

Press Release

Milk in India is largely safe, even though quality issues persist

New Delhi, November 13 2018: Interim report of the National Milk Quality Survey, 2018 released by FSSAI today reveals that milk in India is largely safe. In a large number of samples, very few samples were found to be adulterated. The Survey, however, found slightly less than 10% samples had contaminants coming mainly from poor farm practices. Over 90% of the samples were found safe in the survey.

This is by far the largest systematic Survey of milk both in terms of sample size (6432 samples) and numbers of parameters (4 quality parameters, 12 adulterants; and 4 contaminants – 93 antibiotics residues, 18 pesticides residues, Aflatoxin M1 and Ammonium Sulphate). Samples that failed in the qualitative tests were quantitatively analyzed. Geo-tagging of samples and photo-documentation of samples were done to ensure proper traceability to establish a robust and a continuous monitoring system.

Nearly one-third of the samples that failed for safety parameters were analyzed quantitatively in high end laboratory of the survey agency. The survey was conducted over a period of 6 months between May to October, 2018. 41% (2607) samples were for processed milk and remaining 59% (3825) were of raw milk. Of the processed milk, 60% were toned milk, 20% full-cream milk, 15% standard milk and 5% double toned milk. Of the raw milk, one third each were samples of cow, buffalo and mixed milk. The survey covered only liquid milk and not the milk products. The survey also did not cover microbiological examination of the samples. Nine key findings of the survey are -

1) Milk in India is largely free from adulterants that render it unsafe for consumption. Merely 12 (out of a total of 6,432) samples had adulterants that affect the safety of milk. The occurrence of such adulterants is insignificant considering the sample size in the survey.

2) This is the first survey that analyzed contaminants including residues of pesticides, antibiotics, Aflatoxin and Ammonium sulphate in milk. Less than 10% (638 out of 6,432 samples) had contaminants that make milk unsafe for consumption as per the survey. In all these cases, milk is getting contaminated due to poor quality of feed, irresponsible use of antibiotics and poor farm practices. Further, quantitative analysis suggests that this problem is not serious. It is restricted to few pockets and in some States. Hence, the country would be able to address this concern by targeted awareness building activities and monitoring of primary production over a period of time.

3) There is no concern at all due to pesticides residues. Only 1.2% of the samples failed on account of antibiotics residues above tolerance level and it was mainly due to oxy-tetracycline used to treat animals with bovine mastitis.

4) Aflatoxin M1 was detected in 368 (out of 6,432 samples), that is 5.7% of the samples had Aflatoxin at levels above the permissible limit. Occurrence of Aflatoxin does not amount to willful adulteration, but is directly related to feed quality and has bearing on human health.

5) Ammonium sulphate was detected in 195 (out of 6,432 samples), that is 3 % samples of milk. Ammonium compounds including ammonium sulphate are reportedly added to feed to enhance protein intake of animals. Current, FSSAI regulations do not prescribe any limits for ammonium sulphate in milk. Further, study is required to verify natural levels of ammonia and its sulphate in milk and fixing tolerance limits, if any for the same.

6) The milk was tested for levels of fat and SNF in this survey against limits of fat and SNF for various types of milk. It is noted that as many as 1261 (19.6%) of the samples did not meet the limit set for SNF. In another 218 samples (3.4%) of the total, Sugar and Maltodextrin was found to be added. Sugar and Maltodextrin is sometimes added to raise the level of SNF. While, there may not be any public health issues, however addition of Sugar, Maltodextrin is to be discouraged completely. Overall 2505 samples (39% of the total) did not meet quality parameters.

7) The survey found that non-compliance on Fat and SNF quality parameters is higher in raw milk than in processed milk, but on added Sugar and Maltodextrin, non-compliance is mostly in processed milk. Unlike non-compliance on safety parameters, non-compliance on account of quality parameters is across all States / UTs, even though extent of such non-compliance varies.

8) As far as raw milk is concerned, it must be stated that this could be either due to breed of cattle, its feed and rearing practices or due to dilution of milk with water. Addition of water in itself is not a safety issue unless there is concern about the quality of water added that calls for detailed microbiological examination. Since, in most cases, liquid milk is boiled and then consumed, public health risk due to microbiological contamination is minimal.

9) Non-compliance on quality parameters in processed milk is quite large, even though it is lower than raw milk. This is a matter of concern and needs to be addressed through various measures. High percentage of non-compliance samples however does not suggest that proportionate volume of processed milk is non-compliant, since samples are not adjusted by capacity of milk processing plants. It is likely that a large number of samples are taken from numerous smaller milk processing plants.

Fat, solid non-fat (SNF) are usually considered to be good measures of overall quality of milk, but these vary widely by species and depend on breed as well quality of feed and fodder. Despite its limited purpose, FSSAI regulations have specified the minimum standards of fat and SNF for various types of milk. For Standard milk and Mixed milk, it is 4.5 for fat and 8.5 for SNF, for cow milk, it is 3.2 for fat and 8.3 for SNF, and for buffalo milk, it is 5.0 or 6.0 (depending on States) for fat and 9.0 for SNF. It is different for toned milk, double toned milk and full cream milk. Non-compliance on account of quality parameters must therefore be viewed in this context.

Commenting on the milk survey, CEO, FSSAI Pawan Agarwal pointed out that this systematic and very large survey provides us solid baseline data and a robust framework for continuous monitoring of the safety and quality of milk in the country. Whereas, there should be zero-tolerance to adulteration in milk, concerns of quality due to contaminants need to be addressed over a period of time by taking large scale awareness drive and public education at the primary production level. He expressed concern about large numbers of samples of processed milk found non-compliant on quality parameters.

He pointed out that the draft report of the survey would soon be shared with all stakeholders and then preventive and corrective action would be taken to further improve the quality of milk in the country. These measures could include – establishing a robust monitoring system for safety and quality of milk from processing plants in the country including third party audits for root cause analysis, mandatory training of food safety supervisors, identification and registration of milkmen that supply raw milk direct to consumers and action to eliminate contaminants in primary production of milk. He thanked the State food authorities for their cooperation and support in this survey and Vimta Labs, third party survey agency for conducting the survey in a time-bound manner.

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