



GRAINS of TRUTH

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 stearoyl lactylate or CLS); F.D.A. approved.

Cysteine: An amino acid used in bread making 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: 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 fortified with calcium.

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



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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.)