Cold-Pressed Groundnut Oils: Which One Truly Delivers?

Groundnut oil, also known as peanut oil, is one of India's most widely used edible oils, valued for its mild flavour, versatility, and nutritional profile. Extracted from groundnuts, it is commonly used for frying, sautéing, and everyday cooking because of its high smoke point and neutral taste, which does not overpower the flavour of food.

Cold-pressed groundnut oil has gained increasing popularity among health-conscious consumers as it is extracted without excessive heat or chemical processing, helping retain its natural nutrients, flavour, and aroma. It is a rich source of monounsaturated fatty acids (MUFA), which are considered heart-friendly and may help reduce LDL ("bad") cholesterol while maintaining HDL ("good") cholesterol levels. It also contains polyunsaturated fatty acids (PUFA), including omega-6 fatty acids, while being relatively low in saturated fats.

Besides providing energy, groundnut oil contributes to the absorption of fat-soluble vitamins and enhances the taste and texture of a wide range of foods. With the growing demand for healthier cooking oils, consumers are increasingly looking for products that offer not only nutritional benefits but also assured quality, purity, and safety. This comparative study evaluates leading brands of cold-pressed groundnut oil to help consumers make informed purchasing decisions based on quality, safety, nutritional parameters, and value for money.

A Consumer Voice Report

Groundnut oil is available in the market in both refined and cold-pressed (or filtered) forms. It is a versatile cooking oil suitable for a wide range of culinary applications, including frying, sautéing, grilling, seasoning, and deep-frying. Refined groundnut oil undergoes various processing methods, such as expeller pressing and solvent extraction, followed by refining to remove impurities, odour, and colour. In contrast, cold-pressed groundnut oil is extracted mechanically at low temperatures without the use of chemical solvents, helping preserve its natural flavour, aroma, and nutritional properties.

Cold-Pressed vs. Refined Groundnut Oil

Groundnut oil is available in two main forms—cold-pressed and refined—each produced using a different extraction process and offering distinct characteristics.

Refined Groundnut Oil: Refined oil is extracted using mechanical expeller pressing or solvent extraction, followed by a series of refining processes. These processes remove suspended particles, impurities, free fatty acids, colour, odour, and other undesirable components, resulting in a clear, neutral-tasting oil with a longer shelf life. However, refining may also reduce the levels of naturally occurring antioxidants and certain nutrients.

Cold-Pressed Groundnut Oil: Cold-pressed groundnut oil, also known as kachi ghani groundnut oil, is extracted by mechanically pressing high-quality groundnuts at low temperatures without the use of heat or chemical solvents. This traditional method helps retain the oil's natural flavour, aroma, antioxidants, and bioactive compounds, making it a preferred choice among health-conscious consumers. The oil typically has a characteristic nutty taste and a richer colour than refined oil.

Key Benefits of Cold-Pressed Groundnut Oil

Nutrient Retention: Because it is not heavily processed or bleached, it retains vital monounsaturated (MUFA) and polyunsaturated (PUFA) fats, which promote heart health and help regulate cholesterol levels.

Natural Antioxidants: It retains natural plant sterols and antioxidants that combat oxidative stress in the body.

Rich Flavour: It has a deep, naturally nutty flavor and aroma that enhances the taste of food compared to bland, refined oils.

How we tested

The comparative testing programme for cold-pressed groundnut oils was carried out based on the requirements specified under the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 and the relevant national standard, IS 544:2014, which prescribe the quality and safety parameters for groundnut oil.

For this study, Consumer VOICE selected leading brands of cold-pressed groundnut oil available in the Indian market. Samples were procured from retail outlets and organised retail chains and were subjected to comprehensive laboratory testing in accordance with the applicable provisions of the Food Safety and Standards Regulations and IS 544:2014.

The tests were conducted at a National Accreditation Board for Testing and Calibration Laboratories (NABL)-accredited laboratory using standard test methods.

Brands Tested

This study covers the comparative testing of 10 brands of cold-pressed groundnut oil, each sold in 1-litre packs.

S. No.	Brand Name	Net Quantity, ml	Retail Price Rs.	MRP Rs.	Best before, Months	Manufactured/ Marketed by
1	Indic Wisdom	1000	291/-	470/-	12	Indic Wisdom Pvt. Ltd.
2	Anveshan	1000	379/-	425/-	12	Nandhini Agro Foods
3	Organic India (TATA)	1000	383/-	550/-	15	Natureland Organic Foods Pvt. Ltd.
4	Dabur	1000	467/-	499/-	9	Sri Vigneshwara Oil Mill No. I
5	Tata Simply Better	1000	353/-	500/-	12	Sreeve Edible Oils Pvt. Ltd.
6	Jivo	1000	292/-	560/-	24	Jivo wellness Pvt. Ltd.
7	Gulab	1000	319/-	490/-	9	Gulab Oil and Food(Ahmedabad) Pvt. Ltd.
8	Two Brothers	1000	404/-	425/-	12	TBOF Foods Pvt. Ltd.
9	PUVI	1000	478/-	560/-	9	The Universal Seeds Corporation
10	Saffola	1000	277/-	450/-	12	Sreeve Edible Oils Pvt. Ltd.

Groundnut oil samples were procured from retail markets and retail chains. The maximum retail price (MRP) of the samples ranged from ₹425 to ₹560 per litre. Lowest retail price was of Saffola @ Rs. 277/- per litre.

CV Recommendations

Top Performers

Gulab Goodness, Anveshan and Saffola

Value for Money

Saffola as retail cost was @ Rs. 277/- per litre and performed on Very Good Category scoring 91%

Key Findings

- In the cold-pressed groundnut oil category, Gulab Goodness, Anveshan and Saffola emerged as the top-performing brands as they fall in very good category. Remaining six brands were in good category.
- Saffola (lowest priced) was identified as the best value-for-money brand in the cold-pressed groundnut oil category.
- All the brands complied with the requirements of the Food Safety and Standards Regulations and were found to be safe for consumption.
- None of the brands showed evidence of adulteration.
- Aflatoxin was not detected in any of the brands tested.

Comparative Performance Score

BRANDS → / TEST PARAMETERS ↓	Max score	Gulab	Anveshan	Saffola	Tata Simply	Dabur	Puvi	Jivo	Two brothers	Indic Wisdom	Organic India
Marking/labelling	4	3.5	4	4	4	3.5	4	3.5	4	4	3.5
Packaging	2	2	1.5	1.75	1	1.5	1.75	1.5	1.5	1.5	1
Net Quantity, Weight/ Volume	3	3	3	3	3	3	3	3	2.5	3	2.5
Moisture & insoluble impurities	5	4	3.75	4.75	4.5	3.75	3.5	4.5	4.25	3.75	4
Refractive index at 40oC	6	5.04	5.52	5.4	5.52	5.64	5.4	5.52	5.64	6	5.52
Saponification value	6	5.69	5.62	5.23	5.62	5.23	4.88	5.29	5.53	4.92	4.85
Iodine value (Wijs)	7	6.811	6.958	5.467	6.727	6.538	6.993	4.389	4.956	4.417	6.083
Acid value: max.	6	5.783	5.403	5.637	5.713	5.626	5.678	6	5.317	5.718	5.645
Unsaponifiable matter	7	5.488	5.936	4.879	4.606	5.6	4.984	4.76	4.648	4.536	4.536
Aflatoxin, max	4	4	4	4	4	4	4	4	4	4	4
Argemone oil	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Mineral Oil	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Peroxide Value	7	6.818	6.86	6.958	6.874	6.9	6.895	6.958	6.825	7	6.818
Fatty Acid Composition	4	4	4	4	4	4	4	4	4	4	4
Saturated Fatty Acid	6	5.184	4.896	5.02	5.136	5.02	4.776	5.688	5.01	4.8	4.356
MUFA	7	6.86	5.964	6.314	6.818	5.985	6.055	6.048	4.333	6.58	6.314
PUFA	8	5.92	6.488	6.47	5.992	6.488	6.048	6.776	7.984	5.76	6.032
Flash Point	2	2	2	2	2	2	2	2	2	2	2
Bellier test turbidity	3	3	3	2.94	2.85	2.82	2.88	2.79	2.94	2.85	2.94
Pesticides	4	4	4	4	4	4	4	4	4	4	4
Organoleptic Tests	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
Overall score	100	**92.094**	**91.895**	**90.815**	**91.356**	**90.597**	**89.839**	**89.719**	**88.433**	**87.831**	**87.094**
Round off scores		**92**	**92**	**91**	**91**	**91**	**90**	**90**	**88**	**88**	**87**
Ratings: >90 – Very good *****, 71-90- Good****, 51-70- Average ***, 31-50- Poor **											

Test Parameters and Results

Packaging

Packaging plays a vital role in preserving the quality, freshness, and shelf life of edible oils. Groundnut oil should be packed in food-grade packaging material that does not affect the oil's quality or safety and, wherever possible, should be reusable or recyclable.

All ten brands of groundnut oil were available in 1-litre packs. Most brands were packed in PET plastic bottles.

Among the brands evaluated, Gulab Goodness stood out in terms of packaging. It was packed in a card board carton and included two Pourzy spouts for convenient pouring. PUVI and Saffola were supplied in flexible plastic pouch packaging.

The brands that provided tamper-evident shrink sleeves for added product safety were Indic Wisdom, Dabur, Jivo, Two Brothers, and Anveshan.

Marking

The following particulars should be clearly and indelibly marked on the pack:

- Name of the product
- Type/grade
- Manufacturer's name and trademark
- Batch/Code number
- Month and year of manufacture
- Best Before date
- Net quantity
- Vegetarian (green dot) logo
- Maximum Retail Price (MRP)
- Customer care details

All the brands carried the mandatory labelling information as required under the applicable regulations. In addition, most brands—Indic Wisdom, Anveshan, Tata Simply Better, Two Brothers, PUVI, and Saffola—provided detailed nutritional information and included usage or consumption guidance for groundnut oil on their packaging.

However, Organic India, Dabur, Jivo, and Gulab Goodness did not declare the usage guidelines for consumers like it can be used for dressing, cooking, etc. on their product labels.

Net Quantity

Under the Legal Metrology (Packaged Commodities) Rules, the maximum permissible error for packages containing 1,000–10,000 ml is ±1.5% of the declared quantity.

All 10 brands complied with the prescribed net quantity requirement.

Moisture and Insoluble Impurities

Moisture & Insoluble impurities may be present in edible oils. The amount of water should be as low as possible. Its maximum permissible limit is 0.1 % for cold-pressed groundnut oils. The results of brands for Moisture and Insoluble Impurities obtained from 0.03 – 0.07.

All the brands were found within the permissible Limit of 0.1%.

Refractive Index at 40°C

The refractive index of edible oil is used to assess its quality and can help detect rancidity. For cold-pressed groundnut oil, the specified refractive index at 40°C should be between 1.4620 and 1.4640.

All 10 brands were found to be within the specified limits.

Saponification Value

The saponification value is the amount of alkali required to saponify a specified quantity of oil. It is an important quality parameter that helps detect the presence of other oils or fats. The saponification value of groundnut oil should be between 188 and 196.

All 10 brands were found to be within the specified limit.

Iodine Value (Wijs)

The iodine value is a measure of the degree of unsaturation of fats and oils and is expressed as the number of centigrams of iodine absorbed per gram of sample. For groundnut oil, the iodine value should be between 85 and 99.

All 10 brands were found to be within the specified limits.

Acid Value

The acid value is the number of milligrams of potassium hydroxide (KOH) required to neutralise the free acids present in 1 gram of the sample. In samples containing virtually no free acids other than fatty acids, the acid value can be converted, using an appropriate factor, into the percentage of free fatty acids. It is an important quality parameter that indicates the age, freshness, and extent of rancidity or spoilage of the oil. As per the FSS Regulations, the acid value of groundnut oil should not exceed 6.0.

All 10 brands were found to be within the specified limit and passed this test.

Unsaponifiable Matter

Unsaponifiable matter comprises those substances commonly present in fatty acids and drying oils that cannot be saponified by alkali treatment but remain soluble in the normal fat solvents. While fresh oils generally contain no more than 2% unsaponifiable matter, the percentage increases significantly in used cooking oils due to heat-induced degradation, polymerisation, and the accumulation of foreign organic matter and volatile compounds. For groundnut oil, the unsaponifiable matter should not exceed 1.0% by weight.

All 10 brands were found to be within the specified limit.

Aflatoxin

Aflatoxins are toxic compounds produced by the mould *Aspergillus flavus*. Consumption of aflatoxin-contaminated food can cause serious adverse health effects, including an increased risk of cancer. Aflatoxins generally develop when oilseeds are stored under poor conditions with excess moisture, which promotes fungal growth.

As per the Food Safety and Standards Regulations (FSSR), the aflatoxin content in groundnut oil should not exceed 10 µg/kg. The AGMARK standard is more stringent and requires the absence of aflatoxins.

All 10 brands complied with the FSS Regulations for aflatoxin and were found to be within the prescribed limit.

Argemone Oil

Argemone oil is a highly toxic adulterant that can cause serious health hazards. Consumption of argemone oil may lead to epidemic dropsy, a condition resembling wet beriberi, and can also affect the eyes, potentially leading to blindness. Argemone oil should be absent in groundnut oil.

Argemone oil was not detected in any of the 10 brands tested.

Mineral Oil

Mineral oil is a colourless, odourless mixture of higher alkanes. It should not be present in groundnut oil, as its presence indicates adulteration. Vegetable oils are often adulterated with mineral oils or other cheaper oils to reduce production costs.

All 10 brands were found to be free from mineral oil.

Peroxide Value

The peroxide value is the amount of peroxide oxygen present in 1 kilogram of fat or oil. It is one of the most commonly used parameters for assessing the extent of oxidation in fats and oils and indicates the degree of oxidative rancidity, though it does not measure the oil's stability.

As per the standard, the peroxide value should be not more than 10 meq/kg for refined groundnut oil and 15 meq/kg for filtered (cold-pressed) groundnut oil.

All 10 brands passed this test and were found to be within the prescribed limit.

Fatty Acid Composition

Fatty acid composition is an important parameter used to assess the authenticity and quality of edible oils. Each edible oil has a characteristic fatty acid profile, which helps detect adulteration with cheaper oils. Fatty acids also play a vital role in nutrition and aid in the absorption of fat-soluble vitamins (A, D, E, and K).

The fatty acid composition of all the brands tested was found to be within the limits specified by the Food Safety and Standards Authority of India (FSSAI).

Saturated Fatty Acids (SFA)

Saturated fatty acids are an important component of edible oils. Excessive intake of saturated fats can raise blood cholesterol levels. However, they also increase HDL ("good") cholesterol and may change LDL particles from small, dense forms to larger, less harmful ones.

Among the brands tested, Organic India recorded the highest saturated fatty acid content, while Jivo had the lowest. The results of brands for SFA obtained from 21.74 – 29.13.

Monounsaturated Fatty Acids (MUFA)

Monounsaturated fatty acids (MUFAs) are considered healthy fats. Along with polyunsaturated fatty acids (PUFAs), they play

an important role in various biochemical processes associated with the brain, nerves, heart, digestion, and cell maintenance. MUFAs help lower low-density lipoprotein (LDL or "bad") cholesterol while increasing high-density lipoprotein (HDL or "good") cholesterol. Groundnut oil is naturally rich in MUFAs and may contain up to 85% monounsaturated fatty acids. The results of brands for MUFA obtained from 40.74 – 55.19.

Among the brands tested, Gulab Goodness recorded the highest MUFA content, while Two Brothers had the lowest.

Polyunsaturated Fatty Acids (PUFA)

Polyunsaturated fatty acids (PUFAs) are healthy fats that can help lower LDL ("bad") cholesterol levels in the blood, thereby reducing the risk of heart disease and stroke. The results of brands for PUFA obtained from 16.03 – 30.91.

Among the brands tested, Two Brothers recorded the highest PUFA content, while Indic Wisdom had the lowest.

Trans Fatty Acids (Trans Fat)

Trans fatty acids (trans fats) are unsaturated fats formed when liquid vegetable oils are converted into semi-solid fats through a process called hydrogenation. Although they are chemically unsaturated, they behave similarly to saturated fats and can increase the level of LDL ("bad") cholesterol in the blood, thereby raising the risk of heart disease.

According to the Food Safety and Standards Authority of India (FSSAI), the permissible limit for trans-fat in edible oils and fats **is** up to 2%**.** All the brands tested were found to be within this permissible limit.

Flash Point

The flash point is the lowest temperature at which an oil produces sufficient vapours to form an ignitable mixture with air. At the flash point, the vapours may ignite but cease to burn once the source of ignition is removed.

For refined groundnut oil, the flash point should be not less than 250°C but not specified for cold pressed category. However CV conducted this test to understand the Flash point temperature. A higher flash point indicates a lower risk of ignition and reflects better thermal stability of the oil.

All 10 brands of groundnut oil were found to have a higher thus good flash point. The results of brands for Flash Point obtained from 321°C -326°C.

Bellier Turbidity Temperature (BTT)

The Bellier Turbidity Temperature (BTT) test is used to assess the purity of groundnut oil and helps in the identification of groundnut oil from different seed varieties in India. As per the standard, the Bellier Turbidity Temperature should be between 39°C and 41°C.

All 10 brands were found to be within the prescribed standard limits.

Pesticides

Pesticides are chemicals used during crop cultivation to protect plants from pests and diseases. However, their residues can persist in the environment and food, posing potential health and environmental risks. Therefore, pesticide residues in edible oils should be as low as possible and must comply with the limits prescribed under food safety regulations.

All the samples were tested for Oxyfluorfen and Imazethapyr residues in accordance with the Food Safety and Standards Regulations (FSSR), 2011 and complied to FSSAI.

Organoleptic (Sensory) Evaluation

Organoleptic evaluation is an important quality assessment that measures the sensory attributes of a product based on human perception. The test was conducted in a laboratory by a trained sensory panel under the supervision of experts.

The Lab evaluated the groundnut oil samples for colour and appearance, flavour/odour, taste, and overall acceptability. Their assessments were based on careful sensory examination.

Colour & Appearance

Colour and appearance are among the first quality attributes consumers notice while selecting edible oils. Fresh, good-quality groundnut oil is expected to have a clear, bright yellow appearance without any visible impurities or turbidity.

All the brands tested were found to be yellow-coloured oily liquids as generally found in cold pressed oils

Visual Defects

No visual defects or foreign particles were observed in any of the samples tested. All the brands were found to be clear and transparent**,** indicating good quality and proper processing.

Flavour / Odour

Flavour and odour are important indicators of the freshness and quality of edible oil. Good-quality groundnut oil should possess its characteristic nutty aroma and be free from any rancid, stale, or off-odours.

All the brands tested exhibited the characteristic flavour and odour of groundnut oil and received the maximum score. This indicates that all the samples met the requirements of flavour and odour.

Shelf Life

Shelf life is an important factor that consumers should consider while purchasing edible oils, as it indicates the period for which the product is expected to maintain its consistent quality and safety when stored properly.

All the brands tested had mentioned a shelf life of 6–12 months on their packaging. Consumers, especially those purchasing large packs (above 5 litres), should check the remaining shelf life before purchase to ensure that the oil remains stable and suitable for consumption throughout the intended usage period.

MUFA, PUFA, Saturated Fats and Trans Fats

Monounsaturated	Polyunsaturated	Saturated	Trans
Good Fat	Good Fat	Bad Fat	Bad Fat
Reduces bad cholesterol (LDL) levels and increases good cholesterol (HDL) levels	Reduces bad cholesterol (LDL) levels	Increases overall cholesterol levels, especially bad cholesterol	Increases the bad cholesterol (LDL) level and decreases good cholesterol (HDL) levels
Found in nuts and seeds, avocados, olive oil and canola oil	Found in fatty fish such as salmon, mackerel, trout and sardines, and also in corn, safflower, sunflower and soyabean oils	Found in animal-based foods such as meat, poultry and eggs, and also in butter, cream and other dairy products Also found in plant-based products such as coconut, coconut oil, palm oil and palm kernel oil, and cocoa butter	Found in hydrogenated fat products such as margarines and vegetable shortenings Used in packaged snack foods such as cookies, crackers and chips, and in fried foods

How to Best Match Your Oils to Foods

One of the most important things to remember is that oils behave differently when heated. Heating can alter an oil's texture, colour, flavour and nutritional properties. When an oil reaches its smoking point, some nutrients may break down, and potentially harmful compounds can form.

To maintain a healthier balance, avoid relying on a single oil for all cooking needs. Instead, rotate between two or three types of oils—for example, use groundnut oil for a month and then switch to sunflower or mustard oil. Using a variety of oils helps you benefit from the different fatty acid profiles they offer.

Another option is to blend oils by mixing equal proportions of different oils in a single container and using the blend for cooking. This reduces prolonged dependence on one type of oil while allowing you to obtain the advantages of multiple oils.

You can also keep different oils in your kitchen and use them according to the cooking method. For instance, olive oil can be used for salad dressings, groundnut or rice bran oil for frying, and mustard, soybean or sunflower oil for everyday cooking. Choosing the right oil for the right purpose can help you make the most of the nutritional benefits each oil provides.