

Ice cream
How much healthy?



Ice cream

Ice cream is a milk based product and is a major product of the dairy industry. It has become a dominant consumer product for large segments of the population. It is sold both in a package form and in open containers at retail outlets or ice cream parlours which is distributed manually in scoops or cones.

Buy the cup or cone; nothing is as refreshing as a scoop of ice cream during the dog days of summer. There are dozens of ice cream scoops on the market. Vanilla is one of the favourite ice cream flavour for consumers. Vanilla ice cream is made from milk and cream which is considered healthy. But this might not be the case always. It is not safe to eat ice cream even if it looks, smells and tastes fine, it might be contaminated with microbes. Ice cream is a good medium for a microbial growth due to its nutrient content, almost neutral pH (pH 6–7) and long storage duration. Pasteurisation during its processing and a relatively low storage temperature eliminate the hazardous microbes. However, there are still chances of growth of microbes if there is inappropriate pasteurization and improper handling of the final products including storage temperature which is not optimum.

To see which the best scooped vanilla ice cream is, seven brands of ice cream were tested in June 2014. These were **Amul, Baskin Robbins, Havmor, Kwality Wall's, Shree Janta, Shreeji,** and **Vadilal**. Samples of Ice cream were collected from seven stores which sell scooped ice cream.

Parameters Tested

Two separate microbiological tests in the lab- one checking for coliform count and the other total colony count had done.

What These Tests Mean

The presence of coliform bacteria means contamination in the post pasteurization phase. It is mainly due to improper handling. As per BIS (Bureau of Indian Standards) norm, the coliform count in ice cream should not be more than 100 per gram.

Total colony count is the number of viable bacteria in a sample. The more bacteria present, higher the possibility of contracting an infection which could lead to an illness. BIS has set the limit of total colony count to 2, 50,000 per gram.

Key Findings

Five of the seven stores - Havmor, Kwaliti Wall's, Shree Janta, Shreeji and Vadilal – were company outlets. The Amul outlet was one of the 12 parlours which serve Amul ice cream owned by a company named Link Continental Food Pvt. Ltd, which has been given a contract by Amul. The Baskin-Robbins store is franchise and the ice cream is manufactured in Pune.

All outlets use a stainless steel scoop kept in water. Amul claimed the water was heated and Baskin-Robbins said heated water was supplied continuously by a geyser. The Havmor outlet said it changed the water every five minutes although it was observed to be milky white.

Four out of seven ice cream brands failed the test for total colony count. Only Amul, Baskin-Robbins and Kwaliti Wall's had bacteria levels below the recommended levels. In coliform test all brands failed except Amul.

Potential Risks

Salmonella enteritidis and *Listeria monocytogenes* bacteria can contaminate ice cream and can cause mild to severe illness. General Physician Dr. Shubhash Sonawal of Kohinoor Hospital says that who are already ill or who have compromised immune system –the elderly, pregnant women and children are more susceptible to food-borne illness. However, as long as it is not contaminated during processing or handling, frozen ice cream is a safe item to consume.

Food-Borne Illnesses

Salmonellosis

It is a type of food poisoning caused by the *Salmonella enteritidis* bacterium. Symptoms of salmonellosis include diarrhoea, fever, and abdominal cramps. People with good immune systems are not severely affected by this bacterium. Symptoms usually start 12 to 72 hours after infection. Sometimes the patient becomes dangerously dehydrated and requires hospitalisation. Generally, the illness lasts four to seven days. Dr. Shubhash Sonawal of Kohinoor Hospital says 'Early warning signs are a loss of appetite, abdominal cramping and a vomiting sensation.

Listeriosis

Listeriosis is food poisoning caused by eating foods contaminated with the *Listeria monocytogenes*. The symptoms include fever, muscle aches, and sometimes nausea or diarrhoea. The disease primarily affects older adults, pregnant women, newborns, and adults with weakened immune systems. Healthy person typically does not need treatment. Symptoms will usually go away within a few weeks. Listeria bacteria can survive refrigeration and even

freezing. That's why people who are at higher risk of serious infections should avoid eating the types of food most likely to contain listeria bacteria.

To minimise the effects of food poisoning Dr. Sonawala advises for more water intake. Have drinking water with salt and sugar for rehydration and consult physician for further treatment.

Recommendations for Healthy Eating

Price is not an indicator of the standards of hygiene maintained. The two most expensive brands – Baskin-Robbins and Kwality Wall's failed the coliform test while Havmor failed both tests. Ice creams are not unfit for consumption when it comes out of the factory. Concern is more when the final products reach to consumers.

Microbiology Tests

	Price (Rs. per cup)	Coliform Count (Limit: not more than 100/g)	Interpretation	Total Colony Count (Limit: not more than 2,50,000/g)	Interpretation
Amul Vanilla Flavour	20	19	Complies	1,37,955	Complies
Baskin-Robbins Vanilla Flavour	54	377	Does not comply	81,591	Complies
Havmor Vanilla Flavour	25	977	Does not comply	5,11,364	Does not comply
Kwality Wall's Vanilla Flavour	45	746	Does not comply	11,523	Complies
Shree Janta Vanilla Flavour	18	9,318	Does not comply	3,41,364	Does not comply
Shreeji	12	12,705	Does not comply	2,56,591	Does not comply
Vadilal Vanilla Flavour	20	411	Does not comply	6,13,636	Does not comply

Response from manufacturers

Baskin Robins



Environmental contamination may lead to misleading results. Every quarter, samples are sent to the USA where they have their own lab to check each batch. They also send samples to an NABL – accredited lab every month.

Havmor



They are introducing a system of sanitizing scoopers and other handling utensils using an approved food grade sanitiser to avoid and retard possible atmospheric and aerial contamination.

Kwality Wall's



100% of the mixes leaving their factories are tested for conformance and only dispatched if within limits. They conduct regular external audits at the parlours to ensure that their ice cream is within limit.

Vadilal



They believe the standard practice of sampling has not been followed and the report is incorrect. In earlier test in November 2013 their products were found to be legally compliant. There is no change in the production process.

Source: Right Choice June 2014