



Eat Your Oats

But count the dietary fibre first

'Oats' and 'healthy' are often said in the same breath and without any irony whatsoever. The dietary fibre and other nutritional qualities of oats have made it a preferred breakfast option (or hunger fix) for many. (It also makes for an especially comforting meal in the winters.) There are different types of packaged oats in the market depending on the amount of processing they have gone through, which is why we have rolled oats, quick oats, instant oats, etc. While choosing one type over the other is a lifestyle thing and one determined by awareness level, daily schedule, habit, and so on, it's always advisable to check out the attributes that determine the quality of the product. Does your packaged oatmeal meet the basic quality and safety requirements as per the national standards? How much is the fibre content in them? Equally important, how much is the soluble and insoluble fibre content and which is better – the one with more or less of these? What are the chances that the oats may have any dust or dirt? The following report contains our evaluation of eight oat brands on these and other important attributes.

A Consumer Voice Report

We tested the eight brands on a range of quality, safety and acceptability parameters. These included soluble and insoluble dietary fibre, crude fibre, acid-insoluble ash, total ash, nitrogen (protein), energy, fat, carbohydrate, moisture, alcoholic acidity, and presence of heavy metals (lead, arsenic), foreign matter and grains other than oats. The brands were further subjected to microbiological tests for their yeast and mould count.

The samples were tested based mainly on Indian Standard 1484-1974 (reaffirmed in 2015) and FSS Regulations for rolled oats. We followed the standard test methods at an NABL-accredited laboratory.

BRANDS TESTED

Rank	Total Score out of 100 (rounded off)	Brand	Type	Quantity (gm)	MRP (Rs)	Cost per 100 gm (Rs)	Best before (months)	Manufactured/ Marketed by
1	89	Quaker	Rolled oats	200	38	19.0	12	PepsiCo India Pvt. Ltd
1	89	Bagrry's	White oats	500	95	19.0	12	Bagrry's India Ltd
2	87	Kosh	Instant oats	1,000	199 (buy 1, get 1 free)	19.9	12	Future Consumer Ltd
3	86	Saffola	Rolled oats	1,000	185	18.5	12	Marico Ltd
3	86	Reliance	Rolled oats	1,000	190	19.0	12	Reliance Retail Ltd
4	85	Patanjali	Oats	1,000	145	14.5	12	Patanjali Ayurved Ltd
4	85	Eco Valley	Quick-cooking oats	1,000	175	17.5	12	Weikfield Foods Pvt. Ltd
5	82	Kellogg's	Rolled oats	500	95	19.0	12	Kellogg India Pvt. Ltd

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



Comparative Test



CV RECOMMENDATIONS | TOP PERFORMERS
QUAKER | BAGRRY'S

VALUE FOR MONEY
Patanjali

Key Findings

- Based on the overall test findings, Quaker and Bagrry's are the top performers, followed by Kosh.
- The value-for-money brand is Patanjali.
- All the brands meet all requirements specified in the national standards.
- Soluble dietary fibre was found highest in Bagrry's. Quaker had the highest amount of insoluble dietary fibre.
- Kosh followed by Reliance had the highest energy value.
- Bagrry's followed by Patanjali had the highest percentage of nitrogen (protein).
- Heavy metals (lead and arsenic) were not detected in any of the brands.
- Yeast and mould were not detected either.
- Cooking time was 2 minutes for Eco Valley and 3 minutes for the other brands (excluding time for boiling of water).
- Patanjali has the lowest price at Rs 14.50 per 100 gm. Eco Valley is Rs 17.50 per 100 gm, Saffola Rs 18.50, and Kosh Rs 19.90. All others are priced at Rs 19 per 100 gm.

Oats are steamed, flattened and sliced in different ways, producing the several types of oats available.

Rolled oats

These are the most common variety of oats. Rolled oats are whole oats that have been toasted, hulled, steamed and then rolled. These oats absorb a lot of liquid, cook fairly quickly, and will hold their shape well when cooked.

Quick oats

These are processed even further. Quick oats, or 'quick-cooking' oats, have been cut, steamed and rolled into thinner flakes, making them quicker to cook than rolled oats.

Instant oats

These are the most heavily processed. These are the oats you usually find in single-serving oatmeal packets, often with added flavouring, that you can microwave with water for a quick breakfast. They have been pre-cooked, then dried, cut and rolled for instant preparation. Instant oats are a fast and convenient way to get a healthy helping of oats.

In a 100 gm serving, oats typically provide 389 kilocalories (1,630 kJ) and are an excellent source of protein (34% daily value), dietary fibre (44% DV), several B vitamins and numerous dietary minerals, especially manganese (233% DV). Oats generally have 66% carbohydrates, including 11% dietary fibre and 4% beta glucans, 7% fat and 17% protein. Beta glucan is the fibre that gives oats its cholesterol-lowering effect. It is the beta glucan in oats that will also help slow down the digestion of your meal, allowing you to feel satisfied for several hours.

Source: Wikipedia



Comparative Test

TEST RESULTS FOR PHYSICO-CHEMICAL PARAMETERS

Soluble dietary fibre | Nitrogen | Crude fibre |
Acid-insoluble ash | Energy | Fat | Alcoholic acidity
| Insoluble dietary fibre | Carbohydrate | Moisture |
Heavy metals | Foreign matter | Grains other than
oats | Total ash | Yeast and mould count

◆ Soluble dietary fibre

While no requirement has been specified by the national standards in this regard, the higher the amount of soluble dietary fibre, the better the quality of the oats is.

- Soluble dietary fibre was highest in Bagrry's

(3.36 gm/100 gm), followed by Quaker (2.98 gm/100 gm). It was lowest in Kellogg's (2.03 gm/100 gm).

◆ Insoluble dietary fibre

The higher the amount of insoluble dietary fibre, the better the quality of the oats is. The national standards have not prescribed any requirement though.

- Insoluble dietary fibre was highest in Quaker (6.47 gm/100 gm), followed by Kosh (6.07 gm/100 gm) and Reliance (6.03 gm/100 gm). It was lowest in Safola (5.09 gm/100 gm).

◆ Crude fibre

As per FSS Regulations, crude fibre content shall not be more than 2.0 per cent on dry basis.



Dietary fibre is the *portion of plant-derived food* that cannot be completely broken down by human digestive enzymes. It is composed of soluble and insoluble fibres.

Soluble fibre dissolves in water. It changes as it goes through the digestive tract, where it is fermented by bacteria. As it absorbs water, it becomes gelatinous, which helps promote the growth of healthy bacteria in the gut. The majority of the fibre in oats is soluble.

Insoluble fibre does not absorb or dissolve in water. As it goes through the digestive tract, it does not change its form. Actually, the bulking fibres absorb water as they move through the body, preventing constipation. Further, by keeping an optimal pH in the intestines, insoluble fibre helps prevent microbes from producing substances that can lead to colorectal cancer.

Crude fibre does not dissolve in acid and alkali treatment when tested in the laboratory. The treatment dissolves all the soluble and some of the insoluble fibres in food.

- All brands were within the specified limit.
- Crude fibre was lowest in Bagrry's (1.37 per cent), followed by Quaker (1.48 per cent), and highest in Reliance (1.93 per cent) and Kosh (1.85 per cent).

Crude fibre is a measure of the quantity of indigestible cellulose, pentosans, lignin and other components of this type present in food. Crude fibre helps in the treatment and prevention of constipation, haemorrhoids and diverticulitis.

◆ Nitrogen (Protein)

As per FSS Regulations, nitrogen in oats shall be a minimum 1.8 per cent. Higher presence of nitrogen indicates a higher level of protein.

- All brands met the minimum requirement for nitrogen. It was highest in Bagrry's (2.27 per cent), followed by Patanjali (2.18 per cent) and Saffola (2.14 per cent), and lowest in Quaker (1.81 per cent).

Nitrogen has an important part in determining the protein content of oats. Nitrogen is an essential component of amino acids, which are the building blocks of all proteins. It is used to make amino acids in our body, which in turn make proteins.

◆ Energy

While there is no requirement prescribed in the national standards, energy value is expected to be higher in oats.

- Energy value was highest in Kosh (417.79 kcal/100 gm), followed by Reliance (416.63 kcal/100 gm) and Quaker (414.63 kcal/100 gm). It was lowest in Kellogg's (391.62 kcal/100 gm).

Energy value is the amount of calories which our body obtains from food.

◆ Fat

No requirement for fat in oats is prescribed in the national standards. Fat content in oats is due to the inherent oil in them.

- Fat content ranged between 6.06 and 10.43 gm/100 gm. It was highest in Reliance (10.43 gm/100 gm), followed by Kosh (10.35 gm/100 gm) and Quaker (10.23 gm/100 gm), and lowest in Kellogg's (6.06 gm/100 gm).

Fat is an essential part of any balanced diet, providing essential fatty acids, fat-soluble vitamins and a concentrated source of energy. It also adds to the flavour of the oats and contributes to its smooth texture.

◆ Carbohydrate

No requirement for carbohydrates in oats has been specified in the national standards.

- Highest amount of carbohydrate was found in Kellogg's, followed by Saffola and Patanjali. It was lowest in Eco Valley.

Carbohydrates are the sugars, starches and fibres found in fruits, grains and vegetables and milk products. Carbohydrates in oats are high in dietary fibre and don't spike your blood sugar levels.

◆ Moisture

As per FSS Regulations, moisture content shall be not more than 10 per cent for rolled oats.

- Moisture in all brands was within specified limit.
- Kosh (7.29 per cent), Reliance (7.50 per cent) and Patanjali (7.76 per cent) had the lowest amounts of moisture.

Moisture generally refers to the presence of water in a product. Oats with high moisture content may attract mould, bacteria and insects, all of which cause deterioration during storage.



Comparative Test

All brands were within the specified limit for alcoholic acidity. Since acidity increases with storage time, this parameter is a means of checking storage conditions.

Other than oats

◆ Foreign matter

As per Indian Standard, the quantity of foreign matter in oats shall be not more than 0.1 per cent.

- *Foreign matter was not detected in any of the brands.*

◆ Grains other than oats

The proportion of food grains other than oats shall be not more than 2.0 per cent as per Indian Standard.

- *Grains other than oats were not detected in any of the brands.*

◆ Acid-insoluble ash

Acid-insoluble ash indicates the presence of sand, dirt and dust. As per Indian Standard as well as FSS Regulations, acid-insoluble ash in oats shall not be more than 0.1 per cent.

- *All brands conformed to the specified limit.*

◆ Total ash

Total ash includes essential minerals and some unwanted materials in the oats. It is determined by burning a given quantity of oats under prescribed conditions and measuring the residue.

As per the national standard, total ash in oats shall not be more than 2.0 per cent by weight.

- *Total ash in all brands was within the specified limit. It was lowest in Kosh (1.29 per cent), followed by Quaker (1.33 per cent). Total ash was most in Kellogg's (1.60 per cent).*



Some minerals are essential to a healthy diet (for example, calcium, phosphorus, potassium and sodium), whereas others can be toxic (lead, mercury, cadmium and aluminium). The quality of many foods depends on the concentration and type of minerals they contain, including their taste, appearance, texture and stability.

Heavy metals poisoning

The heavy metals lead and arsenic were not detected in any of the oats brands. Lead and arsenic are among the heavy metals most commonly associated with poisoning of humans. The specified limit for lead in oats is a maximum 2.5 ppm (parts per million) and for arsenic it's 1.1.

Microbiological contamination

Microbiological contamination is a very serious issue for food products. Microorganisms are responsible for many food-borne diseases. We conducted tests for yeast and mould count. These were not detected in any of the brands.

PHYSICOCHEMICAL SCORES

Parameter ↓	Weightage (%)	Quaker	Bagrry's	Kosh	Saffola	Reliance	Patanjali	Eco Valley	Kellogg's
		Rolled oats	White oats	Instant oats	Rolled oats	Rolled oats	Oats	Quick-cooking oats	Rolled oats
Soluble dietary fibre	8	5.76	6.16	5.09	5.75	5.12	5.39	5.42	4.67
Nitrogen (Protein)	8	5.65	7.70	6.60	7.23	6.66	7.42	5.89	6.70
Crude fibre	6	4.85	5.11	3.96	4.75	3.77	4.63	4.56	4.13
Acid-insoluble ash	6	5.76	5.76	6.0	6.0	5.52	5.52	5.76	5.28
Energy	6	5.68	4.72	5.87	4.52	5.79	4.79	5.65	4.30
Fat	6	5.72	4.69	5.77	4.41	5.79	4.62	5.64	4.22
Alcoholic acidity	6	5.52	5.45	5.56	5.12	5.58	5.52	5.76	3.67
Insoluble dietary fibre	5	4.97	4.48	4.57	3.59	4.53	4.03	4.48	4.03
Carbohydrate	5	4.50	4.45	4.33	4.77	4.24	4.67	3.27	4.96
Moisture	5	3.29	3.18	3.50	3.24	3.43	3.34	3.30	3.18
Heavy metals (lead, arsenic)	5	5	5	5	5	5	5	5	5
Foreign matter	3	3	3	3	3	3	3	3	3
Grains other than oats	3	3	3	3	3	3	3	3	3
Total ash	3	2.60	2.47	2.65	2.39	2.41	2.57	2.57	2.28
Yeast and mould count	3	3	3	3	3	3	3	3	3

Packing and Marking

The material shall be packed in clean, sound, dry and airtight containers. Each pack should also provide details regarding a) name of the material, b) name and address of manufacturer, c) batch or code number, d) net weight, e) green dot (to denote vegetarian status), f) MRP, and g) nutritional information.

- All brands scored equally well on the packing and marking materials.
- All brands had net weight as per their claims.

Cooking time

We checked out the cooking time of the samples as per the manufacturers' claims and conforming to guidelines specified by the Indian Standard. It was two minutes for Eco Valley and about 3 minutes for the rest.

What about the taste?

Our panellists adjudged Bagrry's, Quaker, Saffola and Kellogg's as having the best taste. Patanjali and Eco Valley scored on the lower side.

Comparative Test

Looking for reasons to eat oats, are you?

- ✓ Nutrient-rich oatmeal contains important vitamins and minerals such as thiamine, magnesium, phosphorus, zinc, manganese, selenium and iron.
- ✓ Oats help in reducing cholesterol and stabilising blood sugar levels.
- ✓ Oats are a rich source of beta-glucan fibre, which helps in proper functioning of the bowel system.
- ✓ Oats may provide additional protection against coronary heart disease, colon cancer and skin irritation.
- ✓ Oats keep you satiated for a longer duration.
- ✓ Last but not the least, oats make for a great natural face scrubber, removing pollutants easily.

Manufacturers' Comments

As a matter of policy, before publication the test results of the brands tested are shared with their respective manufacturers/marketers inviting their views/comments.

Manufacturer (Brand Name)	Manufacturer's Comment	Consumer Voice
Quaker	Quaker Oats is regularly tested for β -Glucan by AOAC Official Method No. 995.16, also approved by FAO/WHO Codex as a reference method. Our data from independent NABL-accredited labs show typically 4% (minimum 3.6%) β -Glucan, which corresponds to a higher soluble fibre content.	Our designated lab had used the recommended AOAC Official Method No. 993.19 for soluble dietary fibre. Since ours is a comparative study of various brands where results of tested brands are compared and rated, testing of one specific brand by a different method will not be justifiable. If you still insist, we may get it tested by AOAC Official Method No. 995.16 and share the result with you for your information only.



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 cpt@consumer-voice.org