



# Purpose of Ingredients

## Quick Breads

# Today's Agenda

- Ingredients and Functions
- General Description – Quick Breads
- Batters vs. Doughs
- Preparation Techniques
- Nutrition Principles
- Storage

# Functions of Ingredients

- Flour
  - Gives structure to baked products.



# Functions of Ingredients

- Leavening Agents

- Ingredients that produce gases in batters and doughs.
- Make baked products rise and become light and porous.
- Chemical reaction with moisture during baking cause these ingredients to release carbon dioxide gas.

- Examples:

- Baking Soda
- Baking Powder



# Leavening Agents

- **Baking Soda** (Sodium Bicarbonate)
  - An alkaline ingredient...can produce a bitter taste if not neutralized by an acid ingredient in the recipe.
  - Acid Ingredients: buttermilk, honey, molasses, brown sugar, vinegar, applesauce or other fruit, and citrus juices.
- **Baking Powder**
  - Contains a dry acid or acid salt, baking soda, and starch or flour.
  - Using too much =produce too much gas and product will collapse.
  - Using too little =not enough gas produces so product will be small and compact.

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# Functions of Ingredients

- **Liquids**
  - Water, milk, fruit juices, eggs, fat
    - Hydrates the protein and starch in flour (liquid is absorbed) .
    - Proteins must absorb liquid to later form gluten.
    - Starches must absorb liquid to gelatinize during baking.
    - Helps to moisten or dissolve ingredients such as baking powder, salt, and sugar.
    - Converted to steam during baking.

# Functions of Ingredients

- **Fat**
  - Butter/margarine, shortening, oil.
    - Tenderizes the baked product.
    - Fat coats the flour particles and causes the dough structure to separate into layers.
  - Aids in leavening
    - When you beat fat, air bubbles form.
    - Fat traps these air bubbles and holds them.



# Functions of Ingredients

- Eggs
  - When beaten, they help incorporate air into baked products.
  - Add color
  - Add flavor
  - Binds ingredients together.
  - Contribute to the structure.
    - During baking, the egg proteins coagulate (go from liquid state to solid state) giving the batter or dough elasticity and structure.

# Functions of Ingredients

- **Sugar**

- Gives sweetness to baked products.
- Has a tenderizing effect.
- Helps crusts brown.
- Using brown sugar produces baked products that are moister than products made with granulated sugar (table sugar).

- **Salt**

- Adds flavor.
- Enhances the flavor of other ingredients.

# Quick Breads

- Baked products that can be prepared in a short amount of time using chemical leaveners.
  - Baking Powder
  - Baking Soda
- Examples: biscuits, muffins/banana bread, pancakes, and waffles.

# Batter-Type Quick Breads

- Range in consistency from thin liquids to stiff liquids...  
Pancakes vs. Biscuits.
  - Pour batters (*Thin*)=Large amount of liquid, small amount of flour.
    - Example: Pancakes
  - Drop batters (*Stiff*)=High proportion of flour; get dropped from a spoon onto pan.
    - Examples: Drop biscuits, banana bread, some muffins



# Dough-Type Quick Breads

- Have a higher proportion of flour than stiff batters.
- Stiff enough to shape by hand
  - Soft dough
    - Example: Shortcakes, rolled biscuits
  - Stiff dough
    - Example: Rolled cookies (sugar), pastry/pie crust



# #1 Principle of Preparing

- Development of gluten.
  - A protein that gives strength and elasticity to batters and doughs and structure to baked products.
  - Holds the leavening gases to help baked product rise.
  - Quick breads **do not want gluten to overdevelop**



# Gluten Reduction Tips

- Overdeveloped gluten in quick breads will result in compact and tough products
- To keep quick breads light and tender, mix them for only a short time and handle them carefully
- Different kinds of flour contain different amounts of gluten
  - You must use the type of flour suggested in the recipe or determine appropriate substitution(s) if using gluten free alternatives.

# Mixing Method #1

- **Biscuit Method**

- Sift dry ingredients together in mixing bowl.
- Use pastry blender (or two knives) to cut in fat into dry mixture until particles are size of coarse cornmeal.
- Add liquid all at once; stir until dough forms a ball.
- Use when making biscuits and pastry.





# Kneading Dough



- Work to combine into ball
- Press dough down with palms to approximately 1/2" depth
- Fold into thirds (like an envelope) and repeat 1-2 times
- Pat down again to 1" depth
- Cut dough with a biscuit cutter; place on ungreased baking sheet.

# Characteristics of Biscuits

- High-quality rolled biscuit will have an even shape with a smooth, level top and straight sides.
- Crust will be an even brown.
- When broke open, the crumb or soft interior, is white to creamy white.
- It is moist and fluffy and peels off in layers.
- If under-mixed= Low volume; rough, rounded top.
- If over-mixed= Low volume; smooth, rounded top.



# Mixing Method #2



- **Muffin Method**

- Measure dry ingredients into mixing bowl.
- Make a well (hole) in center of dry ingredients.
- In separate bowl, combine beaten eggs with all other liquid ingredients.
- Pour liquid ingredients in center of well of dry ingredients.
- Stir just until the dry ingredients are moistened; grease pan to prevent sticking.
- Use for muffins, waffles, pancakes, and some coffee cakes and breads.

# Characteristics of Muffins

- High-quality muffin has a thin, evenly browned crust.
- Top is symmetrical, but looks rough.
- When broken apart, texture is uniform and crumb is tender and light.
- If under-mixed= Low volume; flat top with coarse crumb.
- If over-mixed= Peaked top; pale, slick crust. When broken apart, narrow, open areas called tunnels are visible.



# Mixing Method #3

- **Creaming Method**
  - Sift dry ingredients together in mixing bowl.
  - Combine softened fat and sugar in a bowl until color lightens
  - Add eggs gradually
  - Add dry and liquid ingredients alternately
- Final product will be cakelike with a fine texture

# Nutritional Contributions

- Provides the diet with mostly carbohydrates (flour) and fats (shortening, oil, butter).
- Some protein (eggs, nuts).
- Some fruit/vegetables (bananas, zucchini, etc.)
- Substitute lower fat/calorie ingredients where possible.
  - Example: Fat free milk vs. whole milk; use applesauce for oil, etc.

# Storing Quick Breads

- Freshly baked items can be stored at room temperature or in the freezer, tightly wrapped.
- Freezing bread (when hot/humid) prevents mold growth.
- Keep refrigerated doughs in the refrigerator until you plan to bake them.
- Store frozen doughs and baked products in the freezer until you are ready to use them.