



Instant Atta and Oats Noodles

**Know which noodle brand
is safe for consumption**

Normal noodles are mostly made of maida (the fine product made by milling or grinding wheat) and atta noodles are of atta (the coarse flour product obtained by milling or grinding wheat). Atta contains more dietary fibres than maida. Fibre helps in better digestion so atta noodles are considered better than maida noodles. Besides, we have been eating oats noodles as well.

Noodles were meant to be a once-in-a-while snack. However, the ever-increasing consumption of instant noodles and the number of brands entering the market pointed to a different trend, though. And then came the different claims and allegation. We thought, it would be wise to check the veracity of brands' claims, so we could have our noodles without doubts. If we have to choose one, which one should it be? Let us know it here.

A Consumer Voice Report

For a general understanding, we know noodles is prepared from wheat flour or any other flours. It can be made of any other cereals, millets and legumes covered in FSSAI regulations or combination thereof or flour from tubers and water as the main ingredient- with or without the addition of herbs, condiments and seasoning, spices, iodised salt, sugar and wheat gluten. Dried



fruits and vegetables, or their products or extracts, nuts, edible protein and egg powder, meat, poultry, marine or their products may be added too. Instant noodle is characterised by the use of pregelatinization process and dehydration either by frying in any oil or fat and the product shall be presented as fried noodles or non-fried noodles.

How We Test

The test program has been conducted following the FSSAI standard/regulations. Besides, we

followed consumer centric tests and product claims. And the testing was done in a NABL accredited lab.

Brands Tested

We purchased the following five brands of instant *atta* noodles and two brands of oats noodles from retail markets for comparative testing. Their performance scores in the table below will tell you which brand secures top position.

Rank	Score	Brand	MRP (Rs)	Net weight (in grams)	MRP per 100 gm, Rs.	Best Before, months	Marketer /Manufacturer
ATTA NOODLES							
1	89	Top Ramen	80	280	28.57	10	Indo Nissan Food Pvt Ltd
2	87	Maggi	80	290	27.58	8	Nestle India Ltd
3	84	WAI WAI	20	77	25.97	12	CG Foods
4	84	Snac tac	99	300	33.00	9	Reliance Retail Limited
5	84	Patanjali	40	240	16.66	9	Patanjali Ayurved Ltd
OATS NOODLES							
	88	Maggi	98	290	33.79	8	Nestle India Ltd
	87	Saffola	80	184	43.47	9	Marico Ltd

Note: 1) Snac tac is sold 'buy one get one free' so effective price is Rs.49.5 for 300 gm.



CV Recommendations

Atta Noodles

Top Ramen

Value For Money

Patanjali

Key Findings

- In *atta* noodles, Top Ramen scored highest in overall performance and was ranked No1 followed by Maggi and WAI WAI.
- Patanjali is our Value for Money brand. Snac tac comes with a “buy one get one free” offer, so effective price is Rs.49.5 for 300 gm- making it the cheapest buy among all brands.
- Top Ramen was preferred most brand in sensory panel tests followed by Patanjali and Maggi.
- Lowest saturated fat was found in Patanjali followed by Maggi and Snac tac.
- Highest Protein was found in WAI WAI and lowest in Patanjali.
- Highest sodium content was found in WAI WAI and lowest in Maggi.
- Toxic metals as lead, arsenic, mercury and aflatoxin were found well within the specified limits thus safe for consumption.
- In oats noodles segment, Maggi scored higher than Saffola. Protein was found higher in oats noodles than *atta* noodles. Cooking time for oats noodles was 4-5 minutes as compared to *atta* noodles 3-3.4 minutes.
- Noodles are added with saturated fat and salt. Therefore, moderate consumption is suggested.

COMPARATIVE PERFORMANCE SCORES OF ATTA & OATS NOODLES

Brand	Wt. %	Atta Noodles					Masala Oats Noodles	Masala Oodles
		Top Ramen	Maggi	WAI WAI	Snac tac	Patanjali	Maggi	Saffola
Moisture	5	4.13	4.30	4.93	4.05	4.25	4.33	4.38
Carbohydrate	3	2.67	2.98	2.48	2.81	2.62	2.52	2.17
Total protein	10	7.42	7.30	7.72	7.24	7.06	9.64	9.46
Fat	7	5.95	4.97	6.93	5.18	6.02	5.43	6.79
Saturated fat	5	2.87	3.39	2.48	3.22	4.02	3.25	4.30
Trans fat	4	3.8	3.8	3.8	3.8	2.2	3.8	3.4
Energy value	5	4.05	3.45	4.99	3.32	3.92	3.80	4.71
Acid insoluble ash	6	5.76	5.88	5.76	5.88	3.48	5.76	3.72
Sodium	4	3.68	4.00	2.40	3.36	3.04	4.00	3.36
Acid value of extracted fat	6	6.00	5.91	4.02	3.48	4.92	5.10	5.10
Lead	2	1.80	1.80	1.90	1.70	1.80	1.80	1.80
Arsenic	2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Mercury	2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Total Aflatoxin	3	2.66	2.36	2.71	3.00	2.51	2.74	2.75
Net Weight	2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Cooking time	4	3.80	3.72	3.80	3.74	3.74	3.60	3.40
Sensory panel tests	25	23.31	22.44	18.99	21.99	23.10	21.53	20.90

Ratings: >90 – Very good *****, 71-90- Good****, 51-70- Average ***, 31-50- Poor **, <30 – Very Poor*

Sensory panel tests includes Colour And Appearance, Taste,flavor/Aroma, Texture, overall acceptability

Test Parameters

Sensory Panel Tests| Total Protein| Fat| Acid Insoluble Ash| Acid Value of Extracted Fat| Energy Value| Saturated Fat| Moisture| Trans Fat| Sodium| Carbohydrate| Total Aflatoxin| Lead| Arsenic| Mercury| Net Weight| Packing| Marking

Sensory panel tests

This is a very important parameter where subjective panel tests were conducted in laboratory based on their critical examination and opinion

of panelists. During this test, we determine the overall sensory quality of the product. We conducted the sensory tests against colour and appearance, flavour/aroma, taste and after taste, texture and overall acceptability. These tests were conducted in the lab involving panel members under the supervision of trained experts.

The noodle shall be of good characteristic colour, appearance, texture, aroma and taste and shall be free from undesirable taste, dirt and impurities or any other extraneous matter.

Comparative Product Testing

In sensory panel tests, Top Ramen performed on top followed by Patanjali and Maggi.

Total Protein

Higher protein intake is beneficial for health and it is an essential nutrient in diet. Protein plays an important role in the cellular maintenance, growth, and functioning of the human body. Protein is generally considered good. In atta noodles, highest protein was found in WAI WAI and lowest in Patanjali.

Protein was higher in oats noodles than atta noodles.

Fat

Fat is a main source of energy. Fat should be largely consumed in the unsaturated form. The consumption of unsaturated fatty acids especially mono and poly unsaturated fatty acids should be encouraged in everyday diets. As per the dietary guidelines, adults with sedentary lifestyle should consume about 25-gm/day of visible fat, while individuals involved in hard physical work require 30-40-gms/day visible fat. No requirement has been specified in national standard. In atta noodles, fat was found between 13.2 to 18.8 per cent by mass. Highest fat was found in WAI WAI and lowest in Maggi.

Acid insoluble ash

Acid insoluble ash indicates the presence of impurities i.e. dirt and dust. As per FSSAI, acid insoluble ash content shall not be more than 0.3 per cent by mass. All the brands were found having acid insoluble ash well within the prescribed limit. However, it was found lowest in Maggi and Snac tac.

Acid Value of extracted fat

Determination of acid value is used as a general indication of the condition and edibility of oils. Acid value shall not be more than 2.0.

Acid value of Top Ramen was lowest and highest in Snac tac but within the specified limit.



Energy value

The energy value of a food indicates its value to the body as a fuel. Energy value is the number of calories which our body obtains from the foods. There is no requirement prescribed in Indian standard. Energy value was found highest in WAI WAI followed by Top Ramen and lowest in Snac tac.

Saturated fat

While consuming healthy fats is a good idea, most instant noodles are high in saturated fat, which is directly tied to coronary heart disease and strokes. There is no requirement specified in national standard. In Atta Noodles, lowest saturated fat was found in Patanjali and highest saturated fat was found in WAI WAI. In oats noodles, Saffola had lower saturated fat than Maggi.

PHYSICO-CHEMICAL TESTS

Moisture

Moisture shall be within the specified limit as per national standard (FSSAI regulation)

as higher content of moisture may spoil the product. As per the FSSAI regulation, moisture content in instant noodle shall not be more than 10 per cent in fried noodles and 13 per cent in non-fried noodles. All the brands were well within the prescribed limit. Moisture content was found lowest in WAI WAI and highest in Snac tac but well within the limit.



Total carbohydrate

Carbohydrate is the source of energy. Carbohydrate was found highest in Maggi and lowest in WAI WAI in atta noodle.

Trans fat

Trans fat is double trouble for the heart health. It increases bad cholesterol and lowers good cholesterol in the body. Just like saturated fats, they also raise the level of 'bad' cholesterol in our blood. Trans fat was found between 0.02 to 0.10 per cent. It was found highest in Patanjali and lowest in all other brands.

Sodium (as Na), % by mass

Sodium is a mineral commonly referred as salt. Sodium is a naturally occurring mineral found in many different foods. It is used for seasoning as well as food preservation. Salt also inhibits the growth of bacteria in food articles. Sodium helps to control the amount of water in the body. World Health Organization (WHO) recommendation on sodium consumption for adults is 2-g sodium/day (equivalent to 5-g salt/day). Excess sodium intake is an important determinant of hypertension and cardio-vascular (CV) risk. Sodium content was lowest in Maggi and Top Ramen and highest in WAI WAI.

Lead

Lead is a toxicant that affects multiple body systems, including your liver and kidneys in particular. It is especially harmful to infant and pregnant women as it can cause damage to the central nervous system in children. It shall be not more than 2.5 mg/kg. Lead was found between 0.1 to 0.3 mg/kg. However, all brands were well within the specified limit of standard.

Arsenic

Arsenic can have immediate toxic effects. Ingestion of large amounts can lead to gastrointestinal symptoms such as severe vomiting, disturbances of the blood and circulation, damage to the nervous system, and eventually death. It shall not be more than 1.1 mg/kg. Arsenic was below the detection limit (LOQ-0.1mg/kg) in all the brands.

Mercury

The inhalation of mercury can cause neurological and behavioural disorders, such as tremors, emotional instability, insomnia, memory loss, neuromuscular changes and headaches. They can also harm the kidneys and thyroid. High

Comparative Product Testing

exposures can lead to death. It shall not be more than 1.0 mg/kg. In all brands mercury was below the detection limit (LOQ-0.1mg/kg).

Total aflatoxin

Aflatoxins are highly toxic compounds and can cause both acute and chronic toxicity in humans. It shall be 30 µg/kg maximum. Aflatoxin was well within the specified limit. It was lowest in Snac tac and highest in Maggi but well within the limit.

Net weight

Net weight of product should be as per the declaration and shall not exceed the tolerance limit of legal metrology. Net weight of all brands was found above the declared weight.

Cooking time

Noodles were cooked as per the instructions provided by manufacturers on product labels and cooking time was measured excluding time for boiling of water. It may be noted that all the brands of atta noodles had declared the cooking time to be 2 or 3 minutes excluding time for boiling water.

Top Ramen and WAI WAI took least time (3 mins) in cooking. Cooking time of oats noodles (4-5 minutes) was higher than atta noodles (3-3.4 minutes).

Packing

The material shall be packed in moisture- proof container or in suitable plastic film or moisture proof bags sealed to prevent ingress of moisture. In all the brands, material was packed in thermo poly pack and sealed to prevent ingress of moisture.

Marking

Each container shall be legibly and indelibly marked with the following:

- Name of the material
- Name & address of the manufacturer/packer
- Batch or code number
- Net weight
- Date of manufacturer

- Green dot mark
- Nutritional information
- Best Before
- MRP
- Direction for preparation
- List of ingredients
- FSSAI license number
- Customer care details

All brands were marked with necessary marking requirements.

Conclusions

We purchased five brands of atta noodles and two brands of oats noodles from the retail markets. We tested the brands on various parameters including total protein, acid-insoluble ash, acid value, fat, carbohydrate, cooking time, sodium and toxic metals. High weightage (25 per cent) was given to the sensory tests which includes colour/appearance, taste, flavour/aroma, texture and overall acceptance parameters.

Brand Top Ramen has topped in overall score followed by Maggi and WAI WAI. In oats noodles, Maggi scored higher than Saffola. Top Ramen was preferred most in sensory panel tests followed by Patanjali and Maggi. Toxic metals as lead, arsenic and aflatoxin were found well within the specified limits. All the brands had met the standard requirements. Oats and *atta* noodles are healthier as they contain more fibre and little more vitamin than regular noodles.

Saffola Noodle (Oats Noodle): The first ingredient in Saffola Noodle is oats flour at 39.4 per cent followed by Semolina (suji)-36.7 per cent blend of rice bran oil and sunflower oil, wheat, gluten, iodised salt and stabilizers. Saffola oats noodle has no *maida*.

Maggi Oats Noodle: The first ingredient in Maggi Oats Noodle is oats flour at 40.4 per cent followed by refined wheat flour (*maida*)-36.7 per cent, maize flour-1.6 per cent, palm oil, gluten, iodised salt and thickeners.