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CIRCULAR

Sub:- Kerala Budget - Annual Plan 2024-25 - Scheme on Modernisation of Departmental Laboratories- NABL Accreditation of Laboratories - Working Instructions Issued-reg-

Ref:- 1) G.O(Rt) No.456/2022/AGRI dated 26-05-2022
(2) ADFW/4620/2024-TP2 Dated 28-04-2024

In the Kerala Budget Vol II Part 2 - Annual Plan 2024-25, an out lay of ₹ 400.00 Lakh is provided for the scheme "Modernisation of Departmental Laboratories" under Head of Account 2401-00-105-86-00-34-OC Plan.

Vide reference (1), Government of Kerala accorded Administrative Sanction for the implementation of the scheme, "Modernisation of Departmental Laboratories" for an amount of ₹400.00 Lakh during the year 2022-23.

Vide reference (2), Continuous Administrative Sanction has been accorded for the implementation of the scheme "Modernisation of Departmental Laboratories" for an amount of ₹400 Lakh during 2024-25 .Out of this, an amount of Rs. 25 Lakh is set apart for NABL Accreditation of Pesticide and Fertilizer Quality Control Laboratories during 2024-25.

There are two Fertilizer Quality Control Laboratories (FQCL) established under the d epartment, one each in Thiruvananthapuram and Palakkad districts. In order to check the influx of different brands of organic products in the market and to ensure the quality of such organic products Bio-Fertilizer and Organic Manure Quality Control Laboratory (BOQCL) has also been set up at Pattambi, Palakkad. The State Pesticide Testing Laboratory (SPTL) is established at Parottukonam in Thiruvananthapuram for testing the quality of pesticides.

Laboratory accreditation is a procedure by which an authoritative body gives formal recognition of technical competence for specific tests/measurements, based on third party assessment and following international standards. National Accreditation Board for Testing and Calibration Laboratories (NABL) is a Constituent Board of Quality Council of India. NABL has been established with the objective to provide Government, Industry Associations and industry in general with a scheme for third-party assessment of the quality and technical competence of testing and calibration laboratories. The testing centres and laboratories must demonstrably operate at an internationally acceptable level of competence.

The Fertilizer Quality Control Laboratory, Thiruvananthapuram was the first agricultural input quality testing laboratory to obtain NABL Accreditation which is valid for a period of 2 years from 24.3.23 to 23.3.25. The SPTL Thiruvananthapuram obtained NABL

Accreditation for testing Quinalphos 25% EC, Hexaconazole 5% EC and Chlorpyriphos 20% EC in accordance with the standard ISO/IEC 17025:2017 which is valid for a period of 2 years from 28/03/2024 to 27/03/2026.

Objectives

- To prepare the departmental laboratories for the process of NABL Accreditation.
- To identify the non-conformance required for accreditation and take corrective actions.
- Maintain compliance with accreditation requirements after gaining accreditation.
- To obtain accreditation for testing all the chemicals analysed in the laboratory.
- The requirements for accreditation are laid down in the International Standard ISO/IEC 17025 (General requirements for the competence of calibration and testing laboratories).

1) Personnel

There shall be a system for imparting periodic, internal and external training to the laboratory technical staff at different levels wherever required before assigning a analytical and testing work. Internal training alone is not considered adequate to make the staff knowledgeable on the latest status of science and technology. The laboratory should ensure the availability of necessary infrastructure either internally or access to external, for training. Any testing conducted away from the base laboratory (such as in field laboratories, in a mobile testing laboratory or in the field) must also be under adequate technical control.For meeting the requirement of internal audit, there should be at least one technical personnel apart from the head with suitable qualification and experience, irrespective of the size of the laboratory, who has received a formal training on internal audit.

2) Environment and accommodation condition

- The samples, reagents and standards should be stored in such a manner to guard against deterioration, contamination and loss of identity.
- The laboratory shall meet the safety requirements by restricting access to particular areas of laboratory.
- Segregate certain types of work which are prone to interference from other work, or which present particular problems or hazards.
- Provide appropriate environmental conditions for particular tests, including temperature, humidity, freedom from vibration, freedom from airborne and dust borne microbiological contamination, special lighting, radiation screening and monitor critical environmental conditions.

3) Space

- Provide adequate workspace for employees for storage of supplies, equipment and tools to accomplish assigned tasks.

- Analysts/examiners must have space available for writing reports and other official communications.
- Adequate and appropriate space must be available for records, reference work and other necessary documents.
- Sufficient space must be available for each instrument to facilitate its operation.

4) Design

- Locations of functional areas should facilitate the use of equipment and instruments.Adequate and proper lighting of minimum 100 lumen must be available for personnel to carry out assigned tasks.
- Adequate and proper plumbing and wiring must be available and accessible.
- The laboratory must have proper ventilation, adequate heating, cooling and humidity control as per the requirements.
- Bench and floor surfaces must be appropriate for the work being performed.
- The design should maximise laboratory functions and activities, safeguard the physical evidence, protect the confidential nature of the laboratory operations and provide a safe and healthy environment.
- Laboratory should have a fire detection system wherever applicable. Appropriate fire extinguishing devices must be available, and policies and procedures of laboratory security must be clearly documented.
- Laboratory personnel should be trained in firefighting.

5) Health and Safety

- Procedure for handling chemical spills, cleaning and decontamination procedures for radioactive spills, evaluation procedures including a plan of the facility showing the location of safety equipment and fire extinguishers, policy on the use of protective clothing eg. gowns, coats, gloves, goggles etc. policy on eating, drinking, applying cosmetics etc. in the laboratory, waste disposal procedures, routine cleaning and disinfection procedures for work benches, floors, centrifuges, refrigerators, etc, accident reporting protocols, special procedures for handling hazardous substances. Material safety data sheets must be available in conjunction with the safety manual.
- Documented 'waste management programme' which includes procedures for the disposal of chemical wastes sharp and broken glass uncontaminated waste, for example,paper waste, radioactive waste.
- Suitable protective clothing/equipment must be available at all the times.

6) Validation

Laboratory, whenever using non-standard methods or a standard method beyond the stated limits of operation is required to validate such test methods as per the document on Validation of Test Methods, NABL 212. Validation of a method establishes, by systematic laboratory studies, that the performance characteristics of the method meet the specifications related to the intended use of the analytical results.

7) Use of Computer

In chemical testing laboratories, computers have a wide variety of uses including control of critical environmental conditions, monitoring and control of inventories, calibration and maintenance schedules, stock control of reagents and standard materials, design and performance of statistical experiments, scheduling of samples and monitoring of work throughput, control chart generation,monitoring of test procedures, control of automated instrumentation, capture, storage, retrieval, processing of data, manually or automatically, matching of sample and library data, generation of test reports,word processing and communication.

8) Equipment

As part of its quality system, a laboratory is required to operate a programme for the maintenance and calibration of general service equipment like hotplates,stirrers, non volumetric glassware etc. Volumetric equipment include pipettes, burettes, flasks, measuring instruments like hydrometers, thermometers etc and physical standards like weights used in the laboratory.

The overall programme for the calibration of measuring equipment in the chemical laboratory shall be designed to ensure that, where the concept is applicable, all measurements are traceable through certificates held by the laboratory, either to a national or international standard or to a certified reference material.

9) Assuring the quality of Test Results

Analytical performance must be monitored by using quality control procedures appropriate to the type and frequency of the testing undertaken. Quality control procedures must be documented. A record must be retained to show that appropriate quality control measures have been taken, that quality control results are acceptable or, if not, that remedial action has been taken. Where appropriate, quality control data must be recorded in such a way that trends in analysis can be readily evaluated.

10) Sample Preparation

On receipt, a sample must be registered into the laboratory records.Some sample information is essential. Each laboratory's sample retention and storage practices shall be examined individually in the light of the types of materials tested, the use-life of the products or materials which the samples represent and the likely periods within which a recipient of the test results may request a retest. Samples should be stored so that there is no hazard to laboratory staff and the integrity of the samples is preserved. Storage areas should be kept clean and organized so that there is no risk of contamination or cross-contamination, nor of packaging and any related seals being damaged. Extremes of environmental conditions should be avoided, which might change the composition of the sample, for example, causing loss of analyte through degradation or adsorption. If necessary, environmental monitoring should be used. An appropriate level of security should be exercised to restrict unauthorized access to the samples. All staff concerned with administration of the sample handling system should be properly trained. The laboratory

should have a documented policy for the retention and disposal of samples.

11) Reagents

The laboratory should purchase reagents only from reliable and reputed manufacturers.The laboratory should also ensure that the quality of the reagents used is appropriate for the tests concerned. The grade of reagent used (including water) should be as stated in the method together with guidance on any specific precautions which should be observed in its preparation or use.

12) Internal Quality Control

The internal quality control level adopted should be demonstrably sufficient to ensure the validity of the results.Those analysis which are undertaken more frequently should be subject to systematic QC procedures incorporating the use of control charts and check samples.

13) Waste Water Disposal

Pesticide contaminated waste water presents a threat to the environment when it is dumped after the cleanup of glassware and equipment used for analysis.The wastewater from laboratory sinks should pass through an appropriate water treatment system which may include bioremediation to avoid contamination and environment pollution due to toxic compounds.

14) Maintenance of Accreditation

The accreditation process requires adoption of standards and in order to maintain accreditation, an accredited laboratory must maintain its compliance with all accreditation requirements and undergo regular accreditation assessments. Laboratory accreditation shall be maintained by continued conformity with accreditation requirements, continued successful participation in the appropriate proficiency testing programs, and payment of appropriate fees.

Formal recognition of competence of a laboratory by NABL in accordance with international criteria has many advantages. The results from accredited laboratories are used extensively by regulators for the public benefit in the provision of services. Accreditation ensures better control of laboratory operations and feedback to laboratories as to whether they have sound Quality Assurance System and are technically competent.

Apart from the above, any expenditure arising out of necessity related to accreditation shall be met from the scheme. The summary of financial outlay for implementing the programme for Accreditation of Labs under the Scheme Modernisation of Departmental Laboratories during 2024-25 is as follows:-

Sl No	Name of the Laboratory	Amount (Rs Lakh)
1.	State Pesticide Testing Laboratory, Thiruvananthapuram	15
2.	Fertilizer Quality Control Laboratory, Thiruvananthapuram	10

GRAND TOTAL	25

(Rupees Twenty Five Lakh only)

The expenditure towards implementation of various components of this programme shall be debited under Head of Account 2401-00-105-86-00-34-OC Plan. All rules, formalities and procedures must be strictly followed for the implementation of the programme.The norms of financial propriety shall be followed. Store purchase rules shall be strictly adhered to for all kinds of purchases. Tender/e-Tender formalities shall be followed where ever necessary.

The Deputy Director of Agriculture FQCL, Pattambi and Parottukonam, SPTL, Parottukonam will be responsible for implementing the scheme.The Additional Director of Agriculture (CP) will monitor the progress at the state level and will ensure that the implementation of the programme is as per the existing procedures, rules and regulations.

The amount sanctioned for implementation of the scheme is inclusive of the amount set apart for the encashment of treasury Q bills, WAMS clearance bills of 2023-24 if any and funds proposed to be placed in e-LAMS.

Sd/- 21/5/24

SEERAM SAMBASIVA RAO IAS
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