

"FSSAI is constantly encouraging organisations to develop RAFT kits"

The burden of food-borne illnesses is comparable to malaria, HIV/AIDS and tuberculosis. Every year 100 million cases of food-borne diseases (FBD) are reported in India, incurring a whopping \$15 billion annual cost to the country. By 2030, FBD are expected to rise to 150-177 million annually. To ensure the availability of safe and hygienic food to consumers, effective food testing measures are vital at every stage of the food value chain. Food testing, as an important part of the food safety ecosystem, helps in determining risks associated with food products and builds confidence in consumers regarding the safety and hygiene of the food. In conversation with NuFFoODS Spectrum, Arun Singhal, Chief Executive Officer, Food Safety and Standards Authority of India (FSSAI), New Delhi, reveals how the regulatory body is working towards improving the food testing infrastructure in the country. **Edited excerpts:**

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What initiatives have been taken so far to enhance the food testing scenario in India and what is the future roadmap?

The FSSAI has released over Rs 300 crore in the last few years to various State Food Testing Laboratories for strengthening the food testing infrastructure, including setting up microbiological testing. In addition, Mobile Food Testing Labs and rapid food testing kits have been provided under a Central Sector Scheme. FSSAI has also signed a memorandum of understanding (MoU) with different states which included a strong component of food testing infrastructure. Last year, MoUs were signed with 24 States/UTs, and a substantial amount of funds were released. The process is continuing this year as well.

To ensure quality and consistency of results from participating laboratories, FSSAI has notified food labs as per ISO 17025/2017 which have obtained approval from the National Accreditation Board for Testing and Calibration Laboratories (NABL). These labs are being monitored by NABL through audits, verification and other periodical desktop surveillance audit, reassessment and renewal of accreditation.

At present, two well-established and fully equipped laboratories designated as National Food Laboratories of FSSAI are located in Delhi-NCR and Kolkata locations. Another two National Food Laboratories are being set up under public-private partnership (PPP) mode at Jawaharlal Nehru Port Trust (JNPT), Navi Mumbai and Chennai Port Trust (CPT), Chennai. As on date, the food authority has a network of 267 laboratories.

Further, the FSSAI has introduced a scheme for approving rapid analytical food testing (RAFT) devices/kits/methods. Several recent rapid and automated kits/equipment/methods are commercially available globally to bridge the gap for rapid detection of food borne contaminants etc. and instantaneous, on-line monitoring to ensure the safety of food products.

In line



with global experiences, FSSAI is facilitating rapid food testing methods to reduce the screening time of food products by Food Safety Officers (FSO) at the field level and accelerate surveillance activities through fast track approval of rapid food testing kits/devices. The goal of these rapid testing devices and equipment is to provide results within a few hours, if not in 'real time'. RAFT kits are most advanced, easy to use, portable hand-held devices. They don't require any sophisticated equipment and reagents to run the tests. The tests can be performed anywhere by anyone without any specific training requirements.

Also, various FSSAI Manuals of Methods of analysis for food products are in place, specifying the methods for regulatory requirements as per the Food Safety and Standards Regulations. The manuals are continuously updated taking into consideration the latest analytical advancements. Recently, few revised manuals have been placed in public domain and also circulated across laboratories. Further, documentation on Standard Specifications of Equipment for Model Basic Food Testing Laboratory have been placed on the website of FSSAI for inviting public comments.

The FSSAI is actively involved in building capacities of laboratory personnel and food analysts to upgrade the strength of the technical lab personnel. A state-of-the-art laboratory on a public private partnership model at Ghaziabad (National Food Laboratory, Ghaziabad) ensures periodic training and capacity building of laboratory personnel under advanced methods and techniques. A Centre for Microbiological Analysis Training (C-Mat) has been built under the CSR initiative of Merck at National Food Laboratory, Ghaziabad which serves as a world class laboratory for skill development of food analysts and other research areas. Food Safety Solution Centre established by Thermo Fisher Scientific India at National Food Laboratory, Ghaziabad conducts research activities, provides demonstration and training in the field of food safety.

It is extremely important to ensure that the food is free from biological, chemical and physical hazards and finally what reaches the consumer is safe and healthy. As we move forward, FSSAI will continue to focus more towards upgrading testing infrastructure and commissioning quick, easy and reliable testing kits/equipment for better functioning at the field level so that we can collectively achieve the goal of creating a safe food testing ecosystem in the country.

What parameters are being followed by the RAFT committee for approving new food testing kits/equipment?

The FSSAI has constituted a committee for

scrutinising RAFT Kits/ Equipment/ Methods for various applications received by FSSAI under its RAFT Scheme. The RAFT Committee scrutinises the application in two stages: Final Approval and Provisional Approval. The Committee recommends those rapid kits/ equipment/methods for final approval that meet the requirements of the Food Safety and Standard Regulations and are validated against International Standards without any verification from identified laboratories.

Provisional approval is recommended for those rapid kit/equipment/methods, which needs further verification from the identified laboratories.

Conformance certificate with a validity of three years is issued to approved rapid kits/ equipment/devices and a provisional conformance certificate, with a validity of one year, is issued to provisionally approved rapid kit/equipment.

How many domestic kits/equipment have been approved so far? What is the current status of their production and distribution?

So far, 65 rapid food testing kits/devices have been approved to ensure faster, better and cheaper real-time testing of food even at the field level, thus assuring safe and good quality of food while raising the bar for food safety in the country. All approved RAFT kit/equipment are commercially available in the market and some of them are also available for procurement at the GeM portal.

How can we speed up indigenous development of food testing kits/equipment? What are the challenges?

FSSAI has published a Regulation in the Gazette, namely 'Food Safety and Standards (Laboratory and sample Analysis) First Amendment Regulations, 2020' which provides legal sanctity to Rapid Analytical Food Testing kits. This step will ensure that indigenously developed kits/ equipment for food testing are validated and approved under the FSSAI regulations on a fast track basis. Further, to facilitate ease of business in the food testing ecosystem, development of a handbook containing validation/ verification criteria for these kits/equipment is under process by domain experts.

The FSSAI is constantly encouraging research organisations/ startups to develop rapid food testing kits for contaminants and adulterants and connecting with the National Reference Laboratories of FSSAI for validation of their rapid kits/equipment. NS

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