GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

LOK SABHA
UNSTARRED QUESTION NO. 1964
(TO BE ANSWERED ON 30.07.2021)

TECHNOLOGY TO DETECT ADULTERATION IN MILK

1964. SHRI RAHUL KASWAN:

Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान एवं प्रौद्योगिकी मंत्री **be pleased to state:**

(a) whether any new technology has been developed by Central Electronics Engineering Research Institute to analyse and detect the adulteration in milk and if so, the details thereof;

(b) whether any survey/study has been conducted to find out the quantum of adulterated milk in market and if so, the details thereof;

(c) the extent to which the new technology is likely to deal with the health hazard being posed due to adulteration of milk in the country at national level and the details of one time and recurring cost of new technology; and

(d) whether the Government has chalked out any plan to patent new technology and popularize its use by different stakeholders and if so, the details thereof?

ANSWER

MINISTER OF STATE (INDEPENDENT CHARGE) OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) CSIR - Central Electronics Engineering Research Institute (CEERI), Pilani developed technology based on electrochemical method coupled with chemometrics for detection of adulteration in milk.

(b) Food Safety and Standards Authority of India (FSSAI) has established a monitoring system for assessing the quality of milk being consumed by the citizens across the country with focus on unsafe/ adulterated milk. FSSAI carried out a survey on safety and quality of liquid milk from May 2018 to October 2018 covering all States and UTs. This report entitled

"National Milk Safety and Quality Survey, 2018" is available at

https://fssai.gov.in/upload/uploadfiles/files/Report_Milk_Survey_NMQS_18_10_2019.pdf

(c) The developed system for detection of adulteration in milk can detect adulterants like salt, detergent, caustic soda, melamine, urea, sodium bicarbonate, hydrogen peroxide, ammonium sulphate and many more adulterants in less than 10 secs in pass/fail mode. The system is based on patented electrochemical signature coupled with pattern recognition technique. The onetime technology cost ranges from 80K to 100K as decided by the manufacturing companies with additional utilities required in the dairy. There is no recurring cost to test the sample (zero recurring cost). The water is used for cleaning the system.

(d) CSIR-CEERI, Pilani has been granted two patents on the technology. A number of technology demonstrations have been carried out at different conferences/ workshops with the industries and the Transfer of Technology (ToT) have already been done with three industries for manufacturing and commercialization. CSIR popularize its patented technologies through exhibitions, press release, booklets, leaflets and through digital media/social media. The technologies developed by CSIR are displayed through online portal 'CSIR India Technology Showcase' which can be accessed at https://techindiacsir.anusandhan.net/online/Control.do.

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