



Bread Production and Ingredients



Bread Making Process

- A series of several steps must be followed
- Each step has specific dough properties and processing conditions
 - time
 - temperature
- Each step is dependent on the success of the previous step

Preparation

Weighing/scaling

Mixing

Rest/Fermentation time

Dividing and rounding

Intermediate proof

Sheeting and moulding

Proofing/Final fermentation

Baking

Raw ingredients

Flour, water, yeast, salt, sugar, fat, and micro ingredients

Dough

Mature dough

Rounded dough piece

Mature rounded dough piece

Moulded dough piece

Proofed dough

Baked product

White open top pan bread

Ingredients: Enriched wheat flour, Water, Sugar, Yeast*, Vegetable oil (canola or soybean), Wheat gluten*, Salt, Vinegar, Calcium propionate, Soybean flour, Sorbic acid, Soybean lecithin.

*Order may change.

Ingredient	Role
Enriched wheat flour	Comprised of mostly carbohydrates and proteins, wheat flour is the main ingredient in bread and provides structure and nutritional benefits. Enriched means niacin, thiamin, riboflavin, folic acid and iron have been added to the flour.
Water	Water is required to hydrate and dissolve dry ingredients, activate yeast and enzymes, initiate fermentation, control the temperature and provide softness in the final dough.
Sugar	Provides food for yeast to work. Sugar adds sweetness to the bread, improves crust colour and helps extend shelf life by retaining moisture.

Ingredient	Role
Yeast	Converts carbohydrates to gases (CO ₂) which cause the dough to rise. Yeast also produces alcohols (ethanol) and other organic compounds to improve flavour.
Vegetable oil (canola or soybean)	Acts as a tenderizer by coating gluten and starches ultimately giving bread a soft crumb and texture. Oils or other fats improve fermentation tolerance and dough handling, enhance the bread flavour and extend shelf life.
Wheat gluten	The protein in wheat and barley, gluten makes a unique structure (the gluten matrix) that provides strength and extensibility to baked products.

Ingredient	Role
Salt	A multifunctional ingredient in bread. It provides flavour, acts as a dough strengthener, controls fermentation and extends shelf life by inhibiting mold growth.
Vinegar Calcium propionate Sorbic acid	Preservatives that inhibit mold growth. Other natural types of preservatives include sour starter or wheat starch solids.
Soybean flour	An enzyme present in soy breaks down yellow compounds in wheat causing a whiter and brighter crumb.

Ingredient	Role
Soybean lecithin	<p>An emulsifier that strengthens the dough by interacting with gluten to improve mixing and fermentation tolerance, dough handling, bread volume and crumb texture and softens the crumb by interacting with starch to reduce staling and improve shelf life.</p> <p>Other emulsifiers used in the production of bread include diacetyl tartaric esters of mono- and diglycerides (DATEM), sodium stearoyl-2-lactylate (SSL), and mono- and diglycerides.</p>

Other Ingredients	Role
Ascorbic acid	Provides strength to the dough. It improves bread volume and texture.
Enzymes	Natural additives that achieve special effects in the dough. They enhance taste and texture, improve volume and extend shelf-life.
L-cysteine hydrochloride	Makes strong doughs weaker. Improves volume and reduces mixing time.