

New Technique to Detect 'Synthetic Milk' soon

By Bhavya Khullar

New Delhi, January 23: Indian agriculture scientists have developed a new technique that can detect detergent adulteration in milk rapidly and reliably.

It could help differentiate 'synthetic' from pure milk, claim scientists at the Indian Institute of Agricultural Research, New Delhi in their recent study published in scientific journal *Food Chemistry*.

The new method is based on 'Fourier transform infrared spectroscopy' that uses infrared or heat rays to obtain presence of chemicals. The method was found to detect and quantify the amount of a detergent called lissapol in milk reliably and rapidly. In order to check sensitivity and specificity of the new test, scientists used a mixture of pure cow and buffalo milk, which was collected from Punjab Agricultural University Campus, Ludhiana in early morning hours of the day. The pure milk was deliberately adulterated or spiked with lissapol detergent. The pure and adulterated milk samples were tested at the Non-destructive quality evaluation laboratory at the Central Institute of Post-harvest Engineering and Technology, , Ludhiana.

The scientists found that the new method could detect as low as 0.2% lissapol detergent in milk samples. "The current study has demonstrated the potential of FTIR spectroscopy as a sensitive and faster tool for high throughput detection of detergent in milk as compared to earlier methods", say scientists.

According to the National Dairy Development Board data, the production of milk in India is the highest in the world. The consumption of milk has increased from an average of 220 g per person a day in 2000-01 to 290 g in 2012-13. This creates a demand supply imbalance, as a result of which, milk vendors use illegal and unethical means to meet the demand and earn higher profits. One such practice is adulteration.

Recently, reports of making 'synthetic' milk using detergents have caught attention. Vendors use detergents such as lissapol that are locally and easily available. These also increase thickness or viscosity of the milk, as a result of which, the consumers mistake it to be of superior quality. This detergent-containing milk is harmful for the body as it causes irritation of skin and eyes in humans.

Vigyan Prasar- Indian Science News and Features Service