



# FACT SHEET: FUNCTIONS OF INGREDIENTS IN BAKING, COOKING, AND GRILLING

## Baking Ingredients & Their Functions

- Flour** Provides structure through gluten or starch.
- Sugar** Sweetens, tenderizes, aids in browning (Maillard reaction).
- Brown Sugar** Adds moisture and a deeper flavor due to molasses content.
- Eggs** Bind, leaven, emulsify, and add moisture and richness.
- Butter** Adds flavor, richness, and tenderness.
- Oil** Moistens and tenderizes; used in cakes and quick breads.
- Baking Powder** Chemical leavening agent (acid + base) for rise.
- Baking Soda** Needs acid to activate; helps with browning and leavening.
- Milk/Buttermilk** Adds moisture, activates leavening agents, and tenderizes.
- Salt** Enhances flavor and strengthens gluten.
- Yeast** Biological leavening; ferments sugars to produce CO<sub>2</sub>.
- Cornstarch** Lightens flour mixtures, thickens fillings.
- Gelatin** Stabilizes and thickens desserts like mousse or marshmallows.
- Vinegar/Lemon Juice** Acidic agents that react with baking soda for leavening.

- Cocoa Powder** Adds chocolate flavor and color; can be acidic or neutral.
- Cream of Tartar** Stabilizes egg whites and activates baking soda.
- Vanilla/Flavor Extracts** Add aroma and depth of flavor.

## Cooking Ingredients & Their Functions

- Oil/Fat (olive, canola, etc.)** Transfers heat, adds flavor, and prevents sticking.
- Salt** Enhances and balances flavor.
- Pepper** Adds heat and complexity.
- Acids (vinegar, citrus)** Brighten flavors, tenderize proteins, balance richness.
- Herbs (fresh/dried)** Add freshness, aroma, and complexity.
- Spices (cumin, paprika, etc.)** Add flavor, aroma, color, and regional character
- Onions/Garlic/Shallots** Aromatics that build foundational flavor.
- Tomatoes (fresh, paste, canned)** Provide acidity, umami, and color.
- Broth/Stock** Adds moisture and a savory base.
- Wine/Beer** Adds acidity and depth; used in deglazing and braising.
- Soy Sauce/Fish Sauce** Adds umami and saltiness.
- Butter/Cream** Adds richness and smooth texture.

- Starches (rice, pasta, potatoes)** Provide bulk, texture, and energy.
- Flour/Cornstarch** Used for thickening sauces and soups.
- Honey/Maple Syrup** Sweeteners that also aid in browning and flavor.

## Grilling Ingredients & Their Functions

- Marinades** Tenderize and flavor meats using acids, oils, and seasonings.
- Dry Rubs** Add crust, flavor, and texture.
- Oil** Prevents sticking and promotes browning.
- Salt** Enhances flavor and helps form crust.
- Sugar (in rubs/marinades)** Aids caramelization and browning.
- Mustard** Acts as a binder for rubs and adds tang.
- Worcestershire Sauce** Adds umami and depth to marinades.
- Chili Powder/Smoked Paprika** Adds heat and smoky flavor.
- Wood Chips/Charcoal** Impart smoky flavor and heat.
- Vegetables (peppers, onions, corn)** Add variety, texture, and flavor when grilled.
- Citrus Zest/Juice** Brightens grilled dishes and balances richness.



## Boiling

- **Salt** Enhances flavor and raises boiling point slightly.
- **Water/Broth** Acts as the cooking medium; broth adds flavor.
- **Acid (vinegar, lemon)** Helps retain color in vegetables and firm texture in proteins.
- **Aromatics (onion, garlic, herbs)** Infuse flavor into the boiling liquid.
- **Starch (pasta, rice, potatoes)** Absorbs water and softens during cooking.



## Frying

- **Oil (high smoke point)** Transfers heat quickly and evenly; creates crisp texture.
- **Flour/Breading** Forms a crust and protects food from direct oil contact.
- **Eggs (in batter)** Bind breading and add richness.
- **Salt/Spices** Enhance flavor and contribute to crust formation.
- **Cornstarch** Adds extra crispiness to coatings.



## Roasting

- **Oil/Fat** Promotes browning and prevents sticking.
- **Salt** Draws out moisture and enhances flavor.
- **Herbs/Spices** Infuse flavor during dry heat cooking.
- **Vegetables/Meats** Caramelize and develop deep flavors through Maillard reaction.
- **Acid (lemon, vinegar)** Balances richness and brightens flavor.



## Steaming

- **Water/Broth** Generates steam for gentle cooking.
- **Aromatics (herbs, citrus, ginger)** Infuse subtle flavor into food.
- **Vegetables/Seafood** Retain nutrients, color, and texture.
- **Soy Sauce/Sesame Oil (post-steaming)** Add flavor without overpowering delicate foods.



## Air Frying

- **Oil Spray** Aids in browning and crisping with minimal fat.
- **Breading/Coating** Creates a crispy texture similar to deep frying.
- **Spices/Seasonings** Enhance flavor and aroma.
- **Starch (cornstarch, flour)** Helps achieve a golden, crunchy exterior.
- **Marinades** Add flavor and moisture before air frying.

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