



**Is the Brown Bread that you just bought, really Brown Bread?**

### **Don't be fooled by the Brown colour of the bread!**

The term 'brown bread' is usually taken to mean the bread that is made of whole-wheat grains. In other words, in the process of making brown bread, the bran and germ of the wheat flour are not removed and left intact. The result is that the bread retains all its essential nutrients, along with the much healthy fiber.

However, while buying brown bread, in the exact sense, you should not only look at its color, but also at the ingredients in it. This is because, in

many cases, the bread is made to look brown by adding things like caramel, but in essence, it is not made from whole wheat and does not contain all the nutrients. **So, before buying brown bread, make sure to check that it has whole wheat flour as the main ingredient.**

#### **Brown Bread Facts & Health Benefits**

- All whole-wheat breads are brown in color, but not all brown breads are made of whole-wheat. Before buying brown bread, make sure that it has whole grain as the main ingredient.



- Brown bread has more fiber and nutrients than white bread, since it is not processed as much as the latter.
- The fiber present in whole wheat brown bread helps reduce the risk of some chronic diseases, like constipation, hemorrhoids and diverticulosis.
- Since fiber helps lower LDL cholesterol (the bad cholesterol) and the total cholesterol, whole wheat brown bread has been associated with reducing the risk of heart disease.
- The fiber in brown bread also helps keep the blood sugar at lower levels, meaning the bread facilitates better management of diabetes.
- Those who are aiming for weight loss or are otherwise health conscious should prefer brown bread, since it has much less calories than the white one and also keeps you feeling full for a longer time (owing to the fiber content).
- Whole wheat bread reduces the risk of metabolic syndrome, which includes visceral obesity (the "apple shaped" body), low levels of protective HDL cholesterol, high triglycerides, and high blood pressure.
- Brown bread lowers the risk of Type 2 Diabetes, thanks to the rich source of magnesium, which acts as a co-factor for more than 300 enzymes, including enzymes involved in the body's use of glucose and insulin secretion.
- Studies show that women, who consume foods high in insoluble fiber, such as breads made from whole wheat, do not face the problem of gallstones.
- According to research, bread made from whole wheat, when consumed, results in acting as a protective agent against breast cancer.

#### History of Bread

Bread is one of the oldest prepared foods. Evidence from 30,000 years ago in Europe revealed starch residue on rocks used for pounding plants. It is possible that during this time, starch extract from the roots of plants, such as cattails and ferns, was spread on a flat rock, placed over a fire and cooked into a primitive form of flatbread. Around 10,000 BC, with the dawn of the Neolithic age and the

spread of agriculture, grains became the mainstay of making bread. Yeast spores are ubiquitous, including the surface of cereal grains, so any dough left to rest will become naturally leavened.

### **HEALTH BENEFITS OF SOME VARIETIES OF BREAD**

Breads made with 100 percent whole grain wheat are a good source of bran fibre. The bran in wheat bread will improve your bowel movements by softening and increasing the bulk of your stools, making them easier to pass through your intestines

Whole grains were found to reduce the risk of coronary heart disease in a study of 42,850 men, ages 40 to 75, over a period of 14 years.

#### **Lower Risk of Weight Gain**

Bread made with whole wheat helps you maintain a healthy weight. According to a study published in a 2003 issue of "The American Journal of Clinical Nutrition," women who ate more whole grains consistently weighed less than women who ate fewer whole grains

#### **Mental Health**

Within the whole wheat kernel is the vital wheat germ or embryo of the

seed that contains B vitamins, vitamin E, magnesium, phosphorus, iron and zinc. According to the University of Maryland Medical Centre, some studies have suggested that B vitamins and vitamin E may protect against diseases of mental decline, such as Alzheimer's.

### **TIPS TO CONSUMERS FOR IDENTIFICATION OF BREAD**

Labels are often confusing when choosing a 100 percent whole wheat bread. Sometimes the label says made with "whole wheat," "100 percent whole wheat" or "100 percent wheat bread." Read the label carefully to determine if it is made with whole-grain wheat flour or just wheat flour. All white, refined flour is made from wheat, and a loaf of bread may be labelled as containing 100 percent wheat and be mostly white flour. Wheat flour is synonymous with white flour. Choose breads that specify 100 percent whole wheat to get the whole grain benefits.

#### **Gluten Intolerance**

Gluten is a protein found primarily in wheat, barley and rye. If a person has a gluten intolerance, this protein can cause digestive problems such as gassiness, abdominal pain or diarrhoea.

**Moisture**

Moisture generally refers to the presence of water, in food particles. In Indian Standards there is no specified limit for the moisture content in breads. But the lower is the better.

**Alcoholic Acidity**

Alcoholic acidity is determined to find out the age of the bread. If this value exceeds the prescribed standard leads to digestive problems like vomiting, Indigestion etc.

**Acid Insoluble Ash**

It is the measure of the gritty matter

found in the flours used to make bread. If it exceeds limit may disturb the digestive system.

**Crude Fibre**

Crude Fibre is to measure the quantity of indigestible cellulose, pentosans, lignin and other such components present in foods. Such components have little food value but provide the bulk necessary for proper peristaltic action in the intestinal tract. As per the Indian Standard, crude fibre should not be more than 1.8% by mass in wheatmeal bread.



### **Improver (Potassium Bromate/Iodate)**

Potassium Bromate and Potassium Iodate are dough improvers which are widely used in bread manufacturing. Though potassium bromate is used to improve the quality of bread and widely used in the bakery industry, it has carcinogenic effects on human. Use of potassium bromate in bread is banned in many countries. As per the Indian Standards, both Potassium Bromate and Potassium Iodate should not be more than 50mg/kg of the mass of the flour in white bread. As per the FSS rules Potassium Bromate and Potassium Iodate should not be more than 50mg/kg of the mass of the flour in any type of bread, therefore it is also applicable for brown bread.

### **Microbiological Tests**

Microbiological contamination is a very serious issue for food products.

Microorganisms are responsible for many food borne diseases. We conducted

Yeast & Mould count. But the Bureau of Indian Standards completely avoids microbiological requirements in bread.

### **COMPARATIVE TESTING**

Comparative Testing is a formal process by which different brands of a product category is tested for Quality; tested for conformance to the minimum standards laid out by BIS and other standards and how much the brand exceeds these minimum standards; test for potential health and safety hazards even under not-normal usage of the product; verify the special claims of the manufacturers, if any; and publish the results for all the tested brands. As part of the testing, we provide consumer education on the various features, proper usage and how-to-buy guides.

CONCERT has undertaken to do this Comparative Testing for Southern Region under a grant from Department of Consumer Affairs, Government of India. One of the products selected for testing for the year 2014 is Brown Bread.

### **PRODUCTS FOR TESTING**

We have chosen different brands and types of brown bread for our comparative testing. The following brands of brown bread were purchased by us from different markets in four Southern states of India for tests.

**STATE WISE LIST OF BREADS**

Sl.No	Tamil Nadu	Kerala	Karanataka	Andhra Pradesh
1	French Loaf	Modern	Britannia	Softy
2	Adyar bakery	Daily Family bread	Daily bread	Spencers
3	Mc Rennett	Bread factory	Nilgiris	Bakes Fresh
4	London	Elite Milk N sugar	Britannia	Spencers
5	Modern	Modern	Nilgiris	Heritage
6	The Cake World	Bread Factory	Bread works	Bakes Fresh

**CRITERIA AND PARAMETERS FOR TEST**

Three Major Criteria against which the bread samples rated are.

**(1) Packaging and Labelling,****(2) Safety and Health, and****(3) Quality.**

Each criterion and parameter is rated individually on a 5-point scale. The rating given is 1 (Poor), 2 (Fair), 3 (Good), 4 (Very Good), and 5 (Excellent). For any parameter, which in our tests, meets the defined standards will be given the rating of Good. When it exceeds the minimum

standards substantially, it will be rated Very Good. When it exceeds the standards significantly and shows appreciable innovation, it will be rated Excellent.

The results are presented against these major criteria. In each category that in our opinion is fair is without any subjective element. The user is encouraged to study these results and make their buying decisions based on their requirements and judgment.

**LABELING OF PRE-PACKAGED BREAD**

FS&S Regulation 2.2. (Packaging, Labelling) 2011 requires that every





pre-packaged food shall carry a label containing information as required therein unless otherwise provided

1. **The Name of Food:** The name of the food shall include trade name or description of food contained in the package.
2. **Ingredient:** A list of ingredients (except for single ingredient foods) A list of ingredients shall be declared on the label in descending order of their composition by weight or by volume.
3. **Nutritional information;** Nutritional information or nutritional facts per 100 gm or 100ml or per serving of the product shall be given on the label mentioning Energy value in Kcal: Energy value should be given in kilo calories.
4. **Declaration regarding veg or Non-veg:** Non-veg food shall bear a declaration to this effect made by a symbol and colour code. Brown colour for non-veg food & Green colour for Veg food.
5. **Name & complete Address of the manufacturer:** The name & complete address of the

manufacturer should be given on the label.

6. **Net Quantity:** Net quantity by weight or volume shall be declared on every package of food.
7. **Date of Manufacture or packaging:** The date, month and year in which the commodity is manufactured shall be given on the label.
8. **Best before /Use by Date:** The month and year in capital letters up to which the products are best for consumption should be given on the label.
9. **Instruction for use:** Optionally it shall be included on the label.

#### **POINTS FOR CONSUMER'S CONSIDERATION**

- In India there is no separate standard for Brown Bread.
- Bread sold in any name white, brown, milk, fruit, masala, bun, wheat, whole wheat is one and the same.
- Read the nutritional information column and select bread which is rich in carbohydrate or protein content to your preference.

- No bread carries date of manufacture. Hence consumer could not ascertain the age /or freshness of the bread directly.
- "Use by date" is only printed on the label of the breads.
- Farthest use by date indicates the latest entry into the shop for sale.
- Brown colour of the bread may be due to caramel formed during baking or added exclusively.
- Bread with fungus or other abnormal extraneous visible matter or odour may be rejected. Bread must be packed in wax coated paper for longer shelf life.
- Nomenclatures like multigrain, whole wheat, oats & Ragi, 6 or 7 grains, whole meal do not reflect on the nutrition content of the breads.
- Out of the 24 different breads tested from 5 States only the following 10 brands have scored "good" and above in all 3 categories of analysis.

S.NO	PRODUCT NAME	BRAND/ MANUFACTURE NAME
1	Brown Bread	Modern
2	Milk	Daily family bread
3	Milk N sugar	Elite
4	7must	Modern
5	Whole wheat Bread	Mc Rennett
6	Oats & ragi Whole wheat Bread	Modern
7	Brown Bread	Daily Bread
8	6 Grain Bread	Nilgiris
9	Whole wheat Bread	Bakes fresh
10	Whole wheat Bread	Heritage

**Overall rating of Packaging & Labelling**

Out of 12 bread samples collected from Andhra Pradesh, Telangana & Karnataka states, all of them have scored Good & above. Whereas in the bread samples from Tamilnadu & Kerala states, only 50% could score good & above. The remaining 50% have failed to score good and above because either the nutritional information, vegetarian symbol, FSSAI licence number or storage condition have not been mentioned on the label.

**Overall rating of Health & Safety**

Health & Safety aspects of breads were evaluated based on the vital nutrients like protein, fat & carbohydrate. Though there is no specific requirement of these nutrients in bread, these have to be mentioned on the label for consumer information. While considering their percentage in the samples those with less amount of the nutrients were given lesser rank than others. As such out of 24 samples tested only 3 were given "fair" rating when comparing these parameters with others which have scored good and above.

**Overall rating of Quality**

The quality criteria of bread samples

were assessed mostly based on pH and alcoholic acidity of samples which are indicators of the good quality by the nature of flour used for the preparation of bread. If the quality of flour was not premium in nature, the resultant product will naturally go low in quality. All the samples purchased in Tamil Nadu & Kerala have scored good and above as far as quality is concerned. In Andhra Pradesh, Telangana & Karnataka out of 12 samples, 6 samples went down in quality indicating higher alcoholic acidity compared to other samples and scored fair only.

**STORING BREAD FOR LONGER LIFE**

- Ideally bread shall be stored at room temperature. If bread is refrigerated, the starch crystallises fast and the bread will lose its texture. Refrigeration accelerates the bread to become stale.
- Freezing the bread halts the starch crystallisation process. In warm humid areas where mold growth is a problem, it is advised to freeze the bread and defrost slices when needed.

Wrapped bread may be kept in a freezer beyond best before date and

for up to 3 months. Bread is best stored in its original packing tightly closed with quick lock or twist tie.

#### **Common misconceptions about baking and storing bread:**

The number one tip is to **not buy pre-sliced breads**, since the shelf life of bread dramatically decreases as soon as you slice it and put in a plastic bag. Instead, it is recommended to slice off just the portion of bread you plan to eat from the loaf, and then inverting the exposed end on the table or cutting board. This method allows the crust to breathe and evolve as it sits. The loaf really shouldn't even be put into a paper bag, although that's the next best alternative.

The exception to this rule is the baguette, which is essentially a daily bread and should ideally be consumed the day of use. (Who can wait anyway?) If you need to store bread for longer periods of time, you should freeze it.

When storing breads in freezer, make sure the bread is well wrapped so it retains moisture. When you are ready to eat the frozen bread, it's important to take the bread out and allow it to thaw completely before unwrapping. This will allow the loaf to reabsorb

any of the moisture that's migrated out to the wrapping. Let the bread come to room temperature, then pop in the oven for 5-10 minutes at 350 degrees for a warm revitalized loaf.

#### **Avoid storing bread in the refrigerator.**

Changes in the alignment of the starch molecules are what cause bread to go stale. These molecules change most rapidly at the temperature range of the refrigerator (just above freezing). When you reheat bread, it actually changes the starch molecules back, but this also means they can go stale more quickly afterward. So try to eat your reheated breads within an hour or two.

One other common misconception: bread hot out of the oven is actually **not** ready to be eaten. Just like a grilled steak or fish, bread needs time to rest. Allowing the bread to cool gives moisture a chance to move from the interior out to the crust. It is recommended to let bread cool for at least ten to fifteen minutes before enjoying.

#### **Why Is Brown Bread Healthy?**

The recent rise in popularity of whole grains has the masses trading in their spongy white slices for something more nutritionally -- and physically



**Whole Grains are Key**

Whole-grain breads have a nutritional edge over breads with just processed grains because whole grains retain the germ and bran portion of each grain. The bran packs bread with fiber and ups the magnesium, vitamin E and essential fatty

-- dense. If you rely on color alone, however, you may not chose a bread that contains fiber and nutrient-rich whole grains. That's because not all brown breads are created equal.

**Brown Isn't Necessarily Better**

Wheat bread has a reputation for being the healthier choice. The truth is, many wheat breads are just white breads in disguise. They contain the same processed white flour as white bread with the addition of sugars or colorings to give them their darker appearance. Having a darker color isn't a reliable indicator of nutritional value. The phrase "wheat" on the label misleads consumers because most breads contain wheat, even white breads.

acids. Breads without whole grains cast these parts of the plant aside and the nutritional content takes a hit. Make sure the bread you choose lists "100-percent whole wheat" on the packaging or "whole-grain wheat" in the ingredients list.

Another benefit to making brown bread a big part of your diet is the fact that it can be prepared and eaten in a variety of ways. You can use it for making sandwiches at lunchtime or toast at breakfast, or spread low-fat cottage cheese on it as a snack. Brown bread can also be eaten anytime throughout the day, without any preparation at all.

<b>Kerala</b>			
	Modern	Daily Family bread	Bread factory
	Brown Bread	Bread	Multi Grain
<b>Packaging &amp; Labeling</b>	V.Good	Good	Fair
<b>Health &amp; Safety</b>	Good	Good	V.Good
<b>Quality</b>	V.Good	V.Good	V.Good
<b>MRP (in Rs)</b>	Rs 25/400g	Rs 29/500g	Rs 45/150g
<b>Tamilnadu</b>			
	French Loaf	Adyar bakery	Mc Rennett
	Brown bread	Brown Bread	Whole Wheat bread
<b>Packaging &amp; Labeling</b>	Fair	Fair	Good
<b>Health &amp; Safety</b>	Fair	Good	Good
<b>Quality</b>	Good	Good	V.Good
<b>MRP (in Rs)</b>	Rs 50/300g	Rs 27/400g	Rs 28/400g
<b>Karnataka</b>			
	Britannia	Daily bread	Nilgiris
	Brown Bread	Brown bread	Whole wheat brown bread
<b>Packaging &amp; Labeling</b>	V.Good	V.Good	Good
<b>Health &amp; Safety</b>	Fair	Good	Good
<b>Quality</b>	Good	Good	Fair
<b>MRP (in Rs)</b>	Rs 30/400g	Rs 35/400g	Rs 28/400g
<b>Andhra Pradesh</b>			
	Softy	Spencers	Bakes Fresh
	Premium Brown Bread	Whole meal brown bread	Brown bread
<b>Packaging &amp; Labeling</b>	V.Good	V.Good	V.Good
<b>Health &amp; Safety</b>	Good	Fair	Good
<b>Quality</b>	Fair	Good	Fair
<b>MRP (in Rs)</b>	Rs 30/400 g	Rs 30/400g	Rs 30/400g

Kerala			
	Elite	Modern	Bread Factory
	Milk N sugar	7 must	Wheat bread
<b>Packaging &amp; Labeling</b>	V.Good	V.Good	Fair
<b>Health &amp; Safety</b>	Good	V.Good	Good
<b>Quality</b>	V.Good	Good	Good
<b>MRP (in Rs)</b>	Rs 24/400g	Rs 27/400g	Rs 35/250g
Tamilnadu			
	London	Modern	The Cake World
	Whole wheat	Oats & Ragi whole wheat	Brown Bread
<b>Packaging &amp; Labeling</b>	Poor	V.Good	Poor
<b>Health &amp; Safety</b>	Good	Good	Good
<b>Quality</b>	Good	V.Good	Good
<b>MRP (in Rs)</b>	Rs 40/200g	Rs 28/400g	Rs 30/400g
Karnataka			
	Britannia	Nilgiris	Bread works
	Whole wheat	6 Grain bread	Whole Grain multi Grain
<b>Packaging &amp; Labeling</b>	V.Good	Good	V.Good
<b>Health &amp; Safety</b>	Good	Good	Good
<b>Quality</b>	Fair	Good	Fair
<b>MRP (in Rs)</b>	Rs 33/400g	Rs 45/400g	RS 48/400g
Andhra Pradesh		Telengana	
	Spencers	Heritage	Bakes Fresh
	whole wheat bread	Whole wheat bread	Whole wheat Bread
<b>Packaging &amp; Labeling</b>	Good	V.Good	V.Good
<b>Health &amp; Safety</b>	Good	Good	V.Good
<b>Quality</b>	Fair	V.Good	Good
<b>MRP (in Rs)</b>	Rs 30/400g	Rs 30/400g	Rs 32/400g



#### Comparative Testing Team

- |                                |   |  |
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