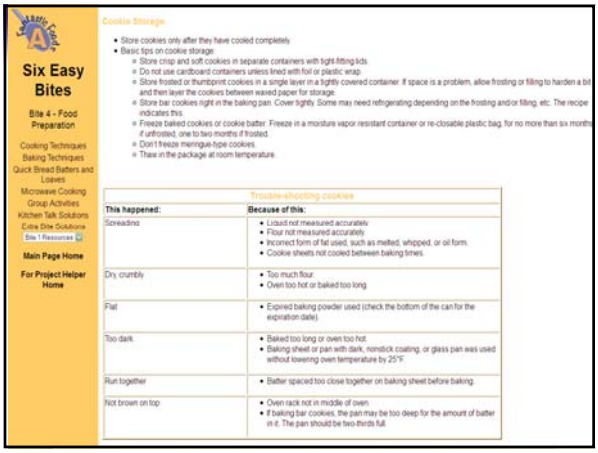
- Whole Grains
- Low Fat
- Fruit or dried fruit
- Portion size!
  - Bar cookies – 2-inch
  - Drop cookies – 2 half dollar coins
  - Cinnamon roll – hockey puck
  - Roll – bar of soap
  - Muffin – tennis ball
  - Biscuit – hockey puck

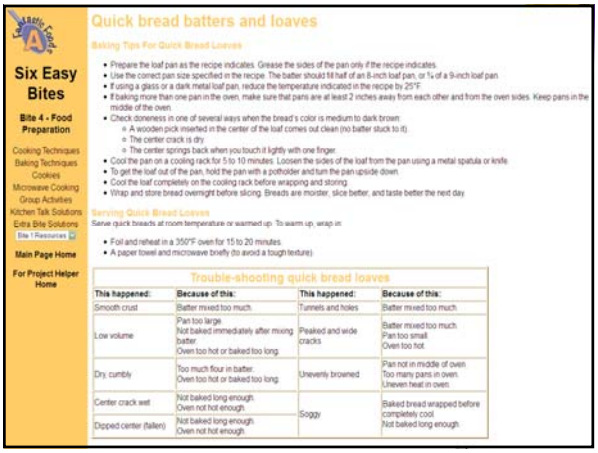
Helper's Guide

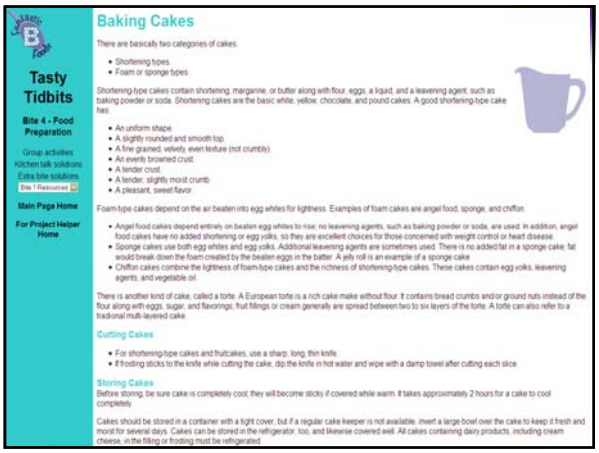
- Bite 4, Food preparation pp. 20-23
  - Baking Cakes
  - Yeast Dough
  - Pies
- www.youthlearningnet.org
  - For Project Helper
    - Additional Resources
    - Bite 4 – Food preparation











Tasty Tidbits

Bite 4 - Food Preparation

Group activities
Kitchen talk solutions
Extra bite solutions
Bite 1 Resources

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For Project Helper Home

Baking Cakes

There are basically two categories of cakes.

- Shortening types
- Foam or sponge types

Shortening-type cakes contain shortening, margarine, or butter along with flour, eggs, a liquid, and a leavening agent, such as baking powder or soda. Shortening cakes are the basic white, yellow, chocolate, and pound cakes. A good shortening-type cake has:

- An uniform shape
- A slightly rounded and smooth top
- A fine grained, velvety, even texture (not crumbly)
- An evenly browned crust
- A tender crust
- A tender, slightly moist crumb
- A pleasant, sweet flavor

Foam-type cakes depend on the air beaten into egg whites for lightness. Examples of foam cakes are angel food, sponge, and chiffon.

- Angel food cakes depend entirely on beaten egg whites to rise; no leavening agents, such as baking powder or soda, are used. In addition, angel food cakes have no added shortening or egg yolks, so they are excellent choices for those concerned with weight control or heart disease.
- Sponge cakes use both egg whites and egg yolks. Additional leavening agents are sometimes used. There is no added fat in a sponge cake; fat would break down the foam created by the beaten eggs in the batter. A jelly roll is an example of a sponge cake.
- Chiffon cakes combine the lightness of foam-type cakes and the richness of shortening-type cakes. These cakes contain egg yolks, leavening agents, and vegetable oil.

There is another kind of cake, called a torte. A European torte is a rich cake make without flour. It contains bread crumbs and/or ground nuts instead of the flour along with eggs, sugar, and flavorings; fruit fillings or cream generally are spread between two to six layers of the torte. A torte can also refer to a tradional multi-layered cake.

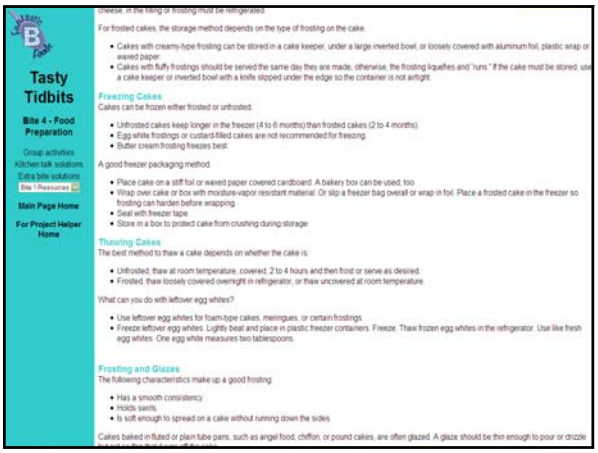
Cutting Cakes

- For shortening-type cakes and fruitcakes, use a sharp, long, thin knife.
- If frosting sticks to the knife while cutting the cake, dip the knife in hot water and wipe with a damp towel after cutting each slice.

Storing Cakes

Before storing, be sure cake is completely cool; they will become sticky if covered while warm. It takes approximately 2 hours for a cake to cool completely.

Cakes should be stored in a container with a tight cover, but if a regular cake keeper is not available, invert a large bowl over the cake to keep it fresh and moist for several days. Cakes can be stored in the refrigerator, too, and likewise covered well. All cakes containing dairy products, including cream cheese, in the filling or frosting must be refrigerated.



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cheese, in the filling or frosting must be refrigerated.

For frosted cakes, the storage method depends on the type of frosting on the cake.

- Cakes with creamy-type frosting can be stored in a cake keeper, under a large inverted bowl, or loosely covered with aluminum foil, plastic wrap or waxed paper.
- Cakes with fluffy frostings should be served the same day they are made; otherwise, the frosting liquefies and "runs." If the cake must be stored, use a cake keeper or inverted bowl with a knife slipped under the edge so the container is not airtight.

Freezing Cakes

Cakes can be frozen either frosted or unfrosted.

- Unfrosted cakes keep longer in the freezer (4 to 6 months) than frosted cakes (2 to 4 months).
- Egg white frostings or custard-filled cakes are not recommended for freezing.
- Butter cream frosting freezes best.

A good freezer packaging method:

- Place cake on a stiff foil or waxed paper covered cardboard. A bakery box can be used, too.
- Wrap over cake or box with moisture-vapor resistant material. Or slip a freezer bag overall or wrap in foil. Place a frosted cake in the freezer so frosting can harden before wrapping.
- Seal with freezer tape.
- Store in a box to protect cake from crushing during storage.

Thawing Cakes

The best method to thaw a cake depends on whether the cake is:

- Unfrosted, thaw at room temperature, covered, 2 to 4 hours and then frost or serve as desired.
- Frosted, thaw loosely covered overnight in refrigerator, or thaw uncovered at room temperature.

What can you do with leftover egg whites?

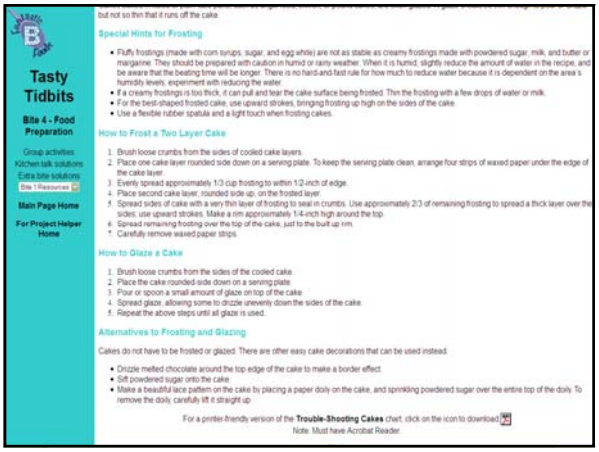
- Use leftover egg whites for foam-type cakes, meringues, or certain frostings.
- Freeze leftover egg whites. Lightly beat and place in plastic freezer containers. Freeze. Thaw frozen egg whites in the refrigerator. Use like fresh egg whites. One egg white measures two tablespoons.

Frosting and Glazes

The following characteristics make up a good frosting:

- Has a smooth consistency
- Holds swirls.
- Is soft enough to spread on a cake without running down the sides.

Cakes baked in fluted or plain tube pans, such as angel food, chiffon, or pound cakes, are often glazed. A glaze should be thin enough to pour or drizzle



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but not so thin that it runs off the cake.

Special Hints for Frosting

- Fluffy frostings (made with corn syrups, sugar, and egg white) are not as stable as creamy frostings made with powdered sugar, milk, and butter or margarine. They should be prepared with caution in humid or rainy weather. When it is humid, slightly reduce the amount of water in the recipe, and be aware that the beating time will be longer. There is no hard-and-fast rule for how much to reduce water because it is dependent on the area's humidity levels; experiment with reducing the water.
- If a creamy frostings is too thick, it can pull and tear the cake surface being frosted. Thin the frosting with a few drops of water or milk.
- For the best-shaped frosted cake, use upward strokes, bringing frosting up high on the sides of the cake.
- Use a flexible rubber spatula and a light touch when frosting cakes.

How to Frost a Two Layer Cake

1. Brush loose crumbs from the sides of cooled cake layers.
2. Place one cake layer rounded side down on a serving plate. To keep the serving plate clean, arrange four strips of waxed paper under the edge of the cake layer.
3. Evenly spread approximately 1/3 cup frosting to within 1/2-inch of edge.
4. Place second cake layer, rounded side up, on the frosted layer.
5. Spread sides of cake with a very thin layer of frosting to seal in crumbs. Use approximately 2/3 of remaining frosting to spread a thick layer over the sides; use upward strokes. Make a rim approximately 1/4-inch high around the top.
6. Spread remaining frosting over the top of the cake, just to the built-up rim.
7. Carefully remove waxed paper strips.

How to Glaze a Cake

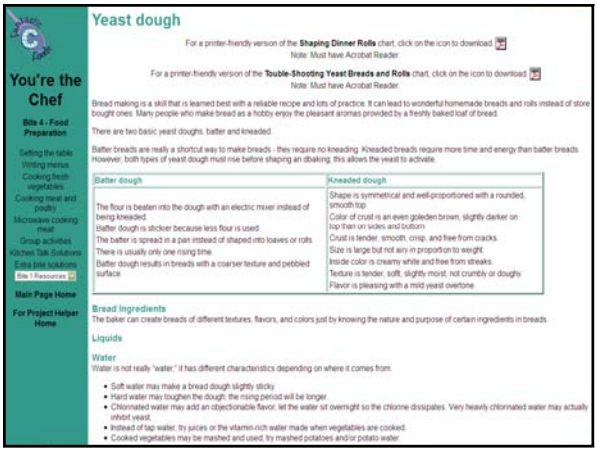
1. Brush loose crumbs from the sides of the cooled cake.
2. Place the cake rounded-side down on a serving plate.
3. Pour or spoon a small amount of glaze on top of the cake.
4. Spread glaze, allowing some to drizzle unevenly down the sides of the cake.
5. Repeat the above steps until all glaze is used.

Alternatives to Frosting and Glazing

Cakes do not have to be frosted or glazed. There are other easy cake decorations that can be used instead.

- Drizzle melted chocolate around the top edge of the cake to make a border effect.
- Sift powdered sugar onto the cake.
- Make a beautiful lace pattern on the cake by placing a paper doily on the cake, and sprinkling powdered sugar over the entire top of the doily. To remove the doily, carefully lift it straight up.

For a printer-friendly version of the **Trouble-Shooting Cakes** chart, click on the icon to download.
Note: Must have Acrobat Reader.



You're the Chef

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Yeast dough

For a printer-friendly version of the **Shaping Dinner Rolls** chart, click on the icon to download.
Note: Must have Acrobat Reader.

For a printer-friendly version of the **Touble-Shooting Yeast Breads and Rolls** chart, click on the icon to download.
Note: Must have Acrobat Reader.

Bread making is a skill that is learned best with a reliable recipe and lots of practice. It can lead to wonderful homemade breads and rolls instead of store bought ones. Many people who make bread as a hobby enjoy the pleasant aromas provided by a freshly baked loaf of bread.

There are two basic yeast doughs, batter and kneaded.

Batter breads are really a shortcut way to make breads - they require no kneading. Kneaded breads require more time and energy than batter breads. However, both types of yeast dough must rise before shaping an dbaking; this allows the yeast to activate.

Batter dough	Kneaded dough
The flour is beaten into the dough with an electric mixer instead of being kneaded.	Shape is symmetrical and well-proportioned with a rounded, smooth top.
Batter dough is stickier because less flour is used.	Color of crust is an even goleden brown, slightly darker on top than on sides and bottom.
The batter is spread in a pan instead of shaped into loaves or rolls	Crust is tender, smooth, crisp, and free from cracks.
There is usually only one rising time.	Size is large but not airy in proportion to weight.
Batter dough results in breads with a coarser texture and pebbled surface.	Inside color is creamy white and free from streaks.
	Texture is tender, soft, slightly moist, not crumbly or doughy.
	Flavor is pleasing with a mild yeast overtone.

Bread Ingredients

The baker can create breads of different textures, flavors, and colors just by knowing the nature and purpose of certain ingredients in breads.

Liquids

Water

Water is not really "water," it has different characteristics depending on where it comes from.

- Soft water may make a bread dough slightly sticky.
- Hard water may toughen the dough; the rising period will be longer.
- Chlorinated water may add an objectionable flavor; let the water sit overnight so the chlorine dissipates. Very heavily chlorinated water may actually inhibit yeast.
- Instead of tap water, try juices or the vitamin-rich water made when vegetables are cooked.
- Cooked vegetables may be mashed and used; try mashed potatoes and/or potato water.

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• Cooked vegetables may be mashed and used; try mashed potatoes and/or potato water.

Milk

There are two important points to make about using milk or milk derivatives as the liquid in a yeast dough.

- Yeast is reluctant to dissolve in whole milk because of the fat. Try skim milk instead.
- Milk solids make the gluten connections in the dough slightly weaker. This creates a bread that has a more tender crumb and a mellower taste. Cultured milk products, such as buttermilk, yogurt, and sour cream, produce moist breads with a flavor similar to sourdough breads.

Use the following options, if milk is your preferred choice of liquid.

- Use warmed skim milk (no fat).
- Dissolve yeast in 1/4 cup water, add the balance of the liquid as milk, slightly warmed.
- Add 3/4 cup of non-fat dry milk to the dry ingredients; more can be added to increase protein content.
- Dissolve yeast in 1 cup warm water and then add 1 cup of evaporated milk.
- Use 2 cups of liquid whole milk and add the new quick-rising yeast directly to the dry ingredients.

Eggs

Eggs can be used as another "liquid" in bread recipes. Eggs add extra protein, color, richness, and structure (just like the gluten in flour).

- One extra large egg is approximately equivalent to 1/4 cup liquid; when one or more eggs are added, subtract an equal amount from the other liquids.
- To make an extra light loaf of white bread similar to traditional French bread, substitute 2 egg whites for 1/4 cup of the water in the bread recipe. Beat the egg whites into peaks and fold them into the dissolved and bubbling yeast mixture before the flour is added. Beaten egg whites contain many air bubbles which expand in the oven's heat to help leaven and lighten the loaves.

Fat

While most bread recipes call for fats or oils, they are not necessary to make bread. However, there is a trade-off. Bread made without fat stales very quickly. Adding a couple tablespoons of butter, margarine, or vegetable oil to the yeast dough makes a bread more tender and it will stay fresh for a longer time.

Salt

There are two important points about the use of salt in bread making.

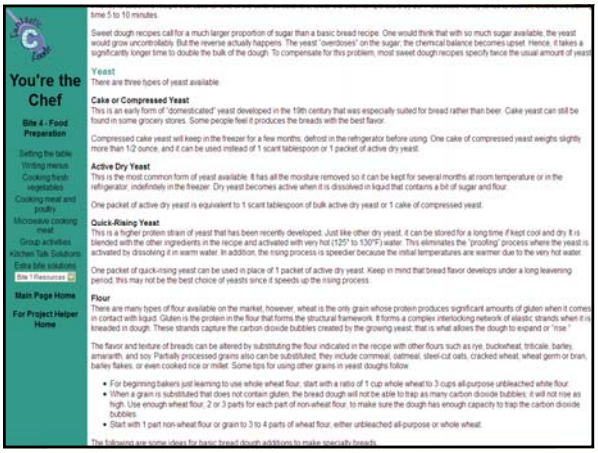
- Salt is not necessary to make bread. Herbal salt substitutes can be used for flavor.
- Yeast does not like salt. Bread dough actually rises faster when it is made without salt. To slow the rising process there are two options: use a bit less yeast; or put the bread dough in a cooler place so it rises slower.

Sweeteners

Sweeteners have two functions in bread doughs, they provide:

- food for the yeast to help it get started growing; and
- flavor (table sugar the least, through the increasingly stronger flavors of brown sugar, honey, maple sugar, light, dark, and blackstrap unsulfured molasses). Using any sweetener helps the baked bread stay moister longer.

If honey is used in a recipe that calls for one of the other sweeteners, lower the oven temperature by 25°F because honey tends to scorch; extend the baking



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time 5 to 10 minutes.

Sweet dough recipes call for a much larger proportion of sugar than a basic bread recipe. One would think that with so much sugar available, the yeast would grow uncontrollably. But the reverse actually happens. The yeast "overdoses" on the sugar; the chemical balance becomes upset. Hence, it takes a significantly longer time to double the bulk of the dough. To compensate for this problem, most sweet dough recipes specify twice the usual amount of yeast.

Yeast

There are three types of yeast available:

Cake or Compressed Yeast
This is an early form of "domesticated" yeast developed in the 19th century that was especially suited for bread rather than beer. Cake yeast can still be found in some grocery stores. Some people feel it produces the breads with the best flavor.

Compressed cake yeast will keep in the freezer for a few months; defrost in the refrigerator before using. One cake of compressed yeast weighs slightly more than 1/2 ounce, and it can be used instead of 1 scant tablespoon or 1 packet of active dry yeast.

Active Dry Yeast
This is the most common form of yeast available. It has all the moisture removed so it can be kept for several months at room temperature or in the refrigerator, indefinitely in the freezer. Dry yeast becomes active when it is dissolved in liquid that contains a bit of sugar and flour.

One packet of active dry yeast is equivalent to 1 scant tablespoon of bulk active dry yeast or 1 cake of compressed yeast.

Quick-Rising Yeast
This is a higher protein strain of yeast that has been recently developed. Just like other dry yeast, it can be stored for a long time if kept cool and dry. It is blended with the other ingredients in the recipe and activated with very hot (125° to 130°F) water. This eliminates the "proofing" process where the yeast is activated by dissolving it in warm water. In addition, the rising process is speedier because the initial temperatures are warmer due to the very hot water.

One packet of quick-rising yeast can be used in place of 1 packet of active dry yeast. Keep in mind that bread flavor develops under a long leavening period; this may not be the best choice of yeasts since it speeds up the rising process.

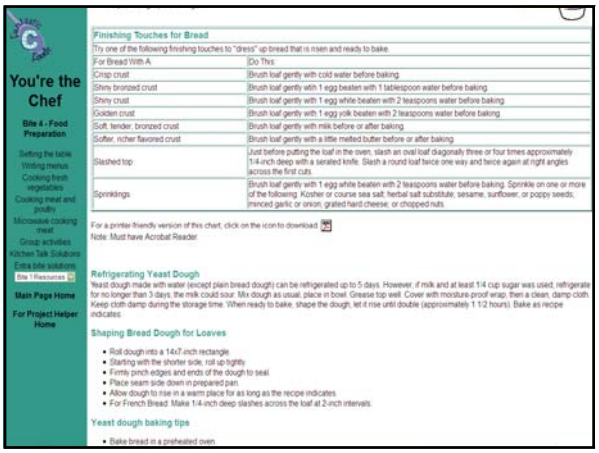
Flour

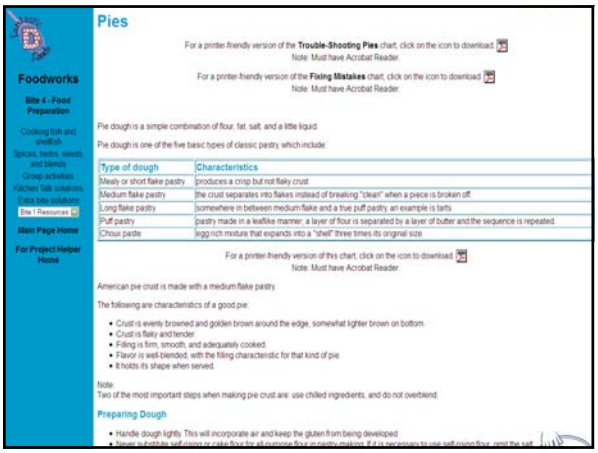
There are many types of flour available on the market, however, wheat is the only grain whose protein produces significant amounts of gluten when it comes in contact with liquid. Gluten is the protein in the flour that forms the structural framework. It forms a complex interlocking network of elastic strands when it is kneaded in dough. These strands capture the carbon dioxide bubbles created by the growing yeast; that is what allows the dough to expand or "rise."

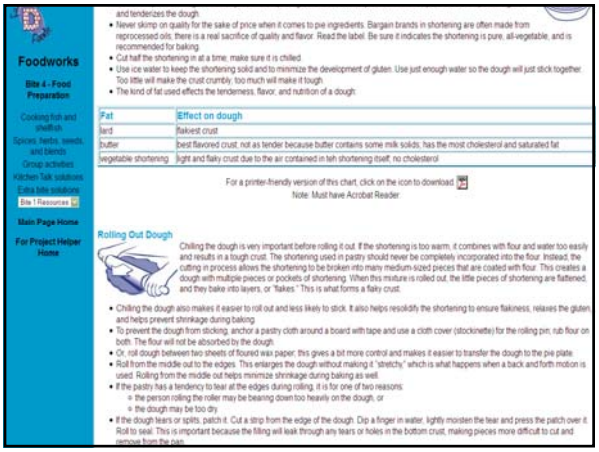
The flavor and texture of breads can be altered by substituting the flour indicated in the recipe with other flours such as rye, buckwheat, triticale, barley, amaranth, and soy. Partially processed grains also can be substituted; they include cornmeal, oatmeal, steel-cut oats, cracked wheat, wheat germ or bran, barley flakes, or even cooked rice or millet. Some tips for using other grains in yeast doughs follow.

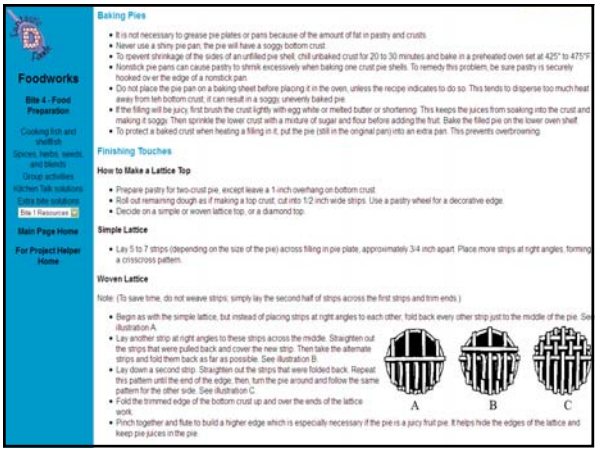
- For beginning bakers just learning to use whole wheat flour, start with a ratio of 1 cup whole wheat to 3 cups all-purpose unbleached white flour.
- When a grain is substituted that does not contain gluten, the bread dough will not be able to trap as many carbon dioxide bubbles; it will not rise as high. Use enough wheat flour, 2 or 3 parts for each part of non-wheat flour, to make sure the dough has enough capacity to trap the carbon dioxide bubbles.
- Start with 1 part non-wheat flour or grain to 3 to 4 parts of wheat flour, either unbleached all-purpose or whole wheat.

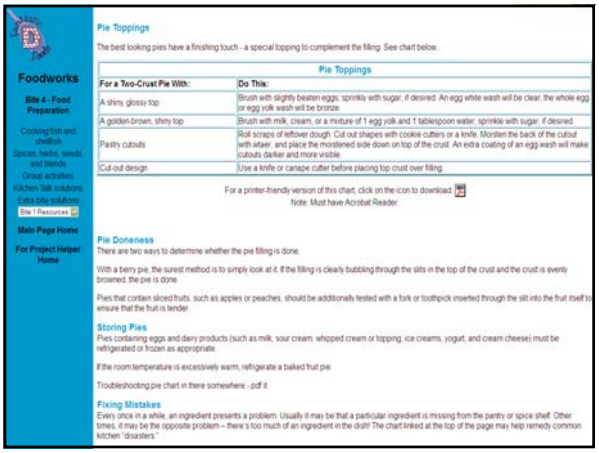
The following are some ideas for basic bread dough additions to make specialty breads:

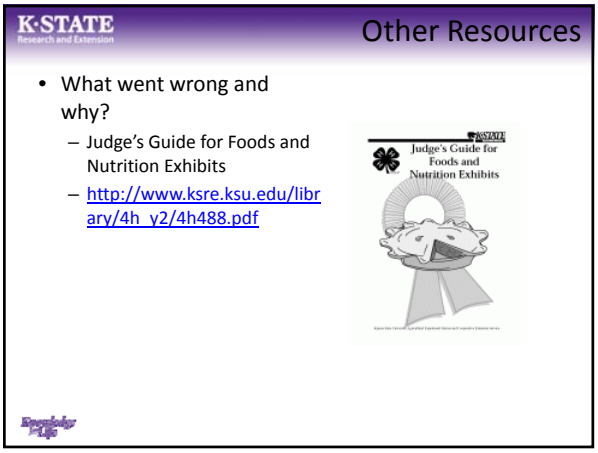

You're the Chef
Finishing Touches for Bread
Refrigerating Yeast Dough
Shaping Bread Dough for Loaves
Yeast dough baking tips


Foodworks
Pies
Preparing Dough


Foodworks
Rolling Out Dough


Foodworks
Baking Pies
Finishing Touches
How to Make a Lattice Top
Simple Lattice
Woven Lattice


Foodworks
Pie Toppings
Pie Doneness
Storing Pies
Fixing Mistakes


K-STATE
Research and Extension
Other Resources
What went wrong and why?
Judge's Guide for Foods and Nutrition Exhibits
http://www.ksre.ksu.edu/library/4h_y2/4h488.pdf
Judge's Guide for Foods and Nutrition Exhibits

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PRACTICE!!!!

Just as in sports, music, showing livestock, and other activities….

It takes PRACTICE!!!

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- Next webinar
  - March 20, 2012
  - 7:00pm
- Topic
  - Canning