



Desi Ghee

The number one desi ghee you should buy

Buying a pack of desi ghee might cost a few hundred but if not chosen wisely, you may end up suffering several health implications including heart disease. To make your buying decision an easy task, we have evaluated 12 brands of desi ghee and identified the best one for you in the following compilation.

A Consumer Voice Report

The use of desi ghee is common in almost every Indian delicacies and dishes. It is used in various items including dals, curries, chapattis, etc. It is also used for making homemade/traditional sweets and during performing any Indian rituals. Desi ghee is the pure clarified fat-derived solely from milk or curd or desi butter or from cream to which no colouring matter flavor or preservative has been added. Ghee is an important dairy product that enters inter-state trade. Due to variation in its

composition from region to region and season to season, depending on the type of animal and the feed given, the establishment of its purity often involves elaborate analysis, as well as tests for its keeping quality. Desi Ghee is a carrier of fat-soluble vitamins, A, D, E and K, which our body needs in very small quantities but cannot make for itself. These vitamins perform many essential functions. Similarly, the essential fatty acids, which cannot be synthesized in our body, are also supplied by ghee. Now all said and done, going to



a market in this unprecedented time, you don't have the luxury to evaluate carefully and buy the best one because of the long cue behind you for the same product. Hence, Consumer VOICE in its relentless effort to educate the consumers on buying the best products-has conducted the testing of these 12 desi ghee brands of desi ghee.

The prime objective behind carrying out the comparative study was to assess and evaluate the popular brands of desi ghee available in the market as per the relevant national standard. All the tested brands were evaluated and graded as per their overall performance based on the comprehensive lab test reports. The brands were being tested on various quality, safety, and acceptability parameters.

The key parameters for which the ghee brands were tested included milk fat, R M value, BR

Reading, Moisture, Peroxide value, Free fatty acid, vitamins A and saturated fat, PUFA, MUFA, cholesterol and trans fat. We also carried out a series of tests to check for adulteration (with vanaspati, animal fats, etc.).

How We Test

The comparative testing was carried out at a NABL accredited laboratory. The test program for comparative testing of desi ghee was prepared mainly based on FSSAI Regulation (Food Safety Standards Regulation) and BIS standard IS: 16326:2015 for ghee.

Brands Tested

Twelve regular selling brands of desi ghee were undertaken for comparative testing. The following table is a ready reference to understand which brand of desi ghee is the best.

Rank	Total Score Out of 100 (rounded off)	Brand	Quantity	MRP in Rs	MRP per 100 ml	Best Before, Months	Manufacturer/ Marketer
1	90	Anik	200 ml	109	54.50	12	Anik Milk Products Pvt Ltd
2	89	Madhusudhan	200 ml (180g)	111	55.50	9	SMC Foods Ltd
2	89	Verka	1 Ltr (900g)	480	48.00	9	The Punjab State oop-erative Milk Produc-ers' Federation Ltd
3	88	Mother Dairy	500ml (451g)	255	51.00	9	Mother Dairy Fruits & Vegetable Pvt Ltd
3	88	Heritage	500 ml (452.5g)	250	50.00	12	Heritage Foods Ltd
3	88	Amul	500 ml (452g)	243	48.60	9	Gujarat Co-operative Milk Marketing Fed-eration Ltd
3	88	Paras	500 ml (450g)	251	50.20	9	VRS Foods Ltd
4	87	Fresh & Pure	500 ml (451g)	270	54.00	12	Future Consumer Limited
5	86	Nestle	1 Ltr (899g)	475	47.50	9	Nestle India Ltd
6	85	Milkfood	500 ml (449g)	252	50.40	8	Milk Food Ltd
6	85	Britannia	1 Ltr (898g)	550	55.00	12	Britannia Dairy Pvt Ltd
7	84	Ananda	1 Ltr (900g)	510	51.00	9	Gopaljee Dairy Foods Pvt Ltd

Rating: >90 - Excellent ***, 71-90- Very Good ****, 51-70- Good ***, 31-50- Average **, up to 30 - Poor***

Key Findings

- Based on the overall test findings, brand Anik secured number 1 position followed by Madhusudan and Verka.
- The Value-for-Money brand is Verka.
- Highest Milk fat was in Mother dairy followed by Madhusudan and Amul.
- Vitamin A was highest in Verka followed by Anik.
- In our test, no adulteration was found with vegetable fat and animal fat.
- All the brands had met the minimum requirements specified in the national standards.
- Therefore, all brands meet the standard requirements and safe for consumption.

Comparative Testing Score of Desi Ghee

Brand Parameters	% weigh Alge	Anik	Madhusudhan	Verka	Mother Dairy	Heritage	Amul	Paras	Fresh & Pure	Nestle	Milk-food	Britannia	Ananda
Test Parameters													
Physical observation	2	2	2	2	2	2	2	2	2	2	2	2	2
Free Fatty Acids	5	4.40	3.80	4.40	4.40	5.00	4.40	3.80	4.40	3.30	3.80	4.40	3.30
Reichert-Meissl Value	3	3	3	3	3	3	3	3	3	3	3	3	3
Saturated fat	5	2.70	3.21	3.14	3.04	2.99	2.81	2.99	2.45	2.92	2.80	3.09	2.58
Mono unsaturated fatty acid	5	3.88	4.67	4.42	4.36	4.25	3.74	3.98	3.92	4.29	4.35	4.25	4.23
Poly unsaturated fatty acid	5	4.82	3.95	4.13	3.54	4.06	4.17	4.88	3.80	3.94	3.76	4.26	3.00
Trans Fatty acid	5	4.09	3.82	3.51	3.15	3.51	3.37	3.42	4.04	3.83	4.28	3.36	3.87
Cholesterol	5	3.96	4.09	4.02	3.92	3.69	4.00	4.01	3.68	3.22	4.46	4.19	4.23
Butyro-Refractometer Reading	4	3.60	3.20	3.60	3.20	3.60	3.60	4.00	4.00	3.60	3.60	3.20	4.00
Vitamin A	10	9.42	7.25	9.81	7.59	7.39	7.51	7.29	7.05	7.26	7.51	8.08	7.59
Presence of animal fat	6	6	6	6	6	6	6	6	6	6	6	6	6
Moisture	5	4.30	4.90	3.60	5.00	4.60	4.90	4.60	4.60	4.80	3.60	3.20	4.00
Peroxide Value	6	6	5.58	6	5	5	5	5	5	5	5	5.58	5
Milk Fat	18	16.20	17.28	14.94	18.00	16.74	17.28	16.74	16.74	17.10	14.94	14.22	15.66
Taste & Odour	6	6	6	6	6	6	6	6	6	6	6	6	6
Coliform count	3	3	3	3	3	3	3	3	3	3	3	3	3
Packing & Marking	5	5	5	5	5	5	5	5	5	5	5	5	5
Net Quantity	2	2	2	2	2	2	2	2	2	2	2	2	2



CV RECOMMENDATIONS

<p>TOP PERFORMERS</p> <p>Anik</p> <p>VALUE FOR MONEY</p> <p>Verka</p>

TEST RESULTS

Milk Fat | Vitamin A | Saturated Fat | MUFA | PUFA | Trans Fatty Acid | Cholesterol | Peroxide Value | Presence of animal fat | Flavour & Taste | Moisture | Free Fatty Acids | Reichert-Meissl Value | Butyro-Refractometer (BR) Reading | Microbial Test: Coliform Count.

TEST PARAMETERS

Milk Fat

Fat is an essential part of any balanced diet, providing essential fatty acids, fat-soluble vitamins and a concentrated source of energy.

The minimum requirement for milk fat in ghee is 99.5 per cent. Among the desi ghee brands, Mother Dairy (99.98 per cent) had the highest amount of milk fat whereas the rest of the brands fulfilled the minimum requirement for milk fat content.

Vitamin A

Vitamin A consists of retinol and beta carotene. For vitamin A retinol, the recommended dietary allowance (RDA) for adults is 600 micrograms (1998 IU) daily as per FSSAI. As for our tests, we checked the samples for a total of vitamin A. (1microgram=3.3 IU)

Health benefits of vitamin A:

- Vitamin A is critical for good vision.
- Plays an important role in healthy bone growth.
- Vitamin A is essential for reproduction.
- Plays a role in cell division and cell growth.
- Supports the immune system.
- Supports skin health.



AGMARK, it should not be more than 0.3 per cent.

Moisture content in all the brands was less than the requirement. Among the desi ghee brands, the lowest moisture content was found in Mother Dairy and highest in Britannia.

Saturated Fat

Saturated fats are derived from animal fat as well as vegetable fat. Saturated fats directly raise total and LDL (bad) cholesterol levels. Lower saturated fat is better for health. Saturated fat was found highest in Fresh & Pure (76.98 g/100 g) and lowest in Madhusudan(71.90 gm/100 gm).

In our test, we found vitamin A was highest in Verka at 3432.76 IU/100g followed by Anik and it was lowest in Fresh & Pure at 2024.70 IU/100g.

Flavour and Taste

Desi ghee should have good flavour and taste. All the tested brands had the characteristic taste and flavor of desi ghee.

Peroxide Value

This parameter is an indicator of rancidity in the product. Peroxide value in ghee should be a maximum of 0.6 milli equivalent of peroxide oxygen per kg. Peroxide value was nil in 10 brands tested and 0.1 in two brands, thus they all passed the test.

Presence of animal fat (other than milk fat)

Desi ghee brands were tested for possible adulteration with animal fat materials like tallow which should be absent. Animal fat was not detected in any of the brands.

Moisture

Moisture generally refers to the presence of water in a product. Less amount of moisture is better as it translates into a longer shelf life. As per FSS Regulations, the moisture content in ghee should not be more than 0.5 per cent and as per

Mono Unsaturated Fatty Acid (MUFA)

MUFAs are referred to as healthy fats. They are associated with lowering the level of bad cholesterol (LDL) and total cholesterol while also increasing the production of good cholesterol (HDL). These fats can be also found in vegetable oils like canola, peanut and olive oil, as well as in nuts. Higher MUFA is better for health. MUFA was found highest in Madhusudan (23.83 g/100 g) and lowest in Amul 17.60 g/100 g).

Poly Unsaturated Fatty Acid (PUFA)

Eating moderate amounts of polyunsaturated and monounsaturated fat in place of saturated and trans fats can benefit your health. Polyunsaturated fats can help lower your LDL (bad) cholesterol. Higher PUFA is better for health. PUFA was found highest in Paras (4.77 gm/100 gm) followed by Anik (4.64g/100gm) and lowest in Ananda (1.01gm/100 gm).

Trans Fatty Acid (Trans fat)

Trans fat raises the level of 'bad' cholesterol in our blood. Therefore, lower trans fat is better for health. The highest amount of trans fat was

found in Mother Dairy (3.14g/100 g) and it was the lowest in Milkfood (1.20 g/100g) followed by Anik (1.51g/100g).

Cholesterol

While consuming desi ghee may not affect a healthy person, it is not advised for individuals already suffering from high cholesterol. Nestle was found to have the highest amount of cholesterol (195.49 mg/100 g) and it was lowest in Milkfood (170.84 mg/100 g).

Free Fatty Acids

Free fatty acids are the percentage by weight of free acid groups in the oil or fat. Free fatty acids are an indication of hydrolytic rancidity, though other lipid oxidation processes can also produce acids.

Free fatty acids need to be a maximum of 3 per cent. All the brands were well within the specified limit.

Reichert-Meissl (RM) Value

The RM value is determined when examining fat content. It is an indicator of how much volatile fatty acid can be extracted from fat through saponification. RM value varies from area to area of production. All the tested brands met the requirements set by the national standard ..

Butyro-Refractometer (BR) Reading

BR reading is the index of purity of ghee. An increase in BR reading indicates adulteration of ghee with vegetable oil/animal body fat. BR reading varies from area to area of production. In our test for this parameter, we found all the brands were well within the standard limit.

Microbial Test: Coliform Count

Coliform bacteria, the presence of which is an indicator of poor sanitation practices and/or water quality employed in the handling and



processing stages were not detected in any of the ghee brands. All the brands were found below the detection limit.

Packaging

Packaging plays an important role in maintaining the consistent quality of the product and in preventing its deterioration. Brand Madhusudan was packed in a plastic container, whereas all the other brands were packed in laminated cardboard packaging.

Marking/Labelling

According to the national labeling requirement, the following details should be marked on the product label:

- Name of product, b) net quantity, c) name and address of the manufacturer, d) date of packing, e) place of packing, f) the words 'best before', g) batch code, h) MRP, g) FSSAI license number, h) and the customer care details.

All the brands provided marking details as above.

Amul, Heritage, Mother Dairy, Milk Food, Verka, Nestle, Paras and Ananda brand Desi Ghee had AGMARK

Net Quantity

We found the net quantity in all the brands was as per the manufacturer's claimed quantity.

Physico-chemical Tests

Description

Ghee should be in light yellow. It should have a pleasant taste, flavour and free from off flavour and rancidity. All the brands we tested were in light yellow and had pleasant taste and flavor. They were free from off flavour and rancidity.

Better to know facts related to desi ghee

- Ghee should be free from excess moisture.
- On melting, the ghee should be clear, transparent and free from sediment or foreign colouring matter.
- A good ghee sample should have well-developed granules dispersed fairly, thickly and uniformly over the entire mass. A bright yellow colour, caused by the presence of carotenoid pigments (beta carotene), is associated with cow ghee and constitutes a desirable criterion in areas where it is preferred. Buffalo ghee is white in colour. Sometimes, it may also have a greenish tinge depending on the region and feeding schedule. Ghee made from mixed milk has a straw-yellow colour. The colour of fats always appears deeper to the eyes when melted than when in solid form.

Physical observations on the 12 samples were made by laboratory scientists, checking for colour and texture and whether they were free from sediment and objectionable flavour.

Desi ghee also boosts your immune system

The major constituent of Desi Ghee (Clarified Butter) is milk fat. As per mandatory Indian regulation, the milk fat in Desi Ghee shall not



be less than 99.5 per cent. Similarly, a major constituent of vegetable oils is also fat. One gram of milk fat/vegetable fat/animal fat gives 9 kilocalories to the human body. Milk fat/vegetable oil fat/animal fat is called as visible fat. As per the Food Safety and Standards Authority of India (FSSAI), visible fat Recommended Dietary Allowance (RDA) for sedentary workmen is 25 grams per day and for sedentary work women 20 grams per day.

Desi Ghee is a very good source of healthy fat-soluble vitamins, such as vitamin A, D, E, and K. These vitamins are responsible for promoting strong bone, eye, and brain health, as well as for boosting your immune system. Desi ghee also helps to lubricate connective tissues, which increases your flexibility. In addition, the components in ghee can help decrease inflammation, which is also important for maintaining a healthy digestive system.

Conclusion

The above test results containing different parameter tests are sure to help consumers while buying the desi ghee. While desi ghee brand Anik achieved the highest score in overall comparison results, brand Verka is the Value-for-Money brand that appeared in our evaluation.