



Table Butter

More milk fat, less salt – that's how it should be

Nutritionally speaking, your table butter has roughly 80 per cent milk fat (mostly saturated), 12 to 16 per cent water, 2 per cent nonfat milk solids (lactose, protein), and 2 to 3 per cent added salt. It is the most concentrated of dairy products, containing about 740 kilocalories per 100 grams (210 kilocalories per ounce). Butter is a good source of vitamin A and has a little bit of vitamin D as well. Of all of these attributes, which have the most say in determining the quality of the said butter, you may wonder. So, here we are, evaluating seven brands of table butter on attributes as per their importance and relevance. Since so much butter is not good for one's health, what with the saturated fats in it, one will be well advised to choose a brand that meets the basic quality requirements specified in the food standards, especially with regard to fat, solids not fat, moisture and salt. The findings from our test results will reveal, among other things, whether the brands have the minimum 80 per cent milk fat as specified by the food standards.

A Consumer Voice Report

We tested the seven brands on a range of quality, safety and acceptability parameters. These included milk fat, milk solids not fat, curd, moisture, acidity and common salt. The brands were further subjected to adulteration tests, microbiological tests and sensory tests.

The samples were tested as per requirements of FSS Regulations, Agmark and Indian Standard 13690. We followed the standard test methods at an NABL-accredited laboratory.

BRANDS TESTED

Rank	Total Score out of 100 (rounded off)	Brand	MRP (Rs)	Net Weight (gm)	Price (Rs) per 100 gm	Best before (months)	Manufactured/Marketed by
1	93	Vita	44	100	44	12	The Rohtak Co-Op Milk Producers Union Ltd
2	91	Verka	46	100	46	8	The Punjab State Co-Operative Milk Producers Federation Ltd
3	89	DMS	210	500	42	12	Delhi Milk Scheme
4	87	Mother Dairy	46	100	46	12	Mother Dairy Fruits & Vegetable Pvt. Ltd
4	87	Gowardhan	80	200	40	12	Parag Milk Foods Pvt. Ltd
5	86	Amul	46	100	46	12	Gujarat Cooperative Milk Marketing Federation Ltd
6	84	Paras	225	500	45	12	VRS Foods Pvt. Ltd

Score Rating: >90: excellent*****, 71-90: very good****, 51-70: good***, 31-50: average**, up to 30: poor*



CV RECOMMENDATION | TOP PERFORMER

Vita



VALUE FOR MONEY

DMS

Key Findings

- Based on the overall test findings, Vita is the top performer and is followed by Verka and DMS.
- The value-for-money brand is DMS.
- Vita and Verka had the highest fat content.
- DMS and Vita had lowest amounts of SNF (solids not fat).
- Moisture was lowest in Vita and Verka.
- All the brands met all requirements specified in the Food Safety & Standards Regulations.
- All brands cleared the tests for microbiological safety and are therefore safe for consumption.
- In sensory panel tests, Amul is the top performer and is followed by Mother Dairy and Vita.



What is butter?

Butter is the smooth, fatty substance obtained from churning cream. Butter manufacturers first pasteurise the cream. This heat treatment destroys bacteria, inactivates enzymes, and gives the cream a cooked or heated flavour.

What is table butter?

Table butter is the product made from pasteurized cream obtained from milk and milk products, with or without ripening with the use of standard lactic culture, addition of common salt, annatto or carotene as colouring matter, and diacetyl as flavouring agent.

What is white butter?

White butter is the product made from pasteurized cream obtained from milk and milk products, without ripening and without addition of any preservative including common salt, any added colouring matter, or any added flavouring agent.

TEST RESULTS FOR PHYSICOCHEMICAL PARAMETERS

**Milk Fat | Milk Solids Not Fat | Curd | Reichert
Meissl Value of Extracted Fat | Butyro-
refractometer Reading of Extracted Fat | Moisture |
Acidity | Common Salt**

◆ Milk fat

As per the national standards, the minimum requirement for milk fat in table butter is 80 per cent.

- *Fat percentage was above the minimum requirement in all brands.*
- *Vita and Verka (83.9 per cent each) had the highest fat content, followed by DMS (82.8 per cent).*

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

As per Dietary Guidelines for Indians by National Institute of Nutrition, Hyderabad, 2011, diets of young children and adolescents should contain about 30 grams to 50 grams fat per day. So, a higher amount of milk fat is better for consumers.

◆ Milk solids not fat (SNF)

SNF in table butter shall be a maximum two per cent as per FSS Regulations.

- SNF was found within the permissible limit (0.4 per cent to 1.4 per cent) in all brands.
- DMS (0.4 per cent) had lowest amount of SNF and therefore scored highest. It was followed by Vita (0.7 per cent).

Milk has mainly two parts: fat and solids not fat (SNF). Apart from fat, all other solids such as vitamins, minerals, protein and lactose together make up SNF.

◆ Curd

Curd shall be a maximum 1.0 per cent as per Indian Standard and 1.5 per cent as per AGMARK.

- Curd was highest in Amul and Paras (both 1.3 per cent) and lowest in DMS (0.4 per cent) and Vita (0.7 per cent).

The adulteration tests

◆ Reichert-Meissl (RM) value of extracted fat

The RM value is ascertained when examining fat. It determines adulteration.

- All tested brands met the requirement set by FSS Regulations.

◆ Butyro-refractometer (BR) reading of extracted fat

BR reading can be used to check adulteration, if any, of milk fat. An increase in BR reading indicates adulteration with vegetable oil. If BR reading diverges from the prescribed limit for variability, presence of foreign fat may be suspected

- All brands were within the specified limits set by FSS Regulations.

◆ Moisture

The maximum permissible limit for moisture in table butter is 16 per cent.

- Moisture in all brands was within specified limit.
- Vita (13.7 per cent) and Verka (13.8 per cent) had the lowest amounts of moisture. This is good for consumers.

The presence of moisture is inherent in butter processing and to some extent is good for maintaining the taste and odour. But an excess of moisture compromises the quality of the butter.

◆ Acidity

Acidity shall be a maximum 0.15 per cent as per Indian Standards.

- All brands were found within the specified limit.

Acidity is due to lactic acid produced by the action of bacteria. As acidity increases with storage time, this parameter is a means of checking storage conditions.

◆ Common salt

Salt should be a maximum three per cent in table butter as per FSS Regulations.

- All the brands had salt and tasted salty. Salt was found lowest in Verka (1.5 per cent) and highest in Mother Dairy (2.1 per cent).

Salt is added in butter as a preservative and also as a taste and flavour enhancer. Salt must be homogeneously mixed during the processing of butter to give it a uniform taste.



Comparative Test



PHYSICOCHEMICAL SCORES

Parameter ↓	Weightage (%)	Vita	Verka	DMS	Mother Dairy	Gowardhan	Amul	Paras
Milk fat	30	27.36	27.36	24.72	23.52	23.28	23.76	22.80
Milk solids not fat	8	7.04	6.80	7.76	6.80	6.80	5.60	5.36
Curd	6	5.52	5.28	6.00	4.80	4.80	3.84	3.84
Reichert Meissl value of extracted fat	6	6.00	4.80	5.70	5.55	5.70	5.40	5.52
Butyro-refractometer reading of extracted fat	6	5.52	5.10	5.22	5.64	5.70	5.82	5.70
Moisture	5	4.15	4.10	3.55	3.60	3.50	3.85	3.50
Acidity (as lactic acid)	4	3.68	3.36	3.84	3.68	3.84	3.68	3.84
Common salt as NaCl	3	2.58	2.70	2.46	2.34	2.40	2.40	2.64

Microbiological activity in your butter

Microbiological contamination is a serious issue for milk and milk products. Microorganisms are responsible for many food-borne diseases. We conducted tests as per FSS Regulations, for yeast and mould count, aerobic plate count, coliform count, *E. coli*, *S. aureus*, *Salmonella* and *Listeria monocytogenes*.

- All the brands passed in these tests.

FOR SENSORY ATTRIBUTES

The samples were judged by an expert panel on these attributes: a) colour, b) appearance, c) flavour, d) body and texture, and e) packaging. The test guidelines were as prescribed in Indian Standard 7769-1975.

- *Amul was the top performer and was followed by Mother Dairy and Vita.*
- *DMS scored lowest.*
- *Amul was rated best on flavour.*

Brand	Score out of 12
Amul	11.76
Mother Dairy	11.54
Vita	11.39
Verka	11.32
Paras	11.16
Gowardhan	11.08
DMS	10.46

- *Amul and Vita had very good packing. DMS was wrapped only in butter paper and was given the lowest score.*

Packing and Marking

Packing should be proper because it protects the product from deterioration and increases its shelf life. Each pack should also carry information about the characteristics of the product and/or the claims of the manufacturer. The samples were verified against the marking requirements as given in the relevant Indian Standards.

- *Except DMS, all brands were wrapped in printed butter paper and packed in hard paper box. DMS was wrapped in butter paper only.*
- *DMS did not carry the green dot and customer-care details.*
- *Net weight was found to be above the declared quantity in all the brands.*
- *Amul and Vita had AGMARK.*



Dear readers: We are open to hearing your suggestions on products and services that you believe should be reviewed/ tested by Team Consumer Voice. You may write to editorial@consumer-voice.org