



# Grains of truth about BAKING INGREDIENTS

- ◆ **Amylases (diastases):** Enzymes capable of breaking starch and glycogen into smaller molecules.
- ◆ **Antioxidant:** A substance, such as BHA or BHT, which prevents oxidation and thus rancidity in fats.
- ◆ **Baking powder:** A dry mixture of bicarbonate of soda and one or more acid substances compounded to generate large quantities of carbon dioxide gas to leaven products while baking.
- ◆ **BHA (butylated hydroxyanisole):** An antioxidant used to stabilize fats and oils; functions similar to BHT.
- ◆ **BHT (butylated hydroxytoluene):** An antioxidant functioning similar to BHA.
- ◆ **Bleaching:** The process of treating flour with minute amounts of benzoyl peroxide and exposure to chlorine to remove yellow (carotenoid) pigment and produce a whiter flour and crumb. The process matures the flour and in the case of cake flours, denatures the gluten and improves performance.
- ◆ **Calcium propionate:** A salt of an organic acid (propionic acid) used in small quantities in bread to inhibit mold growth.
- ◆ **Carbohydrates:** Sugars and starches derived chiefly from plant sources.
- ◆ **Cellulose:** The fibrous or woody matter of plants making up cell walls; a source of insoluble dietary fiber in baking goods.
- ◆ **Compound shortening:** A blend of animal and/or vegetable fats or oils, combined for stability; “standard shortening.”
- ◆ **Corn syrup:** Sugar produced from cornstarch; comprised of glucose (dextrose), maltose and higher sugars; 70 to 80 percent solids.
- ◆ **Cream of tartar:** Acid tartrate of potassium; often used in baking powder as the acid ingredient.
- ◆ **Crumb softener:** Emulsifiers that retard crumb firming, extend the shelf life and retard staleness in bakery products (e.g. calcium stearoyllactylete or CLS); F.D.A. approved.
- ◆ **Cysteine:** An amino acid used in breadmaking to reduce mixing requirements for optimum dough development.
- ◆ **Dextrin:** A glucose polymer shorter than the starch chain.
- ◆ **Dietary fiber:** The part of cereal grains, fruits, vegetables, peas/beans/legumes, seeds and nuts that resist digestion by enzymes in the human digestive tract. Dietary fiber is found only in plant-based foods.
- ◆ **Dough conditioner:** An ambiguous term referring to an ingredient added to bread dough for improvement; may be yeast food, oxidant, reducing agent, enzyme or dough strengthener (e.g. azodicarbonamide or ADA).
- ◆ **Dough strengthener:** An ingredient used to bind the protein (gluten) in dough; improves mixing and machining tolerances; stabilizes and enhances texture, volume, shelf life and crumb (e.g. ethoxylated monoglycerides or EOM).
- ◆ **ESL:** Extended Shelf Life, extends the life of the product on the shelf.
- ◆ **Emulsifier:** A compound allowing a relatively permanent suspension of oils and fats in water (e.g. glyceryl monostearate or GMS, lecithin, monoglycerides, polysorbate 60 – used primarily in cakes and frostings).
- ◆ **Fermentation:** In bread baking, yeast metabolizes sugar to produce ethyl alcohol and carbon dioxide gas to leaven (raise) the dough and produce loaf volume and flavor.
- ◆ **Ferrous sulfate:** Enrichment compound used to supply iron in baked goods as required by F.D.A.
- ◆ **Flour, all-purpose:** Enriched white flour, bleached or unbleached, of medium protein strength primarily used in home baking.

◆ **Flour, bread:** Enriched white flour, generally unbleached, that has sufficient protein and gluten strength for producing high quality yeast breads. This flour has the highest protein content.

◆ **Flour, cake:** A fine, silky flour milled from soft, low-protein wheats. This flour has the lowest protein content.

.. **Flour, enriched:** Flour supplemented with thiamin, riboflavin, niacin, folic acid (B-vitamins) and iron to meet government (F.D.A.) standards; may also be supplemented with calcium.

.. **Flour, pastry:** Milled from soft wheats, this flour is similar to cake flour, but with a slightly higher protein content.

.. **Flour, whole-wheat:** Flour produced from the entire wheat kernel. Also known as graham flour.

.. **Folic acid:** Folic acid is a B vitamin that's shown to protect against neural tube defects and anencephaly. Folates are also needed for cell growth and blood production. Effective January 1, 1998, a new fortification law required enriched grain products to contain specific levels of folic acid. NTD has dropped by 23 percent since 1998.

.. **Gluten (vital):** A wheat flour protein formed when water and flour are mixed; gives dough elasticity, strength and gas retaining properties.

.. **Hydrogenated shortening:** Shortening prepared by partially solidifying (hydrogenating) vegetable oils; may contain animal fats.

.. **Improving agent:** Any substance added to flour or dough to improve its performance during breadmaking or in the finished product.

.. **Invert sugar:** A syrup containing glucose, fructose and some residual sucrose; prepared by treating cane or beet sugar with dilute acid and/or enzymes.

.. **Leavening:** The process of introducing and/or producing gas to give volume to dough's and batters; may be air, steam, yeast, bacteria (such as in salt-rising bread) or chemical agents.

.. **Lecithin:** Used to stabilize emulsions; derived from egg yolk or soybean oil, is a mild anti-oxidant used as a crumb softener and as an active component in pan release agents.

.. **Malt:** Grain, usually barley, partially germinated, dried and powdered or in syrup form; used widely in breadmaking and brewing yeast food.

.. **Mold inhibitors:** Compounds added to food to retard mold and extend shelf life (e.g. calcium propionate, vinegar).

.. **Monoglycerides:** A chemical compound of one fatty acid and glycerol; used widely as an emulsifier in foods.

.. **Oxidants:** Agents used to mature flour, improving its breadmaking qualities (e.g. ascorbic acid or vitamin C).

.. **Plastic shortening:** Shortening comprised of a solid and liquid fat, typically liquid at room temperature.

.. **Polysaccharide:** A complex carbohydrate; may be broken into simple sugars (monosaccharides) such as glucose and maltose.

.. **Preservatives:** Substances added to foods to prevent or delay spoilage from fungal or bacterial action or chemical interactions (e.g. potassium sorbate, a potassium salt of sorbic acid applied in a water spray or baked products).

.. **Soda:** Carbonate or bicarbonate of sodium; alkaline leavening agent used in combination with leavening acids.

.. **Stabilizers:** Gelatinous substances added to oil and water emulsions to prevent separation (e.g. gums in icings and fillings to prevent weeping or melting).

.. **Surfactant:** A chemical able to reduce surface tension of water; used in baking to keep fat and water in emulsion (e.g. polysorbate 60, monoglycerides, propylene glycol, monostearate).

.. **Yeast:** A unicellular fungi which ferments carbohydrates to produce alcohol and carbon dioxide, which causes bread to rise.

.. **Yeast food:** A combination of mineral salts and chemicals required by yeast for growth and propagation. (Also malted barley flour.)

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