



## ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH

Hessarghatta Lake ( PO )

Bangalore-560089, Karnataka

### FOOD SAFETY REFERRAL LABORATORY

*“Science in service for safe food”*



ICAR-Indian Institute of Horticultural Research (ICAR-IIHR) is a premier organisation established under the aegis of Ministry of Agriculture, Govt of India in 1967 with a commitment to conduct basic, strategic, anticipatory and applied research on various aspects of horticulture. Over the years, the Institute gained laudable reputation for contributions in horticultural productivity and quality enhancement and in increasing farmers' income. Of late the Institute has taken up education and training in horticulture, being the adjunct campus of ICAR-IARI, New Delhi. The programmes at ICAR-IIHR are revised periodically to accommodate frontier areas of horticultural research. In this framework, in addition to productivity enhancement and crop

improvement, the Institute addresses the issues related to ensuring high quality and safe horticultural produce. During its Golden jubilee year, ICAR-IIHR has expanded its horizon by establishing a state of art **Food Safety Referral Laboratory (FSRL)** focussing on horticultural food certification for safety parameters. The financial assistance for the same was provided by Indian Council of Agricultural Research, Govt of India during 2015-17.

#### Mandate

To undertake analytical services for testing food especially horticultural produce samples for presence of food contaminants & capacity building of the scientific and technical personnel for food analysis through training.

#### Objectives

- Analysis of food contaminants viz, pesticide residues, heavy metals, microbial agents, mycotoxins and non- permitted dyes in horticultural produce as per request from clients.
- To standardize analytical methods for rapid and accurate analysis of contaminants in horticultural produce
- To offer analytical service to stakeholders in horticultural crops and produce
- To conduct trainings for various government/non government officials on food safety analysis
- To provide scientific leadership and act as a referral centre for other analytical laboratories in the region

#### Infrastructure and Manpower

FSRL is situated in a dedicated building at ICAR –IIHR main campus, with separate physical and functional units to test and certify pesticide residues, heavy metals, mycotoxins, non-permitted dyes and microbiological hazards in horticultural foods. The laboratory ensures

highest standard of accuracy and precision of detection in the analysis employing sophisticated equipments viz. LC-MS/MS, GC-MS/MS, AAS, GC, HPLC – Kobra Cell, Additionally, the microbial contaminants are detected through conventional microbiology as well as qPCR, and rapid USFDA approved systems such as VIDAS®) and Vitek®. The series of stomacher, laminar air flow unit, Class II type A2 biological safety cabinet, and a range of incubators set at different temperatures promise the quality standards required in a modern microbiology laboratory. General facilities like ultra refrigerators, deep freezers, ultra low temperature freezer, lyophiliser, nitrogen evaporator, ultra water purifier, centrifuges, autoclaves, hot air oven, tissue homogenizer, sonicator, ice flaker, microwave digester, analytical balances set on vibration free tables, pH meter, water baths, vortex mixture etc. available in concerned units provide facilities for sample storage and error free sample preparation. The laboratory design is as per approved standards suitable for workflow, containment systems and observance of good laboratory practices.

FSRL achieves its uncompromising commitment to excellence through a pool of highly qualified scientists as well as trained analysts. Each functional unit is monitored by dedicated scientists specialized in their area of work.

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