

The Dummies' Guide to Baking Ingredients



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Young Professionals Webinar Series

Baker's percent



- Baker's way of confusing food scientists
 - Doesn't really make sense to anyone else but the baker
- Based on flour weight
 - Ease of dosage
- Dough conditioners
- Baker's percent is only used in baking systems that do not contain high amount of fiber and other non-wheat flours or grains.

Flour

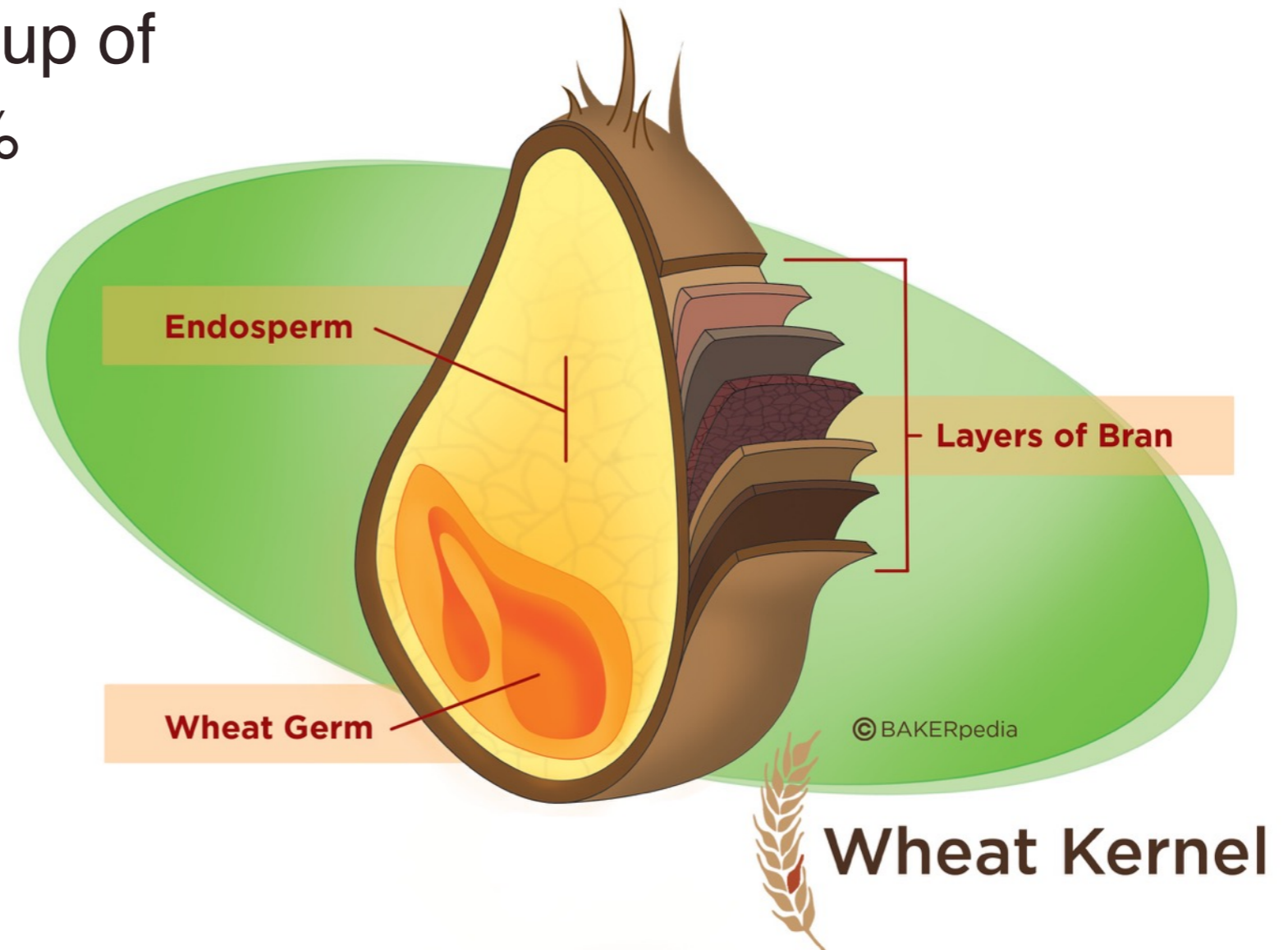


- Wheat Flour
 - Types of wheat
- Hard Wheat
 - Bread, pizza, bagels
- Soft Wheat
 - Cookies, cakes, pastries
- Flour Quality
 - Soft wheat - lower protein quality and quantity
 - Hard wheat - higher protein quality and quantity
- Why is flour important?
 - Over 50% of formulas

Flour

Wheat kernel makes up of

- Carbohydrates 80%
 - Amylose
 - Amylopectin
 - pentosans
- Protein 15%
 - Gluten
 - Gliadin
 - Glutenins
- Fat 3%
 - Germ



Other Flour Source

- Gluten containing grains

- Rye
- Triticale
- Spelt



- Non-gluten containing grains & seeds

- Sorghum
- Maize
- Flax
- Amanranth
- Oat
- Rice
- Quinoa
- Buckwheat

Water

- pH
- Plasticizer
- Water absorption
- Water activity
- Moisture
- Water source



Fat/Shortening

- Animal
 - Lard
- Dairy
 - Butter
 - Cream
 - Cream cheese
- Plant
 - Liquid oil
 - corn, soy, olive
 - Solid fat
 - palm, ghee, coconut, cocoa butter
- Alpha - beta fats



Leavening systems

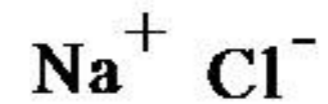
- **Chemical leavening**
 - **Acid/base reaction**
 - **Leavening acids**
 - **Neutralizing values (fast vs slow)**
- **Yeast**
 - **Cake**
 - **Dry**
 - **Cream/liquid**
- **Sourdough**
 - **Flour microflora**
 - **aroma**



Salt

Functions more than just taste

- Flavor
- Strengthener
- Fermentation



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Sugar

- Functions as:
 - Flavor
 - Sweetener
 - Browning
 - Tenderizer
 - Shelf life extender



- Types
 - Sugar Crystals
 - Brown
 - Confectioner's
 - Granulated
 - Castor
 - Liquid
 - High Fructose Corn Syrup
 - Invert sugar
 - Honey
 - Rice syrup

pH modulators

- Function
 - Shelf life extension
 - Manipulate function of dough
 - Leavening
- Types
 - Vinegar
 - Cultured wheat
 - Acids
 - Bases



Fiber

- Fiber is a plant based cellulose material
- Types:
 - Soluble
 - Insoluble
- High fiber definition
 - 4g fiber/serving
 - FDA approved sources



Dough Conditioners

- Consistent outcome and quality
- Mechanical dough processing
- Optimizing supply chain
- Types
 - Oxidizing agents
 - Reducing agents
- Yeast nutrients
- pH modulators
- Emulsifiers
- Enzymes
- Wheat gluten



Egg

- Function
 - Foaming
 - Emulsification
 - Strength
 - Aroma
 - Texture
 - Nutritional value



Dairy

- NFDM
 - heat treated
- Milk
- Buttermilk
- Evaporated milk
- Cream cheese
- Whey
- Aroma
- Soft and fluffy texture
- Increases protein%
- Better shelf life



Chocolate

- Flavor
- Quantity of cocoa butter
- Types
 - Chocolate liquor
 - Blocks/chips
 - Powder
 - Dutched



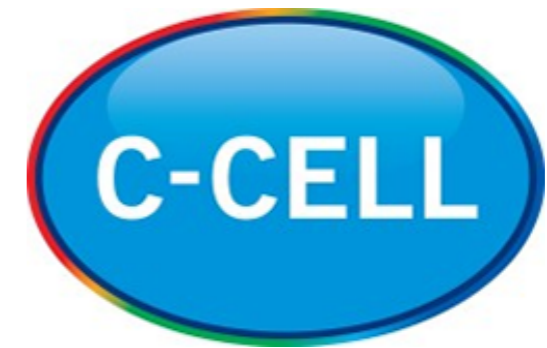
Others

- Artificial/natural flavors
- Preservatives
- Shelf life extenders
- Sprouted and soaked grains
- Inclusions
 - Chocolate/flavored chips
 - Extruded cereals
 - Dried fruit
- Other ingredients

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