

Republic of the Philippines
DEPARTMENT OF AGRICULTURE
Diliman, Quezon City

FISHERIES ADMINISTRATIVE)
ORDER NO. 213 :
Series of 2001)

SUBJECT: Establishment and maintenance of BFAR's quality control laboratories and collection of fees and charges for examination services.

Pursuant to Section 67 of R. A. No. 8550, this guideline on the establishment and maintenance of fish quality control laboratories of the BFAR and collection of fees and charges for examination services are hereby promulgated for guidance of all concerned.

Section 1. Definition. The terms as used in this order shall be construed as follows :

- a. *Calibration.* - A technical operation to ensure the accuracy or reliability of the equipment.
- b. *FQCL.* - means Fish Quality Control Laboratory
- c. *Laboratory.* - A facility for testing, examining and determining the characteristics of quality and safety, or the conduct of diagnostic activities.
- d. *Quality Control (QC).* - The operational technique and activities used to fulfill requirements for quality and safety of the fish in conformance with the prescribed standards and specifications.
- e. *Reagents.* - Substances used for testing that takes part in one or more reaction of chemical and biological processes.
- f. *Standard operating procedure (SOP)* - is the prescribed procedure employed conforming with the requirements of good laboratory practices.

Sec. 2. Laboratory design considerations. -

- a. Adequate space shall be provided for the fish laboratory with facility depending upon the number and types of employees, amount of work space including desks and recording space.
- b. To be availed of is the services of a competent architect experienced in laboratory design.
- c. The choice of the laboratory site shall be in compliance with the building code.

- d. The arrangement of the laboratory equipment shall include electric power and mechanical services, airconditioning and humidity requirements.
- e. Chemical fume hood/safety cabinets as well as efficient placement of air-supply and exhaust ducts at the roof shall be installed.
- f. Storage facilities for chemicals, glasswares, laboratory supplies, gas cylinders, flammable solvents and hazardous wastes shall be kept apart in secured storage areas.
- g. Mechanical, electrical system, water system shall be installed with specifications, voltage capacity and location of outlets and sources.
- h. Heating, cooking ventilation and illumination shall be installed in various areas in the laboratory as well as in the office areas. The need for windows and daylight shall also be considered.
- i. Work rooms shall be housed in a permanent building constructed of strong material, preferably concrete.

Sec. 3. Laboratory Safety. - The laboratory shall be so designed as to meet the safety code and standards, with special attention to fire and explosion hazards, including the following features:

- a. Early fire detection and alarm systems, and automatic-fire extinguishing system for storage rooms, solvent rooms and interior of fume hoods;
- b. Hood exhaust blowers of spark-proof construction and explosion-proof motors if mounted on the air stream;
- c. Fire emergency circuits that can shut down building installations and hood blowers;
- d. Fire safety doors in suitable locations and two exits for each laboratory;
- e. All emergency exits with luminescent exit sign and exit doors opening outward and equipped with push bars;
- f. Emergency lighting throughout the laboratory areas that goes on in case of power failure;
- g. Explosion-proof electrical outlets where combustible solvents are kept and,
- h. Emergency/shower facilities for laboratory personnel in case of chemical spillage; e.g. concentrated acids.

Sec. 4. Technical personnel - The operation of the fish quality control laboratory shall be under the control and supervision of a licensed analyst with a qualified degree level in chemistry or equivalent professional qualification and at least five (5) years experience in laboratory analysis and management. The technical laboratory staff shall have a minimum of two (2) years experience in laboratory analysis and/or extensive relevant training for their assigned functions. The other laboratory staff with no relevant

qualifications shall undergo adequate level of training in the laboratory activities and undertake analysis under the supervision of a licensed professional.

Sec. 5. Laboratory procedures and operating practices - The laboratory shall have standard operating procedures in writing and provisions on good laboratory practices which shall include, but not limited, to the following:

- a. *Reagents.* - All reagents for use in the analysis of samples shall be of appropriate grade as stated in the procedure. The same shall be properly labelled to indicate its identity, concentration, storage requirements or any special precautions or hazards, and date of preparation and expiry.
- b. *Testing and analysis.* - All analysis test or experiment shall be conducted in accordance with recommended analytical method for fish and fishery products. Parameters and analytical method are given in Annex A.
- c. *Equipment and instruments.* - Equipment used in the generation, measurement or assessment of data shall be of appropriate design and suited to its purposes. Appropriate instructions for use of equipment/instrument shall be made available and preventive maintenance shall always be observed to prevent failure or malfunction thereof. All equipment and instruments including the consumables shall conform with the requirements of BFAR's recommended analytical method.
- d. *Equipment/instrument calibration.* - The laboratory shall adopt a system for calibration and maintenance of its facilities to ensure its measurement reliability. Newly acquired equipment and instruments shall be checked before use to ensure its conformity with its specified design, performance and dimension requirement. Instruments such as chromatographs and spectrometers shall be calibrated using reference material or chemical of known and adequate purity as part of normal operation.
- e. *Laboratory waste management.* - The laboratory shall have adequate provisions for collection, storage, treatment and disposal of the domestic and laboratory wastes. It shall formulate and adopt proper management practices for expired chemicals, toxic chemicals and laboratory wastes. Disposal of effluents such as contaminated water, chemicals and test animals shall conform with the national environmental or health and sanitary, safety regulations.

Sec. 6. Functions of laboratory -

- a. Undertake and provide advisory services on chemical, microbiological and sensory evaluations of fish and fishery products for quality evaluation.

- b. Undertake special chemical and microbiological investigations on fishery products suspected to be toxic, contaminated and decomposed or unfit for human consumption.
- c. Examine all fish and fishery products for export or import which may be source of fish pests or diseases to ensure quality of product and meet international standards.
- d. Update the fishery industries on quality control of fish and fishery products through regular dissemination and technical assistance.

Sec. 7. Supervision and control – The FQCLs in the regions shall be under the administrative supervision of the BFAR Regional Office, but under the technical supervision of the BFAR Central Office.

Sec. 8. Laboratory fees - Laboratory services and fees rendered by the FQCL shall be collected in accordance with the following schedule:

A. Physico-chemical analysis :	Fee
1. Ash	P200.00
2. Moisture	85.00
3. Protein	100.00
4. Crude Fat	200.00
5. Salt	160.00
6. Boric Acid	70.00
7. Histamine	450.00
8. Formalin	250.00
9. Trimethylamine-Nitrogen	120.00
10. Total Volatile Base-Nitrogen	120.00
11. Free Fatty Acid	270.00
12. Thiobarbituric Acid	100.00
13. Heavy Metals: (Copper, Cadmium, Lead, Arsenic and Mercury)	1,200.00/element
14. Cyanide	250.00
15. Peroxide Value	200.00
16. Water Activity	75.00
17. pH	50.00

B. Microbial & Toxicological Examination:

1. Standard Plate Count/Aerobic Plate Count/ Total Viable Count	200.00
2. Yeasts/Mold Count	250.00
3. Coliform Count	250.00
4. Faecal Coliform	250.00
5. Staphylococcus aureus	300.00
6. Salmonella	400.00

7. Shigella	400.00
8. E. coli	350.00
9. Anaerobic Bacteria	400.00
10. Water Analysis	350.00
- Alkalinity	50.00

C. Physical/sensory examination for fresh/frozen, processed and canned fish & fishery products

a) External & internal can examination	100.00
b) Sensory evaluation for canned, fresh, frozen, & processed fish products	100.00

D. Seaweeds physico-chemical analysis:

1) Physical Analysis: (gel strength, gelling point melting point & viscosity)	300.00
2) Chemical Analysis:	
Sulphate	250.00
Acid Insoluble Ash	200.00

E. Product Quality Certificate

Health Certificate	50.00
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Sec. 9. Issuance of laboratory analysis - The authorized head of the laboratory shall issue the laboratory results in accordance with established international standards and requirements.

Sec. 10. Repeal- FAO No. 187 and other administrative orders and parts thereof inconsistent herewith are deemed amended.

Sec. 11. Effectivity - This order shall take effect fifteen (15) days after its publication in the Official Gazette and/or in two (2) newspapers of general circulation, and fifteen (15) days after registration with the Office of the National Administrative Register.

Issued on this 17th day of May, 2001 at Quezon City, Metropolitan Manila, Philippines.

(Signed)
LEONARDO Q. MONTEMAYOR
 Secretary

Recommended by:

(SIGNED)

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(SIGNED)

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Undersecretary for Fisheries and Livestock,
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Annex A

PARAMETERS

METHODS

Chemical

Ash
Moisture
Crude Protein
Crude Fat
Salt (NaCl)
Boric Acid
Histamine
Trimethylamine
Total Volatile Base-Nitrogen
Formalin
Thiobarbituric Acid
Total Mercury
Cyanide
Peroxide value
Water Activity
Copper
Lead
Cadmium

Microbial

Standard Plate Count
Yeast/Molds
Coliforms
Water Analysis:
Presumptive
Confirmatory
Staphylococcus
Salmonella
Anaerobic Bacteria

Gravimetric
Oven-Drying
Kjeldhal
Soxhlet
Volhard
Colorimetric (AOAC, 1975)
Kwabata & AOAC
Conway Microdiffusion Technique
Chromotropic Acid Test
TBA Text Spectrophotometric
Hydride Vapor Generator (AAS)
Ion Selective Electrode (ISE)
Titrimetric (AOAC, 1975)
Luft value
Wet Digestion (AAS)
Dry Digestion - dry ashing (AAS)
Wet Digestion (AAS)
Adopt ICMSF & APHA
For microbiological
Examination of fish and fishery products