



# Bangladesh Food and Chemical Laboratory Information Book





#### Dear Participant,

This Food and Chemical Lab Information Book provides introductory information about the laboratories participating in the Expo. The content of the book is limited to key microbiology and chemical testing information and other relevant data and contact information. Accordingly, the information is not intended to be comprehensive for all laboratories due to both page and time limitations. Additional information is available directly from the lab exhibitors.

A related activity is underway by BFSA and the USDA Bangladesh Trade Facilitation project to build an online, searchable directory of lab resources in the country. BTF will organize validation workshops/meetings with all relevant labs to verify the information during the web-based lab directory development process.



This publication has been issued without formal editing.



#### Message from Honorable Minister Ministry of Food

I am very much delighted to know that BFSA is going to organize "Food and Chemical Lab Expo, 2022" in collaboration with the USDA BTF Project on September 11, 2022 for the first time. I believe this is a time befitting relevant initiative to help achieve hunger and poverty free Bangladesh which is the ultimate goal of SDG. I recognize and convey my thanks to all those who are relentlessly engage their sincere efforts to organize this event.

The main tools to build a happy and prosperous Bangladesh which was the dream of our Father of the Nation Bangabandhu Sheikh Mujibur Rahman, is healthy and active workforce. Sensing the issue, Honorable Prime Minister Sheikh Hasina promulgated Food Safety Act 2013. The very philosophy of this act is to ensure safe food for all through scientific process and well-coordinated approach. At this backdrop, BFSA is established in 2015 to regulate and monitor the activities related to manufacture, import, processing, storage, distribution and sale of food so as to ensure access to safe food through exercise of appropriate scientific methods, and to coordinate the activities of all the organizations concerned with food safety management.

The very objective of global food safety system is to ensure safe food for all. Laboratory Testing is the foremost precondition for assuring food safety. Normally food is affected by different hazards like physical, biological i.e. microbiological and chemical origin. Whether food is safe for human consumption i.e. free from all kinds of hazard needs to be proved by laboratory testing. Food testing is an everchanging matter as the very advancement of science and technology. So, food testing laboratories should be accredited, updated and well-advanced and moreover well-equipped. There should be a harmonic and inter-active relation among the laboratories. This expo will let the concerned agencies and laboratories create an ample scope for effective network. As we are dreaming for developed Bangladesh by 2041 so it is very much imperative to enhance our export basket especially in the food sector. In this regard there is no other alternative to strengthen our laboratory facilities and capacities.

With this backdrop, I am confident enough the upcoming "Food and Chemical Lab Expo, 2022" will certainly bring all concerned in a common platform to show our commitment for ensuring food safety in all tiers i.e. farm to fork for our citizen as well as for the globe.

I wish every success of this event. Joy Bangla, Joy Bangabandhu. May Bangladesh live long.

Sadhan Chandra Majumder, MP

Minister

Ministry of Food

Government of the People's Republic of Bangladesh



#### Message from Secretary Ministry of Food

It is my pleasure to know that for the first time in the country Bangladesh Food Safety Authority (BFSA) and the USDA BTF Project are going to jointly organize "Food and Chemical Lab Expo, 2022" on September 11, 2022. I extend my sincere congratulations and best wishes to all those involved in this effective and time befitting arrangement.

A healthy and functional population is one of the prime tools to build a hunger and poverty free Sonar Bangla, the dream of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman. For this, it is a must to provide enough safe and nutritious food to the people. Bangladesh Food Safety Authority has been working tirelessly since its inception in light of the visionary leadership and right direction of the Honourable Prime Minister Sheikh Hasina to ensure the right of the people to get safe food.

Food laboratories play an important role in food quality control, certification and prevention of adulteration. Food laboratory is one of the main facilities for testing the quality and safety standards of processed food and imported and exported food to ensure safe food. A strong and world-class national food laboratory network must be developed in the country to reduce foodborne health hazards and increase national and international food trade. Keeping this objective in mind, I hope that organizing the "Food and Chemical Lab Expo, 2022" for the first time will contribute to remarkable significance in all regards.

I wish the "Food and Chemical Lab Expo, 2022" an all-round success.

Md. Ismiel Hossain, ndc

Secretary

Ministry of Food

Government of the People's Republic of Bangladesh



#### **Message from FBCCI President**

I am glad to know that Bangladesh Food Safety Authority and BTF Project of USDA are jointly going to organize "Food and Chemical Lab Expo, 2022" for the first time in Bangladesh.

There is no dearth of efforts at the government and private levels to make the dream of Hon'ble Prime Minister Sheikh Hasina "Building a prosperous Bangladesh by the year 2041" a success, where, the access to safe food is one of the most critical factors to secure social well-being.

A safe food supply also supports national economy, trade, and tourism, stimulating sustainable development. Hence, for the identification and detection of various contaminants in food, modern and international lab network is a must.

I believe, this 'Food and Chemical Lab Expo, 2022' will bring the various public and private laboratories of the country and their associated partners together at the same platform, thereby forming a strong food lab network in Bangladesh, and will play an important role in ensuring sound health and safe food for the people of the country.

I wish Food and Chemical Lab Expo, 2022 a grand success!

Md. Jashim Uddin

President

The Federation of Bangladesh Chambers of Commerce and Industries



### Message from Chairman Bangladesh Food Safety Authority

Access to safe food is a constitutional right of all people of Bangladesh. Personal, domestic, social as well as national stability and development are closely related to food safety. Nutrient-rich safe food is a prerequisite for building a functional, talented, skilled and creative nation; The government is determined to ensure that requisite .

It is my great pleasure to apprise that Bangladesh Food Safety Authority and the USDA Bangladesh Trade Facilitation Project are jointly going to arrange "Food and Chemical Lab Expo 2022" for the first time in Bangladesh on 11th September, 2022 with a view to establish a platform of collaboration among stakeholders and exchanging ideas, methods and knowledges between different laboratories in Bangladesh working on food safety. The main objective of organizing the event is to build a strong and world-class national food laboratory network in the country to reduce foodborne health hazards and increase national and international food trade.

Hon'ble Prime Minister Sheikh Hasina is working tirelessly to fulfill the vision of the great architect of freedom, Father of the Nation Bangabandhu Sheikh Mujibur Rahman to build a happy and prosperous Sonar Bangla free from hunger, poverty and exploitation. In this context, for the purpose of protecting life and health, with the in-timely prudent and far-sighted decision of Honorable Prime Minister Sheikh Hasina, Food Safety Act-2013 was enacted in which it is mentioned about developing a food safety management system through proper collaboration among stakeholders and coordination between each step of the food chain in a scientific manner. Bangladesh Food Safety Authority has been working as a central regulatory body since 2015 to achieve that goal.

Collection of food samples for analysis through creating sustainable lab network and providing necessary advice to concerned laboratories in this regard are few of the most important tasksof BFSA according to the section 13 of Food Safety Act, 2013. One of the key drivers in ensuring safe food is developing a well-organized lab network. Food samples are tested for various foodborne health hazards in various laboratories in Bangladesh. However, there is an urgent need to develop a sustainable coordination among these laboratories regarding their tests and the analysis of results, so that both the stakeholders' and the consumers' awareness and knowledge will be developed about the testing of food samples in the laboratory and the analysis of the results.

This laboratory expo should open a doorstep to mitigate the demand of nation in the conflict of sample testing and analysis of physical, chemical and microbiological parameters between parties, method development and validation, standard development, diagnosis, scientific advices, collaboration and researches in the aspect of food safety. I am hopeful that the Lab Expo will be able to establish a well-organized lab network by bringing the various public and private laboratories of the country and its related partners on the same platform.

I wish spontaneous participation and involvement of all concerned parties for the success of the event.

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**Md. Abdul Kayowm Sarker**Chairman (Additional Secretary)
Bangladesh Food Safety Authority, Ministry of Food



#### **Foreword**

Dear Friends.

Welcome to the Food and Chemical Lab Expo 2022. The U.S. Department of Agriculture, Bangladesh Trade Facilitation Project together with the Bangladesh Food Safety Authority present this first ever lab exhibition in the country to highlight the diverse services offered by government and commercial laboratories, including trade regulatory and reference labs, academic, research, and private laboratories. Each laboratory has a demonstration stall to present its capabilities and the services offered on a common platform. We encourage all participants and exhibitors to meet each other and to discuss both scientific and technical issues as well as avenues for collaboration and coordination.

The Lab Information Book identifies all the participating laboratories and lists information about accreditation status, equipment resources, product-wise testing methods and related parameters, fees and charges for tests, and available other services.

A complementary seminar features a distinguished panel of experts to discuss the role and importance of internationally accredited laboratories and how Bangladesh can ensure food safety and promote trade.

We are honored to have his excellency, Sadhan Chandra Majumder, MP, Minister of Ministry of Food to inaugurate the Expo and Md. Tofazzel Hossain Miah, Senior Secretary, Prime Minister's Office as chief guest for the scientific session. Lastly, we recognize Chairman Md. Abdul Kayowm Sarker and the officials from Bangladesh Food Safety Authority for their leadership over this first ever Food and Chemical Lab Expo 2022.

Yours Sincerely,

Michael PPan

Michael J. Parr Project Director

Bangladesh Trade Facilitation (BTF) Project

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#### Acronyms

AECC	Atomic Energy Centre, Chattogram
AECD	Atomic Energy Centre, Dhaka
AEO	Agriculture Extension Officer
BAB	Bangladesh Accreditation Board
BAEC	Bangladesh Atomic Energy Commission
BARI	Bangladesh Agricultural Research Institute
BCSIR	Bangladesh Council of Scientific & Industrial Research
BFSA	Bangladesh Food Safety Authority
BLRI	Bangladesh Livestock Research Institute
BRICM	Bangladesh Reference Institute for Chemical, Measurements
BRRI	Bangladesh Rice Research Institute
BSCIC	Bangladesh Small and Cottage Industries Corporation
BTF	Bangladesh Trade Facilitation
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DoF	Department of Fisheries
DU	University of Dhaka
FBCCI	Federation of Bangladesh Chambers of Commerce and Industry
HSTU	Hajee Mohammad Danesh Science and Technology University
icddr,b	International Centre for Diarrheal Disease Research, Bangladesh
IFRB	Institute of Food and Radiation Biology
IFST	Institute of Food Science and Technology, BCSIR
LEH	Laboratory of Environmental Health, icddr,b
LSSD	Laboratory Sciences and Service Division, icddr,b
PQW	Plant Quarantine Wing
QA	Quality Assurance
QC	Quality Control
RAL	Rice Analytical Lab, BRRI
SAARC	South Asian Association for Regional Cooperation
SDG	Sustainable Development Goals
SOP	Standard Operating Procedure
USDA	United States Department of Agriculture

#### **BSCIC Salt Testing Laboratory**

#### Available lab services and services under approval:

Edible Salt Test (i.e. determination of iodine, Nacl, moisture, insoluble matter, alkalinity, calcium and magnesium)

#### Fee or charge for the services:

No charge applicable

#### **Instrument facilities:**

Available all lab apparatus require for salt testing lab Status regarding accreditation and ISO certification: No accreditation and ISO certification Sample testing capability according to test parameter method and equipment: Satisfactory

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

Not applicable

#### **Biosafety & biosecurity measures:**

For maintaining Biosafety, the lab is using personal protective equipment including masks, gloves, safety glasses and lab apron. Following hand washing procedure and maintain SOP for safe use of chemical.

Biosecurity measures are; Pest control activates in laboratory, Restriction of visitors.

#### Waste management system:

Not applicable

#### Contact person and address:

Md. Abul Khair Deputy Manager (Extension Dept.) Cell: 01719711830

BSCIC Bhabon, 398 Tejgaon Industrial Area, Dhaka, 1208.

## Laboratory of Environmental Health (LEH), LSSD, icddr,b.

800

900

900

#### Available lab services and services under approval:

Available lab services allu services ulluer a	
List of available lab services and services under	
1. Total coliforms	900
2. Faecal coliforms	900
3. Total Aerobic Bacterial Count	900
4. Faecal Streptococci	900
5. Vibrio cholerae	900
6. Pseudomonas spp.	900
7. Thermotolerant Escherichia coli	1000
8. Salmonella spp. & Shigella spp.	900
9. Clostridium perfringens	1500
10. Hand Swab Sample for Escherichia coli	1000
11. Total Phytoplankton count	500
12. Total Generic Phytoplankton count	1500
13. Single Class Phytoplankton count	500
14. Total Zooplankton count	500
15. Total Generic Zooplankton count	1500
16. Single Group Zooplankton count	500
17. pH	400
18. Total Hardness (EDTA) as CaCO3	800
19. Total Dissolved Solids (TDS)	400
20. Salinity	400
21. Free carbon dioxide	400
22. Bicarbonate as CaCO3	400
23. Carbonate as CaCO3	400
24. Total Alkalinity as CaCO3	400
25. Dissolved Oxygen (DO)	400
26. Iron (Water)	1200
27. Chemical Oxygen Demand (COD)	1500
28. Biochemical Oxygen Demand (BOD5); 200C)	1500
29. Calcium (Water)	700
30. Turbidity	400
31. Acidity	400
32. Nitrate-Nitrogen (NO3-N)	1000
33. Nitrite-Nitrogen (NO2-N)	1000
34. Chloride	1000
35. Phosphate/ Orthophosphate (PO43-)	1000
36. Sulphate	1000
37. Residual Chlorine	600
38. Conductivity	400
39. Staphylococcus spp.	900
40. Total Phosphorus	1500
41. Total Nitrogen (TN)	1500
42. Ammonia as Nitrogen	700
12 T : 15   1   (TSS)	000

43. Total Suspended Solids (TSS)

44. Yeast

45. Mold

46. Arsenic (Water)	1700
47. Legionella spp.	2200
48. Legionella spp. & Legionella pneumophila	3000
49. Manganese (Water)	1200
50. Fluoride	1000
51. Magnesium (Water)	1200

**Fee or charge for the services:** Revised fees or charges for the services are mentioned below.

1. Acinetobacter baumannii	1500
2. Helminth	1700
3. Staphylococcus aureus	1500
4. Acinetobacter spp.	900
5. Zinc (Water)	1200
6. Cadmium (Water)	1200
7. Lead (Water)	1200
8. Chromium (Water)	1200
9. Selenium (Water)	1200
10. Copper (Water)	1200
11. Arsenic (Hair)	3000
12. Arsenic (Nail)	3000
13. Arsenic (Food)	3000
14. Calcium (Food)	3000
15. Magnesium (Food)	3000
16. Iron (Food)	3000
17. Zinc (Food)	3000
18. Cadmium (Food)	3000
19. Lead (Food)	3000
20. Chromium (Food)	3000
21. Selenium (Food)	3000
22. Copper (Food)	3000
23. Manganese (Food)	3000
24. Phosphorus (Food)	3000

#### Instrument facilities:

Microbiology Section	Chemistry Section
1. Membrane Filtration Unit	1. GC-MS/MS
2. Conventional PCR Machine	2. GFAAS
3. Real -Time PCR Machine	3. HGAAS
4. Gel Imaging System	4. FAAS
5. Biosafety Cabinet	5. Ion Chromatography System
6. Laminar Airflow	6. UV -Vis Spectrophotometer
7. Micro Centrifuge	7. Microwave digestion system
8. Refrigerator (4°C and -20°C)	8. Block Digestion system
9. Freezer ( -80°C)	9. Kjeldahl Distillation system
10. Incubator (37°C and 44°C)	10. Muffle Furnace
	11. Ultra-pure water system
	12. Hot air oven
	13. BOD incubator

#### Status regarding accreditation and certification:

Initiated

#### Sample testing capability according to test parameter method and equipment:

Adequate services can be provided based on the requirement of the clients

#### Biosafety & biosecurity measures:

Are always followed under the strict supervision of the biosafety & biosecurity dept. of icddr,b.

#### **Waste management system:**

Not applicable

#### **Contact person and address:**

Md. Rafiqul Islam.

Research Investigator, Laboratory of Environmental Health (LEH), LSSD, icddr,b. Address: 68 Shaheed Tajuddin Ahmed Sarani, Mohakhali, Dhaka 1212, Bangladesh

Cell: +880-2-9827001-10, Ext: 2405



### Laboratory of Food Safety and One Health, laboratory sciences and service division, icddr,b.

#### Available lab services and services under approval:

- 1. Enumeration of Aerobic Plate Count (APC)
- 2. Enumeration of total Coliform
- 3. Enumeration of Enterobacteriaceae
- 4. Enumeration of  $\beta$ -glucuronidase positive E. coli
- 5. Enumeration and identification of Bacillus cereus
- 6. Enumeration and identification of coagulase positives Staphylococci
- 7. Enumeration of Yeast & Mould
- 8. Isolation and identification of Salmonella spp
- 9. Isolation and identification of Shigella spp
- 10. Isolation and identification of Campylobacter spp
- 11. Isolation and identification of Vibrio parahaemolyticus and Vibrio cholerae from food samples
- 12. Identification of diarrhoeagenic E. coli based on molecular markers
- 13. Molecular detection of meat species (Bovine or Porcine derivatives)
- 14. Isolation and identification of streptococcus spp
- 15. Isolation and identification of lactobacillus spp
- 16. Isolation and identification of Enterococcus spp
- 17. Isolation and identification of Clostridium perfringens spp
- 18. Isolation and identification of Listeria spp
- 19. Isolation and identification of Methicillin-resistant Staphylococcus aureus (MRSA)
- 20. Isolation and identification of Acinetobacter spp
- 21. Isolation and identification of Avian Pathogenic Escherichia coli (APEC)
- 22. Isolation and identification of Pseudomonas aeruginosa
- 23. Isolation and identification of Campylobacter jejuni and Campylobacter coli.
- 24. Isolation and identification of Aeromonas spp
- 25. Isolation and identification of Klebsiella spp
- 26. Identification of Carbapenem resistant and ESBL producing Enterobacteriaceae/ E. coli
- 27. Isolation and identification of Bifidobacterium spp
- 28. Antimicrobial Susceptibility Testing (AST) of bacterial isolates

#### Fee or charge for the services:

1. Enumeration of Aerobic Plate Count (APC)	1,450
2. Enumeration of total Coliform	2,300
3. Enumeration of Enterobacteriaceae	2,300
4. Enumeration of β-glucuronidase positive E. coli	2,000
5. Enumeration and identification of Bacillus cereus	2,500
6. Enumeration and identification of coagulase positives Staphylococci	3,000
7. Enumeration of Yeast & Mould	2,400
8. Isolation and identification of Salmonella spp.	2,500
9. Isolation and identification of Shigella spp.	2,300
10. Isolation and identification of Campylobacter spp.	4,500
11. Isolation and identification of Vibrio parahaemolyticus and	
Vibrio cholerae from food samples	2,400
12. Identification of diarrhoeagenic E. coli based on molecular markers	1,450
13. Molecular detection of meat species (Bovine or Porcine derivatives)	14,000
14. Isolation and identification of streptococcus spp.	Not yet estimated
15. Isolation and identification of lactobacillus spp.	Not yet estimated

<ul><li>16. Isolation and identification of Enterococcus spp.</li><li>17. Isolation and identification of Clostridium perfringens spp.</li><li>18. Isolation and identification of Listeria spp.</li></ul>	Not yet estimated Not yet estimated Not yet estimated
19. Isolation and identification of Methicillin-resistant Staphylococcus	
aureus (MRSA)	Not yet estimated
20. Isolation and identification of Acinetobacter spp.	Not yet estimated
21. Isolation and identification of Avian Pathogenic Escherichia	
coli (APEC)	Not yet estimated
22. Isolation and identification of Pseudomonas aeruginosa	Not yet estimated
23. Isolation and identification of Campylobacter jejuni and	
Campylobacter coli.	Not yet estimated
24. Isolation and identification of Aeromonas spp.	Not yet estimated
25. Isolation and identification of Klebsiella spp.	Not yet estimated
26. Identification of Carbapenem resistant and ESBL producing	
Enterobacteriaceae/ E. coli	Not yet estimated
27. Isolation and identification of Bifidobacterium spp.	Not yet estimated
28. Antimicrobial Susceptibility Testing (AST) of bacterial isolates.	Not yet estimated

#### Instrument facilities:

PCR workstation, Thermal cyclers (BIO-RAD & ABI), Gel electrophoresis chambers with gel documentation system, Laboratory Freezers (-70°, -20° & 4°C), Autoclave machine, Incubators (Temperature range between 25-80°C), Biosafety cabinet (BSL-2), Centrifuge machine, water bath, Heat block, weighing balance, Stomacher machine, pH meter, Membrane Filtration System, Sequencing system (Sanger, Illumina MiSeq, NextSeq) etc.

#### Status regarding accreditation and certification:

The lab is not ISO accredited but it follows the ISO 17025 standards. During experiment, it follows ISO 16649-2, ISO 4832, ISO 21528-2, ISO 7932, ISO 6888-1, ISO 21527-162, ISO 6579, ISO 21567 & BAM technical manuals.

#### Sample testing capability according to test parameter method and equipment:

The lab is capable to handle large volume of samples for testing purposes using both conventional microbiology and molecular methods.

#### **Biosafety & biosecurity measures:**

The lab has central Biosafety office at icddr,b. Under their guidance, it follows all the Biosafety and Biosecurity guidelines and manuals during all the lab activities.

#### **Waste management system:**

Not applicable

#### Other information:

The lab has participated in the External Quality Assurance Services (EQAS) programs and got proficiency test (PT) certificates for successfully identifying E. coli, Salmonella spp., Staphylococcus aureus, Shigella spp., Enterococcus faecalis, Enterococcus faecium, Campylobacter jejuni, Campylobacter coli, Pseudomonas aeruginosa and antimicrobial susceptibility testing (AST) of these bacterial isolates.

#### Contact person and address:

Laboratory of Food Safety and One Health, laboratory sciences and service division, icddr,b, 68 Shaheed Tajuddin Ahmed Sarani, Dhaka- 1212.

Contact Person: Dr. Mohammed Badrul Amin, Associate Scientist

Cell: 01911711381

## Food Quality and Safety Laboratory Interdisciplinary Institute for Food Security Bangladesh Agricultural University, Mymensingh

#### Available lab services and services under approval:

Name of the Instrument/Test Unit	Parameter	Source
High Performance Liquid Chromatography (HPLC) equipped with: HPLC analyzer, Rotary Evaporator with Standard Accessories, Vacuum Filtration System, Nitrogen Evaporator, Stomacher Laboratory Paddle Blender, Solid Phase Extraction Vacuum manifold	Vitamins, Antibiotics & Residues, Aflatoxins, Amino Acids	Feed, Chicken, Egg, Meat, Human Food
Atomic Absorption Spectrophotometer (AAS) equipped with: Digestion Unit, High Speed Filter	AS, Cd, Se, Pb, Fe, Mn, Zn, Ca, Cu	Feed, Chicken, Egg, Human Food, Fish, Environmental Contamination
Proximate Analyzer Unit equipped with: Laboratory Muffle Furnace, Moisture Analyzer, Solvent Extractor, Distillation Unit, Digestion Unit, Desiccators Cabinet, Ceramic Digital Stirring Hotplates, High Speed Blender	Proximate Compositions (Protein, Lipid, Carbohydrate, Ash, Fiber, Moisture)	Feed, Food, Vegetables
ELISA Unit	Pesticide & Residues, Hormone Assay	Vegetables, Fruits, Milk, Meat, Chicken
Microbiology Lab equipped with: Biosafety Cabinet, Colony Counter, Autoclave, Hot Air Oven (sterilizer), Vortex Mixer, Ultrasonic Cleaner, Incubator, -25°C Freezer, Microscope with digital imaging, pH meter, Homogenizer, Ultrasonic Digital Bath with Timer, Recirculation Water Bath, Distilled Water Apparatus, Refrigerated Micro Centrifuge, Centrifuge Machine	Microbial Load, Isolation & Identification of Pathogenic Bacteria	Feed, Food, Soil, Vegetables, Processed Food, Meat, Milk, Fish, Water
Conductivity Meter	Check Conductivity of Aqueous Phase	Water, Waste Water, Environmental Samples (liquids)

#### Fee or charge for the services:

Proximate Analysis: 1800 Taka/Sample Heavy Metal Analysis: 500 Taka/Sample Amino Acid Analysis: 4000 Taka/Sample Vitamin analysis: 5000 Taka/Sample

PH: 50 Taka/Sample

#### Instrument facilities:

- 1. Atomic Absorption Spectrophotometer (ASC)
- 2. HPLC
- 3. Stomacher
- 4. Moisture Analyzer
- 5. Distillation Unit
- 6. Multiple heating magnetic Stirrers
- 7. Heating Digester
- 8. Nitrogen Evaporator
- 9. Solvent Extraction Unit
- 10. Rotary Evaporator
- 11. Shaking Water Bath
- 12. Sample Grinder
- 13. Homogenizer
- 14. Conductivity Meter
- 15. PH Meter
- 16. Enzyme Link immunosorban Assay (ELISA)
- 17. Biosafety Cabinate
- 18. Autoclave
- 19. Colony Counter
- 20. Desiccator
- 21. Hot Air Oven
- 22. Ultrasonic Cleaner
- 23. Table Top Centrifuge

#### Status regarding accreditation and certification:

Not accredited and not received ISO certification

#### Sample testing capability according to test parameter method and equipment:

AS: 200 samples at a time HPLC: 100 samples at a time ELISA: 96 samples at a time Digestion: 20 samples at a time

#### **Biosafety & biosecurity measures:**

It is mandatory to maintain proper biosafety and bio security in this laboratory.

#### **Waste management system:**

BRRI Central waste management system (SOP) and Gazipur City Corporation. Contact to commercial services from PRISM Bangladesh.

#### **Contact person and address:**

Md. Zahirul Islam

Laboratory Technician, FQSL Email: iifs.lab@bau.edu.bd

Cell: 01710-223127

#### Food Safety and Quality Analysis Institute of Food and Radiation Biology Atomic Energy Research Establishment Bangladesh Atomic Energy Commission

#### Available lab services and services under approval:

Water content, Vitamin C, Protein, Carbohydrate, Fat, Total sugar, Ash, Tyrosine value, Calcium, Total Fiber, Phosphorus, Beta carotene, Iron, Energy

#### Fee or charge for the services:

Types of tests	Approved fee by BAEC (in taka)
Moisture	300.00
Protein	1000.00
Fat	1000.00
Ash	500.00
Calcium	1000.00
Phosphorus	1000.00
Vitamin-C	1000.00
Carbohydrate	2500.00
Iron	1500.00
Beta Carotene	1500.00
Total sugar	1000.00
Energy	1500.00
Tyrosine value	1000.00

#### **Instrument facilities:**

Micro Kjeldahl system Soxhlet apparatus Spectrophotometer UHPLC FTIR-ATR FT-NIR ELISA

Molecular Biology: PCR, Gel electrophoresis, Gel documentation imaging Microbiological analysis of food

#### Status regarding accreditation and certification:

Not accredited

#### Sample testing capability according to test parameter method and equipment:

10-20 samples/ month

#### **Biosafety & biosecurity measures:**

Not applicable

#### Waste management system:

Not applicable

#### **Contact person and address:**

Dr. Roksana Huque Institute of Food and Radiation Biology Atomic Energy Research Establishment Bangladesh Atomic Energy Commission Savar, Dhaka, Bangladesh

Email: roksanahuque@yahoo.com

Cell: 880-2- 996688247, 880-2-996688248, 01928526324



## Atomic Energy Centre, Dhaka (AECD) Bangladesh Atomic Energy Commission (BAEC)

#### Available lab services and services under approval:

SI.	Available Lab Services		
No.	Material/Item of Test	Parameter	Status
1	Water	Lead (Pb), Cadmium (Cd), Chromium (Cr), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Arsenic (As), Mercury (Hg)	Accredited
		Lead (Pb), Cadmium (Cd), Chromium (Cr), Arsenic (As), Mercury (Hg)	Accredited
2	Fish	Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	Not Accredited
		Lead (Pb), Cadmium (Cd), Chromium (Cr), Arsenic (As), Mercury (Hg)	Accredited
3	Shrimp	Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	Not Accredited
		Lead (Pb), Cadmium (Cd), Chromium (Cr), Arsenic (As),	Accredited
4	Feed	Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Mercury (Hg)	Not Accredited
		Lead (Pb),	Accredited
5	Milk	Cadmium (Cd), Chromium (Cr), Arsenic (As), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Mercury (Hg)	Not Accredited
	Foodstuffs (Rice, wheat, Vegetable, Fruits, drinks,	Lead (Pb),Cadmium (Cd), Chromium (Cr), Arsenic (As), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Mercury (Hg)	Accredited
6	l i	Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	Not Accredited
7	Soil/Sediment	Lead (Pb),Cadmium (Cd), Chromium (Cr), Arsenic (As), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Mercury (Hg)	Accredited
		Calcium (Ca), Magnesium (Mg), Sodium (Na),	Not
	+	Potassium (K), Copper (Cu)	Accredited Accredited
8	Urine	Lead (Pb),Cadmium (Cd), Chromium (Cr), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Mercury (Hg)Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	Not Accredited

SI.	Available Lab Services			
No.	Material/Item of Test	Parameter	Status	
9	Blood Serum	Lead (Pb),Cadmium (Cd), Chromium (Cr), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Mercury (Hg), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	Not Accredited	
10	The above mentioned materials	Radionuclide	Not Accredited	
11	Water	All Physical parameters (pH, EC, TDS, Salinity, DO, BOD, COD, Anions)	Not Accredited	

#### Fee or charge for the services:

SI.				
No.	Material/Item of Test	Parameter	Fee/Charge	
1	Water	Lead (Pb), Cadmium (Cd), Chromium (Cr), Arsenic (As), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	1500 <i> </i> -	
		Arsenic (As), Mercury (Hg)	2000 <i>f</i>	
2	Fish			
3	Shrimp			
4	Feed			
5	Milk			
6	Foodstuffs (Rice, wheat, Vegetable, Fruits, drinks, Juice, Plant Species, Meat, cake, chocolate etc)		2500 <i>}</i>	
7	Soil/Sediment			
8	Urine	Copper (Cu)	800 <i>f</i>	
9	Blood Serum	Toxic Element (Cu, Zn, Se, Pb)	1500/-	
10	Petroleum oil & Petroleum Products	Lead (Pb), Cadmium (Cd), Chromium (Cr), Copper (Cu), Iron(Fe), Manganese (Mn), Zinc (Zn), Nickel (Ni), Cobalt (Co), Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K),	5000 <i>f</i>	
		Anions (Sulphate, Phosphate, Nitrate)	2000 <i>f</i>	
11	Water	1. pH, EC, TDS, Salinity, 2. DO, 3. BOD, COD	1. 500/- 2. 1200/- 3. 1700/-	

Fee/ charges of the available services are described in 'Service Profile Book' of the Bangladesh Atomic Energy Commission which is available on <a href="https://www.baec.gov.bd">www.baec.gov.bd</a>

#### Instrument facilities:

SI. No.	Instrument Name/ Specification	Country of Origin
1	Inductively Coupled Plasma -Mass Spectrometer (ICP -MS)	Bruker/USA
2	Fast SequentialAtomic Absorption Spectroscopy (AA240FS)	Varian/Australia
3	Graphite Furnace-Atomic Absorption Spectroscopy (AA280Z)	Varian/Australia
4	Hydride Genertion & Flme Atomic Absorption Spectroscopy (AA240)	Varian/Australia
5	Atomic Absorption Spectroscopy (novAA350)	Germany
6	UV -visible Spectrometry	Shimadzu/Japan
7	Microwave digestion System MARS	USA
8	pH, EC, DO meter	

#### Status regarding accreditation and certification:

The testing items and parameters mentioned above have been accredited since 2015 under ISO 17025 from Bangladesh Accreditation Board.

#### Sample testing capability according to test parameter method and equipment:

Service provided according to the requirement of the clients.

#### Biosafety & biosecurity measures:

Appropriate measures are taken for the respective method and services.

#### **Waste management system:**

Appropriate waste management measures for hazardous materials are taken according to the SOP and the Department of Environment (DoE), Bangladesh.

#### **Contact person and address:**

Dr. Shamshad Begum Quraishi Chief Scientific Officer & Head, Chemistry Division Atomic Energy Centre, Dhaka 4-Kazi Nazrul Islam Avenue, Shahbag Dhaka-1000, Bangladesh Cell: 01738822652

Email: mumu3222@yahoo.com

## Atomic Energy Centre, Chattogram (AECC) Bangladesh Atomic Energy Commission (BAEC)

#### Available lab services and services under approval:

- Gamma Spectrometry Laboratory (GSL)- radiation protection, radioactivity monitoring of imported and exportable food and allied materials, and radiological emergency activities.
- Test under accreditation: 'Measurement of Cs-137 in imported & exportable foodstuff using HPGe Detector'

#### Fee or charge for the services:

Fees/ charges of the available services are described in NSRC/97, SRO 205, and 'Service Profile Book' of the Bangladesh Atomic Energy Commission which is available on <a href="https://www.baec.gov.bd">www.baec.gov.bd</a>\

#### **Instrument facilities:**

Gamma Spectrometry Laboratory (GSL):

SI. No.	Instrument Name/ Specification	Country of Origin
1	<ol> <li>High Purity Germanium (HPGe) Detector         P-type, 43.4% relative eff., App.: LSRM     </li> <li>High Purity Germanium (HPGe) Detector         P-type, 43.1% relative eff., App.: LSRM     </li> </ol>	BSI/USA
2	Nal Detector Model 802-2X2, Serial 10035539  Canberra/USA	
3	Portable HPGe Detector	Canberra/USA
4	Multipurpose Handheld Radiation Identifier Model PM 1401K3  Polimaster/Belaru	
5	Radio Isotope Identification Devices with Spectroscopy Capability (SPIR -ACE, Model: R/N NOM004268)  Mirion,	
6	Gamma radiation personal dosimeter, PM.1610.	USA
7	Global Positioning System	Garmin/USA

#### Status regarding accreditation and certification:

The test method accreditation (ISO 17025:2017) is underway for the major service provided by AECC 'Measurement of Cs-137 in imported & exportable food and allied materials using HPGe Detector'.

#### Sample testing capability according to test parameter method and equipment:

Service provided according to the requirement of the clients and approval of the authority of BAEC.

#### **Biosafety & biosecurity measures:**

Appropriate measures are taken for the respective method and services.

#### Waste management system:

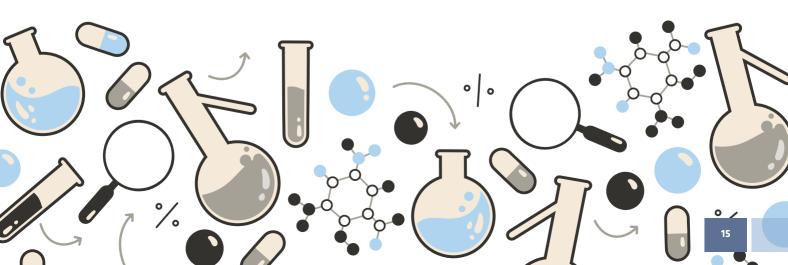
Appropriate waste management measures for radioactive and non-radioactive materials are taken according to the safety protocol of IAEA/ICRP and the Department of Environment (DoE), Bangladesh, respectively.

#### **Contact person and address:**

Dr. Shahadat Hossain Director and Chief Scientific Officer Atomic Energy Centre, Chattogram 1018/A, Bayezid Bostami Road, East Nasirabad Chattogram 4209, Bangladesh

Cell: 02 333375181 (office), 01882449127 (cel)

Email: aecc.baec@gmail.com



## Health Physics Division Atomic Energy Centre, Dhaka (AECD) Bangladesh Atomic Energy Commission (BAEC)

#### Available lab services and services under approval:

- Gamma Spectrometry Laboratory (GSL)- radiation protection, radioactivity monitoring of imported and exportable food and allied materials, and radiological emergency activities.
- Measurement of Cs-137 in imported & exportable foodstuff using HPGe Detector

#### Fee or charge for the services:

Fee/ charges of the available services are described in NSRC/97, SRO 205, and 'Service Profile Book' of the Bangladesh Atomic Energy Commission which is available on www.baec.gov.bd

#### Instrument facilities:

Food Testing Laboratory:

SI. No.	Instrument Name/ Specification	Country of Origin
1	High Purity Germanium (HPGe) Detector P-type, 43% relative eff.,	NATS /USA
2	Portable HPGe Detector Canberra/USA	
3	Multipurpose Handheld Radiation Identifier Model PM 1401K3	Belarus
4	Gamma radiation personal dosimeter, PM.1610. USA	
5	Global Positioning System USA	

#### Status regarding accreditation and certification:

The test method accreditation (ISO 17025:2017) is underway for the major service provided by AECC 'Measurement of Cs-137 in imported & exportable food and allied materials using HPGe Detector'.

#### Sample testing capability according to test parameter method and equipment:

Service provided according to the requirement of the clients and approval of the authority of BAEC.

#### **Biosafety & biosecurity measures:**

Appropriate measures are taken for the respective method and service.

#### Waste management system:

Appropriate waste management measures for radioactive and non-radioactive materials are taken according to the safety protocol of IAEA/ICRP and the Department of Environment (DoE), Bangladesh, respectively.

#### Contact person and address:

Selina Yesmin Chief Scientific Officer & Head, Health Physics Division Atomic Energy Centre, Dhaka 4-Kazi Nazrul Islam Avenue, Shahbag Dhaka-1000, Bangladesh



## Veterinary Drug Residue Analysis Division Institute of Food and Radiation Biology (IFRB) Atomic Energy Research Establishment Bangladesh Atomic Energy Commission

#### Available lab services and services under approval:

Not applicable

#### Fee or charge for the services:

Fees/ charges of the available services are described in NSRC/97, SRO 205, and 'Service Profile Book' of the Bangladesh Atomic Energy Commission which is available on www.baec.gov.bd

#### Instrument facilities:

Types of test	Instrument/ Method	Contaminants and Matrices **	
		i)	Tetracycline in muscle, milk and egg
	RIA, ELISA, MIT	ii)	Sulfonamides in muscle, milk and egg
Screening		iii)	Macrolides in muscle, milk and egg
		iv)	Beta-lactam in muscle, milk and egg
		v)	Quinolones in muscle, milk, egg and shrimp
		vi)	Chloramphenicol in fish and shrimp
		vii)	Aflatoxin in milk
C (' '	y HPLC, LC - b) c)	a)	Tetracycline in muscle
Confirmatory		Sulfonamides in muscle and egg	
		c)	Aflatoxin in rice grain

RIA = Radioimmunoassay, ELISA = Enzyme linked immunosorbent assay, MIT = Microbial inhibition test, HPLC = High performanceliquid chromatography, LC-MS/MS = liquid chromatography with tandem mass spectrometry

#### Status regarding accreditation and certification:

All test methods are under accreditation process in line with the ISO/IEC 17025 from Bangladesh Accreditation Board.

#### Sample testing capability according to test parameter method and equipment:

Service provided according to the requirement of the clients.

#### Biosafety & biosecurity measures:

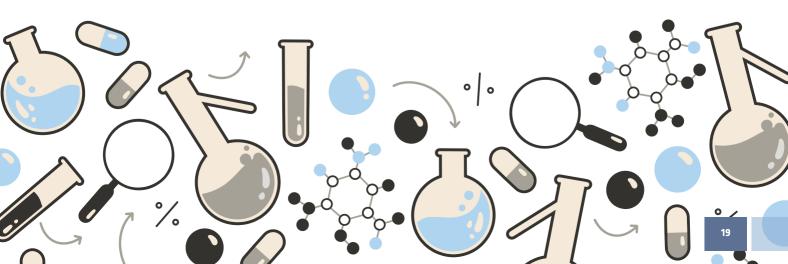
Appropriate measures are taken for the respective method and service.

#### **Waste management system:**

Appropriate waste management measures for hazardous materials are taken according to the SOP and the Department of Environment (DoE), Bangladesh.

#### **Contact person and address:**

Dr. A.S.M. Saifullah Chief Scientific Officer & Head, Veterinary Drug Residue Analysis Division Institute of Food and Radiation Biology (IFRB) Atomic Energy Research Establishment Bangladesh Atomic Energy Commission, Savar Cell: 8801916970469



#### Vegetables Quality Assessment Laboratory, BARI

#### Available lab services and services under approval:

Not applicable

#### Fee or charge for the services:

Not applicable

#### Instrument facilities:

Color meter, HPLC, SPAD, LCR meter, Oven, -80°C storage, Kjeldhal instruments, etc.

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

Color meter-L, a, b

(lycopene, Beta-carotene, Lutein)-200 sample/day

HPLC: Beta Carotene (10 sample /day) SPAD: Nitrogen (300 sample /day)

LCR meter: Safety, quality (150 sample /day) -80°C storage: 200 sample store depending on size

Kjheldhal: 12 sample /day

#### **Biosafety & biosecurity measures:**

Not applicable

#### Waste management system:

Not applicable

#### **Contact person and address:**

Dr. M Nazim Uddin

Olericulture Division, HRC, BARI, Gazipur 1701

#### Pesticide Analytical Laboratory, BARI

#### Available lab services and services under approval:

#### With accreditation:

Organochlorine pesticides (Alpha BHC, Delta BHC, Beta BHC, Gama BHC, Heptachlor, Aldrin, Heptachlor Epoxide, Gama Chlordane, Alpha Chlordane, Alpha Endosulfan, 4,4 DDE, Dieldrin, Endrin, 4,4 DDD, Beta Endosulfan, 4,4 DDT, Endrin Aldehyde, Endosulfan sulphate, Methoxychlor, and Endrin Ketone).

#### Without accreditation:

Organophosphorus pesticides (Acephate, Diazinon, Malathion, Chlorpyrifos, Quinalphos, Fenitrothion, Dimethoate, Fenthion, Ethion, Profenofos):

Synthetic Pyrethroids (Cypermethrin, Fenvalerate, Deltamethrin, Lambda-cyhalothrin);

Neonicotinoids (Acetamiprid, Imidacloprid, Thiamethoxam);

Organocarbamate (Carbofuran, Carbosulfan, Carbaryl);

Avermectin (Abamectin, Emamectin Benzoate);

Fungicides (Thiram, Difenoconazole);

Herbicides (Pretilachlor, Pyrazosulfuran- ethyl);

Public Health Pesticides (Permethrin, Prallethrin, Tetramethrin, Allethrin, Bio-allethrin).

#### Fee or charge for the services:

Single pesticide residue analysis- 5000/-; multiple pesticide residue analysis (upto 5)- 10,000/-, and more than 5 pesticide residue analysis- 15,000/-

#### Instrument facilities:

GC. HPLC, GC-MS, GC-MS/MS, LC-MS/MS

#### Status regarding accreditation and certification:

Accredited as per ISO/IEC 17025:2017

#### Sample testing capability according to test parameter method and equipment:

40 samples/ day according to the developed and validated method based on EC guidelines (SANTE/12682/2019) and QuEChERS extraction method.

#### Biosafety & biosecurity measures:

Not applicable

#### Waste management system:

BARI central facility

#### Contact person and address:

Dr. Nirmal Kumar Dutta

Chief Scientific Officer & Laboratory Director

Pesticide Analytical Laboratory,

Pesticide Research & Environmental Toxicology Section, Entomology Division,

Bangladesh Agricultural Research Institute (BARI), Gazipur-1701

Cell: 01794714560

E-mail: nkdutta83@yahoo.com

#### Plant Disease Diagnostic Laboratory, BARI

#### Available lab services and services under approval:

- 1. Diagnosis of plant parasitic fungi, bacteria, nematodes and viruses (growers and exporters)
- 2. Diagnosis of Ralstonia solanacearum of potato
- 3. Diagnosis of seed borne pathogens of vegetables, spices, oilseeds and pulses crops

#### Fee or charge for the services:

No service charge

#### Instrument facilities:

- A) Microscopy: Scanning electron microscope; compound microscope, setrio-zoom microscope; phase contrast microscope, inverted microscope, fluorescent microscope
- B) Molecular Diagnosis: PCR
- C) Biochemical: ELISA, Selective media

#### Status regarding accreditation and certification:

Pre-assessment completed for getting ISO 17025:2017 certificate

#### Sample testing capability according to test parameter method and equipment:

10-15 samples/Day

#### Biosafety & biosecurity measures:

Biosafety level-1

#### Waste management system:

Not applicable

#### **Contact person and address:**

Chief Scientific Officer and Laboratory Director, Plant Disease Diagnostic Laboratory, Plant Pathology Division, BARI, Gazipur

#### Soil and Plant Analysis Laboratory, BARI

#### Available lab services and services under approval:

#### Without accreditation:

- Soil physical parameter and nutrient analysis: pH, EC, OC/ OM, CEC, Texture, Bulk Density, Particle density, Moisture content, Percolation/Infiltration, Nitrogen (Total, Available), P, S, Exchangeable Cation (Ca, Mg, K, Na),Cu, Fe, Mn, Zn, B
- Soil Heavy metal analysis: Heavy metal, (Pb, Cd, Ni, Cr)
- Water sample Analysis: pH, Soluble residue, Ca, Mg, K, N, Fe, Cu, Mn, Zn, Nitrate, Carbonate/Bicarbonate, Cl, B, SO4, Arsenic
- Plant Sample nutrient Analysis, N, P, K, S, Ca, Mg, Cu, Fe, Mn, Zn, B
- Plant Heavy metal Analysis, Pb, Cd, Ni, Cr
- Fertilizer sample analysis: Moisture, N, P, K, S (SO)4, Zn, Mn, Fe, Cu, B, Na, Ca, Mg, Chloride, Biureate.
- Fertilizer sample: Heavy metal analysis Pb, Cd, Ni, Cr
- Fertilizer sample: Arsenic

#### Fee or charge for the services:

- Soil physical parameter and nutrient analysis: for farmer -Tk 100, for student- 500, Govt./ Autonomous Organization- 2000/- Fertilizer Dealers/ Producer/ NGO/ Private entrepreneurs/ Projects - 5000/-
- Soil Heavy metal analysis (element/sample): for student- 600, Govt./ Autonomous Organization- 600/- Fertilizer Dealers/ Producer/ NGO/ Private entrepreneurs/ Projects 1200/-
- Water sample Analysis (complete): for student- 300, Govt./ Autonomous Organization- 600/- Fertilizer Dealers/ Producer/ NGO/ Private entrepreneurs/ Projects 1800/-
- Plant Sample nutrient Analysis (element /sample): Farmer- 10 Student- 30, Govt./ Autonomous Organization- 100/- Fertilizer Dealers/ Producer/ NGO/ Private entrepreneurs/ Projects 300/-
- Plant/Fertilizer Heavy metal/element/sample Analysis: for student- 300, Govt./ Autonomous Organization- 600/- Fertilizer Dealers/ Producer/ NGO/ Private entrepreneurs/ Projects 1800/-
- Fertilizer Analysis (complete): for Farmer-310, student- 465, Govt./ Autonomous Organization-3940/- Fertilizer Dealers/ Producer/ NGO/ Private entrepreneurs/ Projects 11850/-

#### **Instrument facilities:**

GC, HPLC, GC-MS, CN analyzer, AAS, UV spectrophotometer, Cation and Anion analyzer

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

100 samples/ day according to the developed and validated method.

#### **Biosafety & biosecurity measures:**

Not applicable

#### **Waste management system:**

BARI central facility

#### **Contact person and address:**

Soil Science Division, Bangladesh Agricultural Research Institute (BARI), Gazipur-1701. Contact Person:

Dr. Habib Mohammad Naser, Chief Scientific Officer & Laboratory Director

E-mail: nasemh2@yahoo.com

Cell:01750446207



## Food, Nutrition and Agriculture Research laboratory, CARS, University of Dhaka

#### Available lab services and services under approval:

Food Chemical and Microbiology tests with no accreditation Research and project based tests

#### Fee or charge for the services:

According to DU syndicate, the fees has been fixed (Category A,B,C)

#### Instrument facilities:

Biosafety cabinet-I, Incubator (37°C, 30°C and 44.5°C), pH meter, Weight machine, refrigerator (+4°C and -20°C), stomacher machine, water bath, vortex machine, cultural media, centrifuge machine, nanopure water facilities, freeze dryer, sonicator, autoclave machine, laminar air flow, HPLC machine. AAS machine

#### Status regarding accreditation and certification:

Lab is not Accredited

#### Sample testing capability according to test parameter method and equipment:

Around 500 samples

#### Biosafety & biosecurity measures:

Biosafety & Biosecurity only at the Food Microbiology lab

#### Waste management system:

The lab maintains proper procedure of waste management by internally and externally by 3rd party service provider (PRISM)

#### **Contact person and address:**

1. Dr. Md. Latiful Bari

**Chief Scientist** 

Centre for Advanced Research in Sciences, University of Dhaka, Dhaka-1000

Cell No: +8801914323842 E-mail: latiful@du.ac.bd

2. Dr sharmin Zaman Emon

Scientist

Centre for Advanced Research in Sciences, University of Dhaka, Dhaka-1000

Cell:01914323842

Email: sharmin\_micro@du.ac.bd

#### Rice Analytical Lab (RAL), BRRI

#### Available lab services and services under approval:

Pesticides, Vitamins, Minerals, Heavy metals, Mycotoxin, Phyto Hormones, Fatty Acids, Amino Acids, Volatile Aromatic Compounds, Green House Gases, Bioactive Compounds, Gene Expression.

#### Fee or charge for the services:

Services available for BRRI Research only and yet not open for commercial purposes.

#### Instrument facilities:

GC, GCMS, UPLC, LCMS, LCMSMS, Spectrophotometer, Flame Photometer, AAS, ICPOES, PCR, RTPCR, Stereo, Compound and Electron Microscope.

#### Status regarding accreditation and certification:

Passed in FAPAS PT test for heavy metal quantification and preparing to apply BAB for ISO17025:2017 standards.

#### Sample testing capability according to test parameter method and equipment:

All instruments are in working condition with full capacity and 10 scientists of different disciplines are involved to conduct BRRI research.

#### **Biosafety & biosecurity measures:**

As per rules and regulation of Institutional Biosafety Committee (IBSC) of BRRI

#### Waste management system:

BRRI Central waste management system (SOP) and Gazipur City Corporation. Contact to commercial services from PRISM Bangladesh.

#### **Contact person and address:**

Bangladesh Rice Research Institute (BRRI), Gazipur-1701, Bangladesh.

Dr. Habibul Bari Shozib, Senior Scientific Officer (SSO), GQN Division and Quality Manager (QM) of BCL. BRRI

Email: shozib11@gmail.com,habibul.gqn@brri.gov.bd Cell:01924745991

### **SME Foundation**

#### Available lab services and services under approval:

Not applicable

#### Fee or charge for the services:

Not applicable

#### Instrument facilities:

Not applicable

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

Not applicable

#### Biosafety & biosecurity measures:

Not applicable

#### Waste management system:

Not applicable

#### Other information:

SME Foundation is primarily responsible for implementing policies & strategies for promotion, expansion and sustainable development of SMEs of the country. Therefore, SME Foundation has taken the role of a facilitator with a view to creating increased SMEs in the country.

#### **Contact person and address:**

Sanzida Sultana, Deputy Manager, SME Foundation,

Cell: 01717731873,

Email: sanzida.sultana@smef.gov.bd



## Nestle Sreepur QA Lab

#### Available lab services and services under approval:

\*Available scopes (as on 10th August 2022, The actuals may vary in future usage/needs)

S.N.	Product(s) / Material of test	Specific tests performed
	Field ofTesti	ing: ChemicalTesting
01	Cereal Products	Determination of Moisture by Oven Method
		Water activity using Hygrolab from Rotronic
		Determination of Iron by Colorimetry
		Determination of Iron by Atomic Absorption Spectrophotometry
		Determination of Calcium by Complexometry
		Determination of protein by Automated kjeldhal Method
		Determination of Fat by the Acido-Butyrometric (Teichert) Method
		Determination of Vitamin-C by Visual Titration
		Detection of Gluten by Dipstick - Qualitative
		Determination of Total Ash
02	Milk Powders and Similar Products	Determination of Moisture by Oven Method
		Determination of protein by Automated kjeldhal Method
		Determination of Vitamin-C by Visual Titration
		Determination of Total Ash
		Determination of fat by the Teichertnethod
		Determination of Iron by colorimetry
		Determination of Iron by Atomic Absorption Spectrophotometry
		Determination of Calcium by Complexometry
03	Culinary products	Determination of Moisture by Oven method
		Determination of Iron by colorimetry
		Determination of Iron by Atomic absorption Spectrophotometry
		Determination of protein by Automated kjeldhal Method
		Determination of Total Ash
04	Powdered beverage	Determination of Moisture by Oven method
		Determination of Fat by the Acido-Butyrometric (Teichert) Method
		Determination of protein by Automated kjeldhal Method
		Determination of Vitamin-C by Visual Titration

S.N.	Product(s) / Material of test	Specific tests performed		
	Field of Testing: N	AicrobiologicaTesting		
01	Cereal products	Enumeration of Aerobic Mesophilic Microorganisms		
		Detection of Enterobacteriaceae (MPN)		
		Enumeration of Probiotic Bacteria		
02	Milk Powders and Similar Products	Enumeration of Aerobic Mesophilic Microorganisms		
		Detection of Enterobacteriaceae (MPN)		
		Detection of Coliform		
03	Culinary Products	Enumeration of Aerobic Mesophilic Microorganisn		
		Detection and Enumeration of Enterobacteriaceae		
		Enumeration of Coagulase Positive Staphylococci		
04	Coffee & Beverage	Enumeration of Aerobic Mesophilic Microorganisms		
		Detection of Enterobacteriaceae (MPN)		
		Enumeration of Yeasts & Moulds		
05	Water	Enumeration of Culturable Microorganisms		
		Enumeration of Coliforms and E. coli		
	Field of Testing: Mici	robiologicaTesting (IPathogen)		
01	Milk Powders and Similar Products	Detection of Cronobacter (Traditional method)		
		Detection of Cronobacter (RTi-PCR method)		
		Enumeration of Probiotic Bacteria		
02	Cereal products	Enumeration of B. Cereus		

**Fee or charge for the services:** Analysis done only for in-house requirement; it's not a commercial lab.



#### Instrument facilities:

Major lab instruments available

S.N.	Name of equipment	Model/ type/ year of make
01	Centrifuge	Micro III
02	Vaccum Oven	TV0000011S
03	Potentiometer	848 Tritrino Plus
04	Water Activity Meter	A 28F
05	UV Spectrophotometer	Lamda 25
06	Electric Muffle Furnace	M110
07	Water bath	Rotronics
80	Atomic Absorption Spectrometer	Pinaccle 900T
09	Halogen Moisture Analyzer	HR -83
10	Buchi Protein distillation Unit	KjelFlex
		K-360
11	Electronic Precision Balance	ML204 /01
12	Analytical Balance	AB265S
13	Oven	LSIS -B2V/ EC 111
14	Water Bath (Microbiology)	BTU -3
15	Incubator Heraeus	B6120
16	Cooled Incubator	IPP200
17	CO2 Incubator	INC -108
18	Laminar Air Flow	LHG -4AG -F8
19	Bio Safety Cabinet	AC2 -4E8
20	Pharmalab Autoclave	Plane view plus 600

#### **Status regarding accreditation and certification:**

ISO 17025 accredited by BAB (Bangladesh Accreditation Board)

#### Sample testing capability according to test parameter method and equipment:

Only done for in-house requirement; No external service provided.

#### Biosafety & biosecurity measures:

Being followed for required method.

#### Waste management system:

Being managed by authorized third party vendor

#### **Contact person and address:**

Mohammad Mizanur Rahman,

Executive, Nestle Bangladesh Ltd.

Factory: Rajendrapur Cant., Sreepur, Gazipur-1740, Bangladesh

Cell: +8801708125345

## Central Seed Lab, Supreme Seed Company Limited

#### Available lab services and services under approval:

Not applicable

#### Fee or charge for the services:

Not applicable

#### Instrument facilities:

Purity Work board Moisture meter Room Germinator Weigh machine Hygro-thermo meter Compound microscope Sterio binocular microscope Seed health incubation chamber

#### Status regarding accreditation and certification:

ISO 9001:2015 certified and ISTA Associate Member

#### Sample testing capability according to test parameter method and equipment:

Purity test Moisture test Germination test Vigour test Viability test Seed health test

#### **Biosafety & biosecurity measures:**

Not applicable

#### Waste management system:

As per policy

#### **Contact person and address:**

Dr. Umme Shirajum Monira, Principal Seed Technologist & Head Central Seed Lab Address: House: 4, Road: 16,

Sector: 14, Uttara, Dhaka-1230

### **SAU Food Safety Laboratory**

#### Available lab services and services under approval:

Pesticide purity analysis, Pesticide residue analysis, Mycotoxin analysis in Food, Antibiotic and vetrinary drug residue in food, Vitamin analysis in food, Phytochemical compounds in food Phytochemicals and minerals in food, Heavy metals in food & feed, Minerals in food & feed, Nitrogen and Protein analysis

#### Fee or charge for the services:

Pesticide purity analysis

Single compond-6000/- Multi-compound- 10,000/Pesticide residue analysis

Single compond-6000/- Multi-compound- 10,000/Mycotoxin analysis in food

Antibiotic and vetrinary drug residue in food

Vitamin analysis in food

Phytochemical compounds in food

Phytochemicals and minerals in food

Phytochemicals and minerals in food

Single compond-6000/- Multi-compound- 10,000/Single compond-6000/- Multi-compound- 10,000/Taka per sample

2,000/- taka per sample

Phytochemical compounds in food 6,000/- taka per sample Phytochemicals and minerals in food 2,000/- taka per sample Heavy metals in food & feed Single compond-3000/- Minerals in food & feed Single compond-3000/- Nitrogen and Protein analysis Single compond-2000/-

#### **Instrument facilities:**

UPLC-PDA, UPLC-FLD, UPLC-PDA/FLD, Uv-Vis Spectrophotometer, AAS-Flame/Hydride/GF, AAS-Flame/GF, Kjeldahl Nitrogen Method

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

50 samples per day

#### **Biosafety & biosecurity measures:**

Not applicable

#### Waste management system:

Not applicable

#### **Contact person and address:**

- 1. Prof. Dr. Mohammed Ariful Islam
- 2. Prof. Dr. Md. Sirajul Islam Khan
- 3. Prof. Dr. Md. Tazul Islam Chowdhury
- 4. Dr. Abdul Kaium

Dept. Of Agricultural Chemistry Sher-e-Bangla Agricultural University, Dhaka-1207

### **Bangla Swiss Inspection Company Ltd.**

#### Available lab services and services under approval:

1.Testing
2.Inspection
3.Certification

#### Fee or charge for the services:

Not applicable

#### Instrument facilities:

GCMSMS, ICPMSMS, LCMSMS, HPLC, AAS, Protein Nitrogen-Analyzer, UV-vis -Spectrophotometer, Kjedhal system, Soxhlet system, Conventional PCR, RT-PCR, Milk analyzer, Refractometer, Hot air oven, Muffle furnace, Water bath, Orbital shaker, Incubator, Microscope, Centrifuge, Sieve shaker, Automatic miller, Sample divider, Heating mantle, Hot plate, Rotatory evaporator, Electric balance, Thermal circulator, pH Meter, Conductivity meter, TDS meter, Polarimeter, ELISA washer, ELISA reader, Auto micropipette, Pipette filler, Magnetic hot stirrer, Fume hood, Biosafety cabinet, Laminar air flow cabinet, Autoclave & more.

#### Status regarding accreditation and certification:

ISO 17025

#### Sample testing capability according to test parameter method and equipment:

Yearly 75000 tests are usually performed.

#### Biosafety & biosecurity measures:

Maintaining biosafety cabinets; Using personal protective equipment including masks, gloves, safety glasses, and lab coats; Following personal hygiene; Maintaining the procedures for safe use of chemicals; Implementation of LIMS, COMDIV; Incorporating Cyber security, Card control access, making buffer zone etc.

#### Waste management system:

Using a coloured bin for particular waste, Autoclaving, Incineration, Cooperation with the city corporation waste management system

#### **Contact person and address:**

Ashish Kumar Das Assistant Manager-Lab

Navana Osman @ Link (5th Floor), 214/D, Bir Uttam Mir Shawkat Sarak, Gulshan-Tejgaon Link Road, Dhaka-1208, Bangladesh.

Cell: +88 01313362415

Email: ashish.das@banglaswiss.com.bd Website: www.banglaswiss.com.bd

# Pesticide Laboratory Plant Protection Wing, Department of Agricultural Extension (DAE)

#### Available lab services and services under approval:

- Pesticide Analysis and Approval Authority
- · Import permission of Pesticide
- Pesticide Label Approval Authority of Bangladesh
- Responsible of any kind of Pesticide Quality Control either it is Public health or Agricultural Pesticide
- Responsible of Pesticide availability of Bangladesh, etc.

#### Fee or charge for the services:

- Registration:
  - New registration: 20000 Tk + VAT 15%
    Renewal of registration: 5000 Tk. + VAT 15%
- License:
  - Import: 2000Tk+ VAT 15%
  - Renewal of Import: 1000Tk+ VAT 15%
  - Manufacture or Formulation: 5000Tk+ VAT 15%
  - Renew of Manufacture or Formulation: 1000Tk+ VAT 15%
  - Holding in stock for Wholesale: 1000Tk+ VAT 15%
  - Renewal of Holding in stock for Wholesale: 500Tk+ VAT 15%
  - Retail sale: 300Tk+ VAT 15%
  - Renewal of Retail sale: 200Tk+ VAT 15%
  - Repacking: 2000Tk+ VAT 15%
  - Renewal of Repacking: 1000Tk+ VAT 15%
  - Pest Control Operation on Commercial Basis: 2000Tk+ VAT 15%
  - Renewal of Pest Control Operation on Commercial Basis: 500Tk+ VAT 15%
  - Advertisment: 1000Tk+ VAT 15%
  - Renewal of Advertisment: 500Tk+ VAT 15%
- Private /Company's Sample Testing Fee: 500Tk+ VAT 15%
- Duplicate Registration Certificate fee: 2000Tk+ VAT 15%
- Correction of registration Certificate: 2000Tk+ VAT 15%
- Correction of License: It's Orginal License fee equal
- Duplicate License: 100Tk+ VAT 15%
- Others Sample testing Fees: 500Tk+ VAT 15%

#### **Instrument facilities:**

- Gas Chromatography (GC),
- High Performance Liquid Chromatography (HPLC)
- Liquid Chromatography Mass Spectrophotometer (LCMS)
- Ultra Fast Gas Chromatography Triple Quadruple Mass Spectrophotometer System (GCMSMS)
- · Automated Titrate
- Others pesticide Analysis related Machine and Chemical

#### Status regarding accreditation and certification:

Not yet but is in the process of attaining accreditation and ISO certification

#### Sample testing capability according to test parameter method and equipment:

Around 8000 (approx.) sample per tear

#### Biosafety & biosecurity measures:

- Apron
- Musk
- Spectacles
- Hand gloves
- Fire extinguisher
- Fire Ball and other PPE are available in the lab

#### **Waste management system:**

With the Help of different pesticides disposal companies.

#### **Contact person and address:**

Kbd Md. Aminur Islam
Additional Deputy Director
(Pesticide Quality Control)
Plant Protection Wing
Department of Agricultural Extension
Khamarbari, Dhaka 1215.
Cel: 01935891533



# Plant Quarantine Laboratory Plant Protection Wing, Department of Agricultural Extension (DAE)

#### Available lab services and services under approval:

- 1. Identifying quarantine pests and diseases from exportable & imported plant & plant materials
- 2. Seed testing
- 3. Germination testing
- 4. Insect identification

#### Fee or charge for the services:

Free of charge (Samples from different Plant Quarantine Station)

#### Instrument facilities:

- 1. Stereo Microscope
- 2. Compound Microscope
- 3. Handheld Microscope
- 4. Florescent Microscope
- 5.Auto clave
- 6.Lab Incubator
- 7. Hot air oven
- 8. Soft x-ray machine
- 9. Seed germinator
- 10. HPLC Machine
- 11. Seed counter
- 12. Seed blower
- 13. Water distillation plant
- 14. Elisa reader
- 15. Lamina air flow cabinet
- 16. Moisture meter
- 17. Analytical balance
- 18. GCMS Machine
- 19.Bearman funnel
- 20. Biolog machine (Micro station, Turbidity meter)
- 21.PCR machine
- 22. PCR Cabinet
- 23. Seed analyzer
- 24. Seed sampler
- 25.Gel documentation system with camera
- 26. Gel electrophoresis with power supply
- 27. Qubit flurometer
- 28. Vortex mixture
- 29. Mini centrifuge
- 30. Micro centrifuge
- 31. Micro-centrifuge up to 13,500 rpm
- 32. Digital water bath
- 33. Ultrasonic bath
- 34. Bio safety cabinet
- 35. Hot air Oven (100 C) 30L
- 36. High sensitivity PH meter
- 37. Hot plate magnetic stirrer

- 38. Microwave oven
- 39. Fume hood chamber (Built in auto )
- 40. HPLC-RI detectors and LC solutions software with require standards and accessories
- 41. Automated solvent extractor
- 42. Single channel micro pipette 01 set (04) with stand
- 43. Hot air sterilizer
- 44. Lab. Refrigerator (01-20C) 250-330 Ltrs

#### Status regarding accreditation and certification:

Not accredited.

No ISO certification.

#### Sample testing capability according to test parameter method and equipment:

- 1. Blotter method, Agar Method for plant pathogenic fungus identification
- 2. Growing on test method for seed borne fungus
- 3. Identification of pathogen (Fungi/bacteria) using biolog.
- 4. Gram Staining test, KOH Solubility Test/Catalase Test, Kovacs Oxidase Test, Carbohydrate Fermentation test
- 5. Diagnosis of plant viruses by ELISA Test

#### Biosafety & biosecurity measures:

Not Applicable

#### Waste management system:

Not applicable

#### **Contact person and address:**

Ziaul Islam

Additional Deputy Director (Rules, Policy & Laboratory)

Plant Quarantine Wing,

Department of Agricultural Extension

Khamarbari, Dhaka.

Cell: 01718422492

E-mail: kbdzia34bd@gmail.com

## MNT Seed Testing Lab and Biotechnology Lab

#### Available lab services and services under approval:

- With accreditation: Purity, Other seed determination, Moisture, Germination, Viability
- **Without accreditation:** Sampling, vigor test, Seed Health Test, Varietal Hybridity, Molecular Finger printing, marker assassinating selection breeding, micro propagation,

#### Fee or charge for the services:

In-house services (Third-party services will be provided soon)

#### Instrument facilities:

Germinator, Nobbe Trier Seed divider, PCR machine Gel documentation, Electrophoresis, Spectrophotometer, Autoclave, Laminar Air Flow, Tissue Lyser, Distilled water plant, Hot Air Dry Oven, pH Meter etc.

#### Status regarding accreditation and certification:

- Bangladesh Accreditation Board, Ministry of Industries (Completed)
- ISO 9001:2008 and ISO 9001:2015 Certification (Completed)
- Applied for accreditation from International Seed Testing Association (on going)

#### Sample testing capability according to test parameter method and equipment:

Sampling testing capacity

#### **Biosafety & biosecurity measures:**

All employees using biosafety & biosecurity.

#### Waste management system:

Compliance water management system of the lab.

#### **Contact person and address:**

Dr. Mohammad Muzahidul Islam,

Deputy Assistant General Manager.

MNT Seed Testing Lab & Biotech Laboratory, Lal Teer Seed Limited, Anchor Tower, 108 Bir Uttam CR Datta Road, Dhaka-1205 Bangladesh,

Tel +880258610012-18;

Fax. +88029662734;

Cellphone: +8801744243830

E-mail: muzahidul.islam@multimodebd.com

### Quality Control Laboratory, DoF, Dhaka

#### Available lab services and services under approval:

#### ■ Accredited scope

- Determination of Chloramphenicol in Shrimp and Fish by LCMSMS
- Determination of Chloramphenicol in fish feed by LCMSMS
- Determination of nitrofuran metabolites (AMOZ, AOZ, AHD, SEM) in Shrimp and Fish by LCMSMS
- Determination of Metronidazole in Shrimp and Fish by LCMSMS
- Determination of Dyes in Shrimp and Fish by LCMSMS (MG, LMG, CV, LCV)
- Determination of Anthelmintics (Mebendazole, Fenbendazole, Flubendazole) in Shrimp and Fish by LCMSMS
- Detection and enumeration of microorganisms in Shrimp and Fish by colony count technique (SPC/APC)
- Detection and enumeration of coliforms in Shrimp and Fish by Most Probable Number (MPN) technique
- Detection and enumeration of E. coli in Shrimp and Fish by Most Probable Number (MPN) technique
- Detection of Salmonella spp. in Shrimp and Fish
- Detection of Vibrio cholera in Shrimp and Fish
- Detection of V. parahaemolyticus in Shrimp and Fish

#### ■ Non-accredited scope

- Determination of Amoxicillin in Shrimp and Fish by LCMSMS
- Determination of Tylosin in Shrimp and Fish by LCMSMS
- Determination of Gentamycin in Shrimp and Fish by LCMSMS
- Determination of Sulfonamides in Shrimp and Fish by LCMSMS
- Determination of Aflatoxin (B1, B2, G1, G2) in Shrimp and Fish by LCMSMS
- Determination of Estradiol in Shrimp and Fish by ELISA
- Determination of Oxolinic acid in Shrimp and Fish by ELISA
- Determination of Heavy Metal (Cd, Pb, Hg, Cr, As) in Shrimp and Fish by ICP-MS
- Determination of Heavy Metal (Cd, Pb, Hg, Cr, As) in fish feed by ICP-MS
- Determination of nitrogen content and calculation of crude protein content in fish feed
- · Determination of Fat content in fish feed
- Determination of crude fibre content in fish feed
- Determination of crude ash content in fish feed
- · Determination of moisture content in fish feed
- Determination of Non-protein nitrogen (NPN) in fish feed

#### Fee or charge for the services (BDT + 15% VAT):

- Nitrofuran metabolites 8500
- Chloramphenicol 2000
- Metronidazole 5000
- Amoxicillin 5000
- Tylosin 5000
- Gentamicin 5000
- Sulfonamides 5000
- Dves 5000
- Antehlmintics 5000
- Mvcotoxin 6500
- Heavy metal (each analyte) 2500

- Oxolinic acid 5000
- Estradiol 5000
- Protein 1000
- Fat 1000
- Fibre 1000
- Ash 500
- Moisture 500
- NPN 2000
- SPC 500
- Coliform 500
- E. coli 500
- Salmonella 750
- Vibrio cholera 750
- V. parahaemolyticus 750

#### Instrument facilities:

LCMSMS, ICP-MS, ELISA, Kjeldahl System, Fat extractor, Fibre extractor, FT-NIR, Conventional PCR System, Biosafety cabinet (Class II), Laminar air flow cabinet, Ultra low temperature freezer, Incubators, Autoclaves, Membrane filtration system for water microbiology

#### Status regarding accreditation and certification:

- First accredited in accordance with ISO/ IEC 17025:2005 on 28 May 2013
- Accredited in accordance with ISO/ IEC 17025:2017 on 27 March 2021

#### Sample testing capability according to test parameter method and equipment:

- LCMSMS 80 samples/day
- ICP-MS 64 Samples/day
- ELISA 30 samples/day
- Protein 20 Samples/day
- Fat 12 Samples/day
- Fibre 12 Samples/day
- Ash 20 Samples/day
- Moisture 20 samples/day
- Microbiological parameters 50 samples/day

#### Biosafety & biosecurity measures:

Laboratory activities are performed maintaining biosafety and the laboratory premises is secured to prevent unintentional use of biological materials

#### Waste management system:

Chemical wastes are stored in separate container and decontaminated in Q CLab, DLS. Solid waste are first decontaminated using autoclave (except non-hazardous wastes) and incinerated by PRISM, Bangladesh

#### **Contact person and address:**

Md. Manik Mia, Quality Assurance Manager Anwar Jung Road, Opposite to FTI, C&B Moor, Savar, Dhaka Cell: 01769-459285, Email: qamdhaka@fisheries.gov.bd

Md. Barkatul Alam, Quality Manager

Cell: 01717-410538, Email: barkatbau@gmail.com

## SGS Bangladesh Ltd.

#### Available lab services and services under approval:

A number of testing parameters are accredited in accordance with the International Standard ISO 17025: 2017, Some of them are given below:

Food/Fat & Oil/Feeding	Total Plate count	USFDA-BAM online, Jan 2001 - Aerobic plate	18
stuffs/Milk & Milk		count, chapter 3	
product/Oil/Sugar/	Total Coliform	USFDA-BAM online, Enumeration of E.coli and	20
Flour/Bakery		Coliform Bacteria, Chap -4,October -2020	
product/fish/meat/	Faecal Coliform	USFDA-BAM online, Enumeration of E.coli and	20
fruits/vegetable/spice/		Coliform Bacteria, Chap -4, October -2020	
Fortified rice kernel/etc	E. Coli	USFDA-BAM online, Enumeration of E.coli and	25
		Coliform Bacteria, Chap -4, October -2020	
	Staphyococcus	USFDA-BAM online, MAR' 2016 - S. aureus,	25
	aureus	Chapter-12.	
	Fecal streptococci	Compendium of Methods for the	30
		Microbiological Examination of Foods 5th	
		Edition. Chapter -10	
	Enterobacteriaceae	Compendium of Methods for the	20
		Microbiological Examination of Foods 5th	
		Edition - Chapter -9	
	Listeria spp	USFDA BAM online, October' - 2017, Chapter	35
		10	
	Listeria	USFDA BAM online, October' - 2017, Chapter	60
	monocytogenes	10	
Drinking water	Total Plate count	APHA 23 <sup>rd</sup> Edition 2017 , 9215 A&B	16
	Total Coliform	APHA 23 <sup>rd</sup> Edition 2017 ; 9221B	18
	Staphylococcus	APHA 23 <sup>rd</sup> Edition 2017 ; 9213 B6.	25
	aureus		
	Faecal Coliform	APHA 23 <sup>rd</sup> Edition 2017;9221E	18
	E. Coli	APHA 23rd Edition 2017;9221E & 9221G(2)	25
	Fecal streptococci	ISO 7899-2	30
	Thermotolerant	APHA 23 <sup>rd</sup> Edition 2017;9221E	25
	E.coli		
	Pseudomonas	APHA 23 <sup>rd</sup> Edition 2017;9213E	35
	aeruginosa/Pseudo		
	monas spp		
	Salmonella spp.	APHA 23 <sup>rd</sup> Edition 2017;9260B	30

#### Fee or charge for the services:

Not applicable

#### **Instrument facilities:**

Oven, Vacuum Oven, Electronic Balance, Distillation & Digestion Unit, Centrifuge Machine, Shaker Bath, pH meter, conductivity meter, BOD incubator, BOD Track, Turbidity meter, Hot Plate, DO meter, Autoclave machine, Incubator, Laminar air flow, Biosafety cabinet, Microscope, Colony counter, Water bath, Filtration unit, Vortex machine.

#### Status regarding accreditation and certification:

Lab is Accredited by BAB

#### **Biosafety & biosecurity measures:**

Biosafety & Biosecurity only at Food Microbiology lab

#### **Waste management system:**

The lab has proper procedure of waste management by internally and externally by 3rd party service provider

#### **Contact person and address:**

Contact Person:

1. Yeasmin Akther, Business Manager, Cell: +8801713067798

E-mail: yeasmin.akther@sgs.com

2. Rafiqul Islam,

Chemical Laboratory Manager,

Cell: +88 01730344067

Email: rafiqul.islam@sgs.com

3. Bony lamin,

Asst. Manager,

Health and Nutrition,

Cell: 01708140979

F-mail: bony.iamin@sgs.com

Lab Address: Noor Tower, 2nd,6th-10th, 13 floor, 110 Bir uttan C.R Datta road, Dhaka-1205



## PRAN Quality Control Laboratory, Ghorashal, Palash, Narshingdi

#### Available lab services and services under approval:

A number of testing parameters are accredited in accordance with the international standard 17025: 2017, Some of them are given below:

		Microbiology	
SI no	Group of products, materials or items tested	Specific tests or types of tests performed	Specification, standard (method) or technique used
1.	Fruit Juice/Drink	Enumeration of Aerobic Plate Count	BDS ISO 4833:2013
		Enumeration of yeasts and moulds colony	ISO 21527 -1,2:2008
		Enumeration of Coliform colony	BDS -ISO 4832:2009
2.	Milk and Milk	Enumeration of Aerobic Plate Count	BDS ISO 4833:2013
	Products	Enumeration of Coliform colony	BDS -ISO 4832:2009
3.	Bakery and Confectionery Products	Enumeration of Aerobic Plate Count	BDS ISO 4833:2013
		Enumeration of yeasts and moulds colony	ISO 21527 -1&2:2008
		Enumeration of Coliform colony	BDS -ISO 4832:2009
		Enumeration of Escherichia coli colony	ISO 16649-2
		Detection of Salmonella spp.	ISO 6579 -1:2017
		Enumeration of coagulase positiveStaphylococci	BDS ISO 6888 -1:2009
4.	Water	Enumeration of Culturable microorganisms	ISO 6222:1999
		Enumeration of Coliform colony	ISO 4832:2009
		Enumeration of Escherichia coli colony	ISO 9308-1

#### Fee or charge for the services:

Analysis done only basis In-house requirement; It's not a commercial lab.

#### **Instrument facilities (Microbiological):**

Biological Safety Cabinet, Laminar Air Flow(2), Clinical Microscope, Microscope, Stomacher, Vacuum pump, Vortex mixture, Sampl'air Lite, Membrane dispenser, Colony counter, Incubator (3), Bacteriological Incubator (3), Dehumidifier, Digital autoclave machine, Hot air oven, Lab oven, Autoclave machine, pH meter, Analytical Balance, Microwave oven, Freezer (2), Digital Hygrometer, Micropipettes etc.

#### Status regarding accreditation and certification:

ISO: 17025 accredited by BAB (Bangladesh Accreditation Board)

#### Sample testing capability according to test parameter method and equipment:

Only done for Inhouse requirement; No external service provided.

Chemical testing: 1000 sample/Month Microbiological testing: 800 sample/Month

#### **Biosafety & biosecurity measures:**

Being followed for require method.

#### Waste management system:

Inter factory central waste management system

#### **Contact person and address:**

Dr. S.M. Maruf Kabir, PhD in Chemistry, Director-Laboratory, Mobile: 01704134122, Email: pblqc@pip.prangroup.com/marufqc@gmail.com

## BCSIR Chattogram Laboratories Bangladesh Council of Scientific & Industrial Research

#### **Water Test Fee**

SI. No.	Parameter	Fee (Tk.)	SI. No.	Parameter	Fee (Tk.)
01.	Acidity	800	39.	Molybdenum	1300
02.	Alkalinity	800	40.	Nickel	1200
03.	Aluminium	1300	41.	Nitrate	1300
04.	Ammonia	1300	42.	Nitrite	900
05.	Arsenic	1300	43.	Nitrogen	2000
06.	Barium	1200	44.	Oil & Grease	1500
07.	Bi -carbonate	800	45.	рH	500
08.	BOD	2500	46.	Phosphate	1200
09.	Bromide	1500	47.	Phosporous	1300
10.	Boron	1500	48.	Potassium	1300
11.	Cadmium	1500	49.	Pseudomonousaeruginosa	2000
12.	Calcium	1300	50.	Residual Chlorine	900
13.	Calcium Hardness	1300	51.	Reactive Silica	1500
14.	Carbonate	600	52.	Salinity	900
15.	Carbon dioxide	800	53.	Salmonela spp.	2000
16.	COD	2000	54.	Shigella spp.	2000
17.	Chloride	900	55.	Silica	1500
18.	Chlorine	900	56.	Silver	1500
19.	Chromium	1500	57.	Sodium	1300
20.	Cobalt	1500	58.	Strontium	1300
21.	Coliform	2000	59.	Sulfate	1300
22.	Colour	500	60.	Sulfide	1300
23.	Conductivity	500	61.	Suspended Solids	900
24.	Copper	1500	62.	Taste & odor	600
25.	Cyanide	1500	63.	Temperature	500
26.	Dissolve Oxygen (DO)	900	64.	Tin	800
27.	E. Coli	2000	65.	Thermo Tolerent Coliform	2000
28.	Electrical conductivity	500	66.	Total Aerobic Bacterial Count	1000
29.	Faecal Coliform	2000	67.	Total Dissolve Solids (TDS)	800
30.	Faecal Streptococci	2000	68.	Total Hardness	800
31.	Flouride	1300	69.	Total Solids	800
32.	Hydrogen Sulfide	1300	70.	Total Suspended Solids(TSS)	900
33.	lodine	1300	71.	Total Viable Count	1000
34.	Iron	1300	72.	Toxicity (Acute)	6000
35.	Lead	1300	73.	Turbidity	1300
36.	Magnesuim	1300	74.	Vibrio Cholera	2000
37.	Manganese	1500	75.	Zinc	1300
38.	Mercury	1500	(Par	ameter 06,10,25&39 are temporary ur	navailable)

#### Food Products Test Fee (Foods, Fruits, Tea, Fish etc.)

SI. No.	Parameter	Fee (Tk.)	SI. No.	Parameter	Fee (Tk.)
01.	Acid insoluble Ash	2000	39.	Nickel	2000
02.	Acute Toxicity	6000	40.	Organic Matter	2000
03.	Acid soluble ash	2000	41.	Protein	3000
04.	Aerobic Plate count	2000	42.	рН	1000
05.	Alkalinity of W/S Ash (Tea)	2000	43.	Phosphate (IC)	2000
06.	Alkaline phosphatase (Ice cream)	3000	44.	Potassium	2000
07.	Aluminium	2000	45.	Psedomonasareuginosa	2000
08.	Aluminium	2000	46.	Sodium	2000
09.	Arsenic	2500	47.	Sulphate (IC)	2000
10.	Bacillus cereus	2000	48.	Sugar (HPLC)	6000
11.	Bulk Density	2000	49.	Shigella	2000
12.	Bromide (IC)	2000	50.	Salmonella spp.	2000
13.	Clostridium perfringers	2500	51.	Staphylococcus aureus	2000
14.	Caffeine (HPLC)	6000	52.	Taste & Odor	1000
15.	Calcium	2000	53.	Thermo Tolerant Coliform	2000
16.	Cadmium	2000	54.	Total Organic Carbon	2000
17.	Chloride (IC)	2000	55.	Total Fat	1500
18.	Chromium	2000	56.	Total Carbohydrate	2000
19.	Cobalt	2000	57.	Total Ash (salt)	2000
20.	Coliform	2000	58.	Tin	2000
21.	Copper	2000	59.	Total Coilifrom	2000
22.	Crude Fiber	2000	60.	Unsapoifiable matter	2000
23.	Energy	3000	61.	Vibrio Cholerae	2000
24.	E. Coli	2000	62.	Viscosity	1500
25.	Fecal Streptococci	2000	63.	Water Soluble Ash (Tea)	2000
26.	Free Fatty Acid as Oleic acid	2000	64.	Water Extract percentage (Tea)	2000
27.	Formalin (Kit Test)	3000	65.	Yeast &Moulds	1000
28.	Formalin (HPLC)	6000	66.	Zinc	2000
29.	Fluoride (IC)	2000	67.		
30.	Iron	2000	68.		
31.	Insoluble Impurities	1000	69.		
32.	Lead	2000	70.		
33.	Mercury	2500	71.		
34.	Magnesium	2000	72.		
35.	Manganese	2000	73.		
36.	Moisture	1500	74.		
37.	Nitrate (IC)	2000	75.	ptact Applical Call for Donor-to N. J.	icted)
38.	Nitrite (IC)	2000	(Lo	ntact Analytical Cell for Parameter Not Li	istea)

#### Cosmetic Products Test Fee (Soap, Shampoo, Skin Cream, Toothpaste etc.)

SI. No.	Parameter	Fee (Tk.)	SI. No.	Parameter	Fee (Tk.)
01.	Aluminium	2000	16 .	Manganese	2000
02.	Antimony	2000	17 .	Mercury	2500
03.	Arsenic	2500	18 .	Nickel	2000
04.	Cadmium	2000	19 .	рН	1000
05.	Calcium	2000	20.	Pseudomonas aeruginosa	2000
06.	Chromium	2000	21 .	Salmonellae	2000
07.	Cobalt	2000	22.	Shigella spp.	2000
08.	Coliform	2000	23.	Silver	2000
09.	E. Coli	2000	24.	Staphylococcus aureus	2000
10.	Faecal Coliform	2000	25.	Skin Irritation Test	6000
11.	Faecal Streptococci	2000	26.	Thermo Tolerent Coliform	2000
12.	Fluoride (IC)	2000	27.	Tin	2000
13.	Iron	2000	28.	Total Viable Count (TVC)	1000
14.	Lead	2000	29.	Yeast & Mould Count	2000
15.	Magnesium	2000	30.	Zinc	2000

#### Oil Test Fee (Oils, Fats etc.)

SI.	Parameter	Fee	SI.	Parameter	Fee	
No.		(Tk.)	No.		(Tk.)	
01.	Acid Value	2000	16 .	Moisture	1500	
02.	Arsenic	2500	17.	Mercury	2000	
03.	Aluminium	2000	18 .	Manganese	2000	
04.	Copper	2000	19 .	Melting Point	2000	
05.	Cobalt	2000	20.	Nickel	2000	
06.	Cadmium	2000	21 .	Peroxide value	2000	
07.	Chromium	2000	22.	Phosphorous	1500	
08.	Energy	3000	23.	Protein	3000	
09.	Fat	1500	24.	Saponification Value	2000	
10.	Flash point	2000	25.	Silver	2000	
11.	Free Fatty Acid as Oleic Acid	2000	26.	Tin	2000	
12.	Insoluble Impurities	1000	27.	Unsaponifiable Matter	2000	
13.	lodine Vale	2000	28.	Zinc	2000	
14.	Iron	2000				
15.	Lead	2000	(Conta	(Contact Analytical Cell for Parameter Not Listed)		

#### **Agriculture Seed Test Fee**

SI. No.	Parameter	Fee (Tk.)	SI. No.	Parameter	Fee (Tk.)
01.	Germination index	1000	03.	Moisture	1000
02.	Germination Rate	2500	04.	Purity	1500

#### Soil, Stone, Metal Alloy & Sludge Test Fee

SI. No.	Parameter	Fee (Tk.)	SI. No.	Parameter	Fee (Tk.)
01.	BOD	3000	16 .	Arsenic	2500
02.	COD	2500	17 .	Cadmium	2000
03.	рН	1000	18 .	Calcium	2000
04.	Iron	2000	19 .	Chromium	2000
05.	Lead	2000	20.	Cobalt	2000
06.	Oil & Grease	2000	21 .	Magnesium	2000
07.	Aluminum	2000	22.	Manganese	2000
08.	Zinc	2000	23.	Mercury	2500
09.	Copper	2000	24.	Nickel	2000
10.	Silica	2500	25.	Silver	2000
11.	Sodium	2000	26.	Tin	2000
12.	Potassium	2000	27.	Metal (Any) as Oxide	2500

#### Chemical & Herbal Medicine

SI. No.	Parameter	Fee (Tk.)	SI. No.	Parameter	Fee (Tk.)	
01.	Concentration	2500	16 .	Solubility in Water	1500	
02.	Purity of CaCO ₃	2500	17 .	Metal (Any)	2000	
03.	Purity of Na₂CO3	2500	18.	Arsenic	2500	
04.	Purity of NaOH	2500	19 .	Mercury	2500	
05.	Purity of Boric Acid	2500	20.	Moisture	1500	
06.	Purity of Borax	2500	21 .	Purity of chemical (If Possible)	2500	
07.	TDS (Herbal Medicine)	1500	22.	Decomposition rate (H <sub>2</sub> O <sub>2</sub> )	1500	
08.	Specific gravity (w/ml)	1500	(Coi	(Contact Analytical Cell for Parameter Not Listed)		

#### Fertilizer & Salt Test Fee

SI.	Parameter	Fee	SI.	Parameter	Fee
No.		(Tk.)	No.		(Tk.)
01.	Sodium Chloride (Salt)	4000	07.	Insoluble Matter (Salt)	1000
02.	Sulfate (Salt)	1500	08.	Solubility in Water	1500
03.	Magnesium (Salt)	2000	09.	K₂O % by weight (MOP)	3000
04.	Metal (Any -Salt)	2000	10.	Nitrogen Content % (UREA)	3000
05.	Arsenic	2500	11 .	P₂O₅ % by weight (TSP)	3000
06.	Mercury	2500	12.	Zinc Sulphate %	3000

#### Miscellaneous Test Fee

SI.	Parameter	Fee	SI.	Parameter	Fee
No.		(Tk.)	No.		(Tk.)
01.	IR 3535 (Mosquito repellent)	6000	05.	GC -MS Analysis	10000
02.	IR spectroscopy	5000	06.	XRF Analysis	5000
03.	Color (Polyacrylam ide Resin)	500	07.	Ionic Charge (Polyacryl. Resin)	500
04.	Solubility (Polyacryl. Resin)	1500	08.	Viscosity (Polyacryl. Resin)	1500

#### Note:

- 1. 15 % Vat will be added with the each of the fees.
- 2. Regular report delivery 10 working days.
- 3. 25% extra fees for 5 working days report delivery & 50% extra fees for 3 working days report delivery.

## BCSIR Dhaka Laboratories Bangladesh Council of Scientific & Industrial Research

#### Available lab services and services under approval:

Both (INARS and LRI accredited, other institute are not accredited)

#### Fee or charge for the services:

SL/No	Name of Sample	d Toxicological Research Institute Test Parameter	Instruments Name	Fees	Duration
1	Food & Feed (BTRI)	Acute Toxicity		6500	8
2	Food & Feed (BTRI)	Presence/Absence of Pork DNA(Porcine)		5000	7
3	Food & Feed (BTRI)	Presence/Absence of Bovine DNA		5000	7
4	Food & Feed (BTRI)	Presence/Absence of Chicken DNA		5000	7
5	Food & Feed (BTRI)	Presence/Absence of Sheep DNA		5000	7
6	ETP Inlet/Outlet Water	LC 50		15000	8
7	Spice Extract /Plant Extract	Phytochemical Screening		10000	7
9	Medicine	Camphor		6500	7
10	Medicine	Menthol		6500	7
11	Medicine	Propylene Glycol		6500	7
12	Medicine	Methyl Salicylate		6500	7
13	Food & Feed (BTRI)	Lead (Pb)		2000	7
14	Food & Feed (BTRI)	Cadmium(Cd)		2000	7
15	Food & Feed (BTRI)	Chromium(Cr)		2000	7
16	Food & Feed (BTRI)	Mercury(Hg )		3000	7
17	Food & Feed (BTRI)	Arsenic(As)		2000	7
18	Food & Feed (BTRI)	Copper(Cu)		2000	7
19	Food & Feed (BTRI)	Iron(Fe)		2000	7
20	Food & Feed (BTRI)	Manganese(Mn)		2000	7
21	Food & Feed (BTRI)	Nickel		2000	7
22	Food & Feed (BTRI)	Potassium(K)		2000	7
23	Food & Feed (BTRI)	Cobalt		2000	7
24	Food & Feed (BTRI)	Fat		1500	7
25	Food & Feed (BTRI)	Dietary Fiber		20000	10
26	Avian(All Bird)	Sex determination		1500	7
27	Purified PCR product(BTRI)	DNA sequencing		1500	7
28	Ready DNA sample(BTRI)	DNA sequencing		700	7

29	Metallic Alloy/Metallic Alloy Polymer composite/Thin Film/Nano powder(BTRI)	Topographic and elemental information	4000	7
30	Powder(BTRI)	Particle size analysis	4000	7
31	Food & Feed (BTRI)	Crude Fiber	1500	7
32	Food & Feed (BTRI)	Total Sugar	1500	7
33	Food & Feed (BTRI)	Protein	1500	7
34	Food & Feed (BTRI)	Moisture	800	7
35	Food & Feed (BTRI)	Ash	1200	7
36	Food & Feed (BTRI)	Energy	4000	7

IFST of BCSIR has 2552 tests available for different food samples and details information are available in their website. Some required informations are as follows:

SL/No	Name of Sample	Test Parameter	Instruments Name	Fees	Duration
1	Baby food/Fruit Juice/Feed/Dal/Chocolate	Salmonella		2500	7
2	Banaspati/Dalda/Ghee/Chutney	Unsatured Fat		6500	7
3	Food (IFST)	Acidity		1000	7
4	Babyfood/Ghee/Jam/Jelly/Soya Protein Biscuit	Vitamin A		6500	7
5	Fruit Juice - ( IFST)	Organoleptic test		1500	7
6	Ghee (IFST)	Omega-6 fatty acid		6500	7
7	FOOD (IFST)	cholesterol		3000	7
8	Honey/Chocolate/CMC,TBHQ,Vit amins/Instant Noodles	Nickel		2000	7
9	Chutney/Honey/Fruit Juice/Food Supplement/Drinks/Beverage	Total Plate Count		1500	7
10	Chocolate	Coliform		2500	7
11	Chilli (Whole/Powder) -(IFST)	Sulfur		2000	7
12	Chutney/Flour/Atta/Maida	Total Fat		1000	7

#### Instrument facilities:

We have GC, GC-MS, GC-MS/MS, LC-MS/MS, NMR, UV-Vis, AAS, HPLC, ICPMS, ICP-OES, XRD, X-RF, SEM, TEM, SPS, BET Analyzer, Amino acid Analyzer, Genome sequencer, CPC, Automated synthesis system, GPC, etc

#### Status regarding accreditation and certification:

INARS is 17025 ISO/IEC: 2017 accredited for eighty eight water quality parameters and Leather research institute is 7025 ISO/IEC: 2017 accredited for eighty leather products parameters

#### Sample testing capability according to test parameter method and equipment:

Maintained Standard method or validated method

#### Biosafety & biosecurity measures:

Microbiology laboratories are special in terms of work environments that may pose special infectious disease risks to persons in or near them. As a result, there have been growing concerns regarding the safety of employees in microbiology laboratories. To help reduce these risks, practices of strict biosafety and biosecurity have been implemented in microbiology laboratories.

#### Waste management system:

Every laboratory has its own waste management system.

#### **Contact person and address:**

Shamim Ahmed Director, INARS

Dr.Abdus Sattar Director,IFST



## BCSIR Rajshahi Laboratories Bangladesh Council of Scientific & Industrial Research

## Analytical and Other Services provided in BCSIR Rajshahi Laboratories for food and food products

Chemical Analysis				
SI no. Parameter Name		Method & Instrument Name		
1.	Proximate Analysis			
2.	Protein	Kjeldal Apparatus		
3.	Fat	Soxhlet Apparatus		
4.	Acidity	Titration		
5.	Total Soluble Carbohydrate	UV -Spectrophotometer		
6.	Minerals	AAS/flame Photometer/ UV- Spectrophotometer/IC		
7.	Vitamins	UV -Spectrophotometer		
8.	Crude Fiber	Acid/Base digestion		
9.	Reducing Sugar	UV -Spectrophotometer		
10.	Flavonoids	UV -Spectrophotometer/HPLC		
11 .	Polyphenols	UV -Spectrophotometer/HPLC		
12.	Free Fatty acid	Titration		
13.	Peroxide Value	TiEation		
14.	Total Volatile Nitrogen content	Kjeldal distillation and Titration		
15.	Refractive index	Refractometer		
16.	Viscosity	Viscometer		
17.	lodin value	Titration		
18.	Acid value	Titration		
	Toxicological Analysis			
19.	Pesticides (CLP)	GCMS		
20	Antibiotics	LCMS -MS/HPLC		
21.	Mycotoxin (Aflatoxin)	ELISA		
	Microbiological Analysis			
22.	Total Viable Count			
23.	Total Yeast and Mold Count			
24.	Total Coliform			
25.	Total Fecal Coliform	Biosafety cabinet/ Incubator		
26.	Detection of Salmonella sp.			
27.	Detection of Vibrio sp.			
28.	Detection of E. coli			
29.	Bacteria/Fungus/ Yeast strain Detection	Microbial Identification System (Biolog)		

#### Other information:

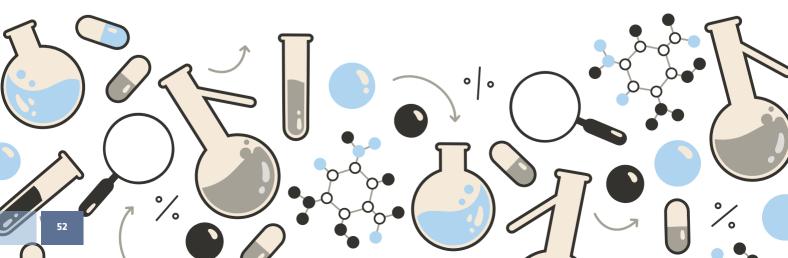
BCSIR Rajshahi Laboratories is a state of the art laboratory equipped with highly sophisticated automatic instruments including:

- Liquid Chromatography-Mass Spectrometry (LC-MS),
- Gas Chromatography-Mass Spectrometry (GC-MS),
- High Performance Liquid Chromatography (HPLC),
- Atomic Absorption Spectroscopy (AAS),
- Real Time- PCR (RT-PCR)
- Gradient Thermocycler,
- Microbial Identification System (Biolog),
- Enzyme-Linked Immunosorbent Assay (ELISA) analyzer,
- Fourier Transform Infrared (FTIR) Spectroscopy,
- Preparative High Performance Liquid Chromatography,
- Ion Chromatography (IC),
- Kjeldahl apparatus.

Scientists involved with research and analytical services are well trained in home & abroad, highly educated and specialist in their relevant fields.

#### **Contact person and address:**

Dr. Md. Sail Khan Director (In-charge) BCSIR Laboratories Rajshahi



## Tissue Culture Lab, and Molecular Breeding Lab Genetics and Plant Breeding

#### Available lab services and services under approval:

Plant tissue culture
Double haploid breeding
DNA extraction
PCR reaction

#### Fee or charge for the services:

Not applicable

#### **Instrument facilities:**

Laminar air flow cabinet Thermal cycler Autoclave

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

DNA extraction: 40 samples/day

(CTAB method)

PCR reaction: 188 samples/day

PAGE: 188 samples/day

#### Biosafety & biosecurity measures:

Biosafety level (BSL) 1

#### **Waste management system:**

Manually(carcinogenic/ hazardous chemicals are separated using special jar)

#### **Contact person and address:**

Professor Dr. Md. Arifuzzaman

Chairman

Dept. of Genetics and Plant Breeding, Hajee Mohammad Danesh Science and Technology University Dinajpur 5200, Bangladesh

# Food and Process Engineering Lab Hajee Mohammad Danesh Science and Technology University (HSTU)

#### Available lab services, Test methods and Fee or charge for the services:

Available lab services	Test method	Fee or charge for the services	
Moisture	AOAC	500	
Fat	AOAC	500	
Fiber	AOAC	1000	
Protein	Kjeldahl Methods	1000	
Ash	AOAC	750	
Water Activity	Water Activity Meter	500	
TSS	Refractometer	500	
рН	pH Meter	500	
Acidity	Titration Method	1500	
Color	Colorimeter	500	
Firmness	Penetrometer	500	
Total Phenol Content	Spectrophotometric Method	1500	
Total Flavonoid Content	Spectrophotometric Method	1500	
Proanthocyanidin Content	Spectrophotometric Method	1500	
DPPH Scavenging Activity	Spectrophotometric Method	2000	
Anthocyanin content	Spectrophotometric Method	1500	
FRAP Radical Scavenging Activity	Spectrophotometric Method	2000	
Total Lycopene content	Spectrophotometric Method	1500	
Total Carotenoid Content	Spectrophotometric Method	1500	
Total Sugar	Spectrophotometric Method	1000	
Vitamin C	Titration Method	1500	
Total Plate Count	Spread Plate	2000	
Gram staining	Gram staining	2000	
Motility	Motility Test	2000	
Oxidase	Oxidase Test	2000	
Catalase	Catalase test	2000	
Methyl Red Test	Methyl Red Test	2000	
Vogas-Proskauer Test	Vogas-Proskauer Test	2000	
Starch Hydrolysis	Starch Hydrolysis	2000	
Indole Test	Indole Test	2000	
Citrate Test	Citrate Test	2000	
Urease Test	Urease Test	2000	
Nitrate Test	Nitrate Test	2000	

#### Instrument facilities:

Distil water plant, rotary separator, centrifuge machine, oven drier, water bath, (mechanical shaker), Induction cooker, microwave oven, Kjeldahl Apparatus, hot plate with magnetic stirrer, homogenizer, freeze, water activity meter, refractometer, pH meter, colorimeter, penetrometer, spectrophotometer, muffle furnacem, soxhlet apparatus, cabinet drier, vortex mixer

#### Status regarding accreditation and certification:

Not applicable

#### Sample testing capability according to test parameter method and equipment:

Demand basis

#### **Biosafety & biosecurity measures:**

Biosafety level (BSL) 1

#### Waste management system:

Manually

#### **Contact person and address:**

Dr. Maruf Ahmed

Professor

Dept. of Food Processing and Preservation

Hajee Mohammad Danesh Science & Technology University, Dinajpur. Email. maruf@hstu.ac.bd

Phone: 01750777899 Dr Rubel Mojumder,

Professor, Dept of Food Science and Nutrition,

Email: rubel.infs@gmail.com

Mobile: 01766460031



### Department of Biochemistry and Molecular Biology Hajee Mohammad Danesh Science and Technology University (HSTU)

#### Available lab services and services under approval:

Lipid profile, proximate composition, PCR, stevioside analysis, combined stress physiological analysis

#### Fee or charge for the services:

No service charge

#### Instrument facilities:

1.Centrifuge Machine

2.PCR machine

3. Agarose gel electrophoresis

4. Sonicator

5.Water bath

6.Hot plate & magnetic strirrer

7. Weight machine/Analytical balance

8.Spectrophotometer

9.Microoven

10.PH Meter

11. Measuring Cylinder

12. Vaccum drying oven

13. Deep Refrigerator

14.Disttiled water machine

#### Status regarding accreditation and certification:

Not accreditated and ISO certification

#### Sample testing capability according to test parameter method and equipment:

50-100 samples per day

#### **Biosafety & biosecurity measures:**

Facilities not available

#### **Waste management system:**

General methods for waste management is done

#### **Contact person and address:**

Dr. Md. Yeasin Prodhan Associate Professor Biochemistry and Molecular Biology Dept. HSTU, Dinajpur

# Department of Agricultural Chemistry Hajee Mohammad Danesh Science and Technology University (HSTU)

#### Available lab services and services under approval:

Food nutrients from grains, fruits and processed foods:

Protein, Vitamin-C, Vitamin-A, Beta-carotene, Anthacyanine, Calcium, Magnesium, Zinc, Iron (Food contamination), Polyphenol compounds, Pectin, Amide, Methoxyl Content, Total sugar, Titrable acidity, Ash content, Fibre, Drinking and beverage water quality parameters and Heavy metal content

#### Fee or charge for the services:

No service charge

#### **Instrument facilities:**

- 1. UV-Spectrophotometer
- 2. Flame Emission Spectrophotometer (FES)
- 3. Atomic Absorption spectrophotometer (AAS)
- 4. Auto-Nitrogen Analyzer with bock digester
- 5. Rotary Evaporator
- 6. Microtube Centrifuge machine
- 7. Vortex
- 8. Dry block heater
- 9. Hot air Oven
- 10. Micro-oven
- 11. Virtical Lamino flow meter (clean bench)

#### Status regarding accreditation and certification:

Not accreditated and ISO certification

#### Sample testing capability according to test parameter method and equipment:

50-100 samples/day

#### **Biosafety & biosecurity measures:**

Biosafety and biosecurity facilities not available

#### Waste management system:

General waste management system is followed

#### **Contact person and address:**

Professor Dr. Bikash Chandra Sarker, Agricultural Chemistry, HSTU, Dinajpur 5200, Bangladesh

Cell: 01715057609

Email: bikash@hstu.ac.bd

### **Customs Lab, Chattogram**

#### Available lab services and services under approval:

There is no accreditation of Customs Lab, Chattogram. The lab services that are available here:

- 1) Formalin test of fruits by AOAC (Association of Official Analytical Chemists) method.
- 2) Test of various industrial raw materials. The industries mainly covered are:
  - a) Plastic Industry
- e) Textile Industry
- b) Paint Industry
- f) Leather Industry
- c) Ceramic Industry
- g) Gum/Adhesive Industry
- d) Paper Industry
- 3) Identification of various refrigerant gases.

#### Fee or charge for the services:

No fee or charges are involved with the services. All services are provided free of cost for the import and export consignments of the custom house

#### Instrument facilities:

- i) Refrigerant Identifier (Ultima ID ™ Pro (Model RI-700H)
- ii) Force Tensiometer (Model-K20).
- iii) Metallurgical Microscope (Modle-MTM-1A).
- iv) Purite Nano Water Purifier (Fistreem).
- v) Melting Point Apparatus (Model-M3000).
- vi) Moisture Analyzer (Model-MA 110.R).
- vii) Muffle Furnace (Nabertherm).
- viii) High-Performance Liquid Chromatography.
- ix) Gas-Chromatography.
- x) Ultraviolet-visible spectroscopy.

#### Status regarding accreditation and certification:

There is no accreditation and ISO certification of the Customs lab, Chattogram.

a) Melting Point Determination.

#### Sample testing capability according to test parameter method and equipment:

The sample tests mentioned below are carried out using standard parameter. In each case standard testing manual of the equipment and instruments guide the principle followed for testing:

b) Flash Point Determination.
c) Refrigerant Gas Identification.
d) Formalin Identification of Fruits.
e) Density Determination.
f) Specific Gravity.
g) P <sup>H</sup> Determination.
h) Organic Radicals Identification.
'\ 0

- i) Qualitative analysis of various ions and radicals.j) Refractometer.
- k) Measuring GSM.

#### **Biosafety & biosecurity measures:**

There are no adequate equipment and instruments for testing and analysis of biological samples here. Therefore, biosafety and biosecurity measures relating to the those tests are not taken in the customs lab. Biological samples are always forwarded to Plant Quarantine Department or any other government lab outside Custom House for analysis.

#### Waste management system:

- a. There is always kept a balance between the purchased quantity and the required quantity of the chemicals needed for the experiments. As a result, there is least requirement for disposal of the unused chemicals.
- b. Flammable, organic solvents, toxic materials, reactive materials, odorous chemicals are kept in a container for subsequent disposal.
- c. Hazardous waste tag is attached to each waste container.
- d. In a short each type of waste is managed through the custom house's own capacity.

#### Other information:

Customs Lab, Chattogram provides the services only to importers and exporters who use Chattogram port for their import and export. The service mainly deals with the declaration whether it is correct or wrong. Tracking counterfeit products and playing a role in fighting against illegal trafficking is also another task. By doing so it protects consumers' health and safeguards the environment.

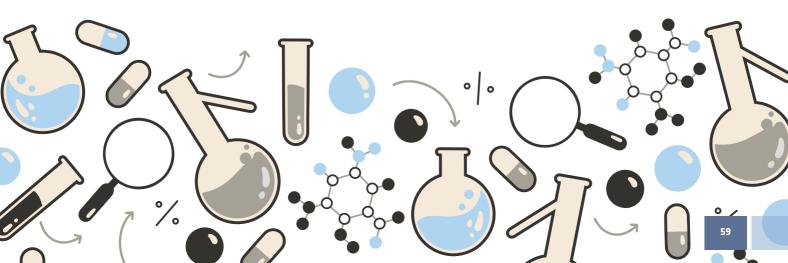
#### **Contact person and address:**

 Mohammad Tafsir Uddin Bhuyan Joint Commissioner, Custom House, Chattogram. Mail Id: tafsir\_ac@yahoo.com. Cell No: +880 1717117558

2. Md. Helal Hassan Chemical Assistant, Custom House, Chattogram.

Mail Id: customhousectg@g mail.com.

Cell No: +880 1714299316



## Bangladesh Reference Institute for Chemical Measurements (BRiCM)

#### Available lab services and services under approval:

Assigning reference values, Standard Reference Materials of Bangladesh, Reference Measurement Services, Proficiency Testing/Inter-Laboratory Comparison, Instrumentation and Calibration Services, Method Validation Service, Providing Training and Consulting Services, Contact Research Services, Providing assistance to higher education programs, API Characterization of Pharmaceutical Industries, Medical Diagnostic Laboratory, Bioequivalence Studies, Antibody Test Reports.

#### Fee or charge for the services:

For information regarding test fee please visit to http://eservice.bricm.gov.bd/index.php/view\_test\_fee

#### Instrument facilities:

Energy Dispersive-X Ray Fluorescence Spectroscopy (ED-XRF), X-ray powder diffraction (XRD), SEM, Nuclear Magnetic Resonance (NMR) Analyzer, Inductively Coupled Plasma Mass Spectrophotometer (ICP-MS) and LC-ICPMS, Inductively Coupled Plasma Optical Emission Spectrophotometer (ICP-OES), Graphite Furnace Atomic Absorption Spectroscopy (GFAAS), Flame Atomic Absorption Spectroscopy (FAAS), Mercury Analyzer, Liquid Chromatography Tandem Mass Spectrophotometer (LC/MS/MS), Fourier Transform Mid Infrared Spectrophotometer (FT-MIR), Fourier Transform Far Infrared Spectrophotometer (FT-FIR), Fourier Transform Near Infrared Spectrophotometer (FT-NIR), Gas Chromatography Mass Spectrophotometer-Mass Spectrophotometer (GCMS-MS), Gas Chromatography Mass Spectrophotometer (GC-MS), Gas Chromatography Mass Spectrophotometer (GC-MS) with FID & ECD Detector, Isocratic High Performance Liquid Chromatography with Variable UV Detector, Preparative HPLC and UV-VIS Detector, High Performance Liquid Chromatography-PDA Detector, High Performance Liquid Chromatography (HPLC) with Fluorescence Detector, High Performance Liquid Chromatography (HPLC) with UV Detector, Flow cytometer (FACS), RT-PCR, PCR, Biochemistry Analyzer, Protein Analyzer, CHNS Analyzer, Low NMR, PC Based UV-Visible Spectrophotometer (UV-VIS), Total Organic Carbon Analyzer (TOC) Normal Sense Type, Total Organic Carbon Analyzer (TOC) High Sense Type, Differential Scanning Calorimetry (DSC), Disintegration Tester, Dissolution Tester, Automatic Sieve shaker, Auto Titrator, Bomb Calorimeter, Protein distillation Apparatus, Pressing Machine, Hardness, Friability, Distillation Unit for Acid, Microwave Digestion System, Polarimeter, Refractometer, Deionized Water Plant, Centrifuge, Water bath shaker, Vortex mixture, N-EVAP: analytical evaporator, Balance: 200g / 0.1mg, Balance: 1000g / 0.5g, pH meter:Conductivity /TDS meter, Homogenizer, Hot plate Magnetic stirrer, Drying Oven, Freeze Dryer, Percholoric Acid Digestion Fume Hood, Laboratory thermometer, Humidity Meter, Ultrasonic Bath, Hydrogen Rich Water Generator, Low Resolution NMR Analyzer, Muffle Furnace (0-1500°C), Muffle Furnace (600°C), Thermostatic Water bath, Mixer Blender, Microwave Oven, Soxhlet Apparatus, Micro Kjeldal Apparatus, Clinical Type Centrifuge, Heating Mantle, Precision Digital Thermometer, Digital Multi meter, Thermometer and Recorder, Resistance Temperature Recorder, Digital temperature indicator.

#### Status regarding accreditation and certification:

- Staff members from BRiCM are in the pool of assessors for the Bangladesh Accreditation Board (BAB) and registered with the European Organization for Quality as Laboratory Manager and Assessor for ISO/IEC 17025 under the harmonized system of audit and assessment for European Accreditation (EA).
- ISO Certification and Accreditation is under processing.

#### Sample testing capability according to test parameter method and equipment:

http://eservice.bricm.gov.bd/index.php/view\_test\_fee.

#### **Biosafety & biosecurity measures:**

4500 sq. ft. BSL-2 Lab

#### **Waste management system:**

Our lab follows the 5R's: Refuse, Reduce, Reuse, Repurpose and Recycle. Some of these methods are: recycling/reuse of the reagent bottles, incineration and disposal in landfills of incineration ash, disposal in landfills of stabilized chemical waste, or non-hazardous waste; disposal in sewers of neutralized, non-toxic chemicals.

#### Other information:

Products Invented by BRiCM:

Invented Products for Covid-19, Covid-19 Specimen Collection Kit- VTM, Be Clean Handrub, Hand Sanitizer & Disinfectant, Automatic Hand Sanitizer Dispensing Device, 'BangaSafe' Oronasal Spray, UVC Disinfection Unit, Germicidal Device, RT-PCR Kit, Temperature and Humidity Data logger, UVC Disinfection Conveyor Cabinet, pH Buffer, Jar Tester, Reference Standard, BRiCM LABS Vsign (Cellulose Enzyme), BRiCM LABS Probiotic, BRiCM LABS Coolant, Magnetic Stirrer.

#### **Contact person and address:**

Bangladesh Reference Institute for Chemical Measurements (BRiCM)

Dr. Qudrat-e-Khuda Road (Laboratory Road)

Dhanmondi, Dhaka-1205, Bangladesh

Tel: +8802-44612451, Cell: +8801308030003, +8801626772030

E-mail: info@bricm.gov.bd; Web: www.bricm.gov.bd



## Institute of Public Health (IPH)

#### Available lab services and services under approval:

Accredited; ISO 17025:2017

#### Fee or charge for the services:

SL	Sample	Test Parameter	Charge
1	Water	pН	500 <i>F</i>
2	Processed food,	Fat Content	1000/-
	Grain,	Moisture Content	500 <i>F</i>
		Ash	800 <i>f</i>
		Crude Fiber	1000/-per
		Protein	parameter
		Peroxide Value	
3	Juice, Tomato	Total Soluble solid, Acidity	800/per
	sauce, Yogurt		parameter
4	Vegetables, Feed,	Pesticides OP,OCP	5000-15000/-
	Water, food&	Heavy metals (Pb. Cr, Cd,	
	processed food,	Hg, As), Minerals (Fe, Zn,	1500/- per
	Fruits, Dry fish,Fish	Cu, Ca, Mg, Mn, Na, K, Se	metal
	Oil ,Spices	etc.)	
5	Feed, Spices,	Aflatoxins(B1,B2,G1,G2)	6500 <i>}</i>
	Grains, All Food		
	stuff, Alovera Gel		
6	Fish, Fruits , All	Formaldehyde	5000 <i>f</i>
	Food stuff		
	,Vegetables, Dry		
	Fish, Processed		
	food, Milk		
7	Dry Fish, Biscuit,	Vitamins A, Palmitate,	6500 <i>F</i> per
	Fish feed ,Oil , Rice	Acetate	parameter
	kernels , cereals	Vitamin 'A" Retinol.	
		Vitamin E	
8	Spices	Lead chromate, Lead	3000/
9	Meat, Fish	Chloramphenicol	5600 <i>}</i>
10	Milk, Meat, Fish	Tetracycline	3000/ per
		(Oxy, Tetra, Chloro)	parameter
11	Milk	Melamine	1200/-
12	Fruits Drinks,	Caffeine, Sodium Benzoate,	5000 <i>F</i> per
	Drinks	Saccharine	parameter
		Alcohol	
13	Juice, Jam,	Sorbic Acid, Benzoate Acid	5000 / per
	Jelly ,fruit syrup		parameter
14	Spices, Juice, Jam,	Artificial dyes (Sudan red -	5000 <i>f</i> per
	Jelly, Drinks	I,II, III,IV , Tartazine, Sunset	parameter
		Yellow, Erytrosine, Alura	
		Red, Amaranath, Azorubin,	
		Brilliant Blue)	

15	Rice, Puffed rice(Muri), Milk	Urea	1300/-
16	Jam, Jelly, Juice ,	Sweetener (Aspartame,	5000 <i>F</i> per
	Fruits Syrup	Ace sulfame K, Saccharine )	parameter
17	Oil	Acid value	800 <i>f</i>
		lodine value	1000/-
		Saponification Value	
		Fatty acid profile	6500 <i>}</i>
		Refractive Index,	1200/-per
		Peroxide Value	parameter
		Brix	500 <i>F</i> per
18	Sweet, Milk	Milk solid other than Milk	1000/-per
	Products, Milk	Fat, Milk Fat	parameter
		Lactose	
19	Pasteurized Milk	Ash	800 <i>f</i>
20	Salt	lodine	1000/-
21	Biscuit	Total Sugar	1000/-
22	Chicken, Beef,	Ciprofloxacin, Enrofloxacin	3000/per
	mutton, Fish		parameter
23	Juice and Infant	Ascorbic Acid ,Citric Acid	5000/per
	Cereal		parameter
24	Milk	Mycotoxin M1	6500 <i>}</i>
25	Drinks, Juice	Sodium Cyclamate	5000 <i> </i>
26	Fish	Malachite , Leucomalachite	5000/ per
		Green, Crystal Violet	parameter

Available: www//iph.gov.bd.

#### Instrument facilities:

Mili Q system, Coring Cell with HPLC, Melting point apparatus, HPLC, HPTLC, AAS, LC-MS/MS, ICPMS, GC, GC-MS, UV/VIS spectrophotometer, ELISA, Microscope, Protein Analyzer, Rotary Evaporator, Schoxlet, Water Purified Ultra clear. R.O system, Microwave Digester system, Ultrasonic Clear, Shaking water Bath, ABBE Refrigerator, Freeze Dryer, ICE Maker, Fume Hood, Hot Air Oven, Moisture Analyzer, Muffle Furnace, Centrifuge Machine, Refrigerated Centrifuge machine, Turbo Vap. Evaporator, Nitrogen Evaporator, Water Bath, Complete Water Distillation, Deionization system, Shaking water Bath, PH Meter

#### Sample testing capability according to test parameter method and equipment:

1844 per year sample testing capacity

#### **Biosafety & biosecurity measures:**

Maintained

#### Waste management system:

By Third Party

#### **Contact person and address:**

Matiur Rahman PhD Technical Manager, Food Analyst

# Modern Food Testing Laboratory and Training Center, Dhaka South City Corporation

#### Available lab services and services under approval:

Basic chemistry lab,

Advance analytical lab,

Microbiology lab,

BSE (Bovine Spongiform Encephalopathy) lab.

Training center.

Chiller room, LIMS server, generators, solar & HT-substation.

#### Fee or charge for the services:

Not applicable

#### Instrument facilities:

**UV-VS** Spectrophotometer

Double Beam Atomic Absorption Spectrophotometer(AAS)

Protein Nitrogen Analyzer

Gas Chromatography (GC)

Gas Chromatography (GC) And Mass Detector(MS)

Ultra-Performance Liquid Chromatography (UPLC)

Bio-safety unit: class-2

#### Status regarding accreditation and certification:

On process of achieving ISO laboratory accreditation. First audit has already been done by BAB.

#### Sample testing capability according to test parameter method and equipment:

More than 200 samples are tested per month

#### **Biosafety & biosecurity measures:**

Being followed by prescribed Rules/Method.

#### Waste management system:

Being followed by prescribed Rules/Method.

#### Other information:

LIMS available

#### **Contact person and address:**

D. Md. Mohsin Ali

Public Health Analyst (Director)

Modern Food Testing Laboratory and Training Center

Dhaka South City Corporation.

Fulbaria (Near Banga Market), Dhaka-1000.

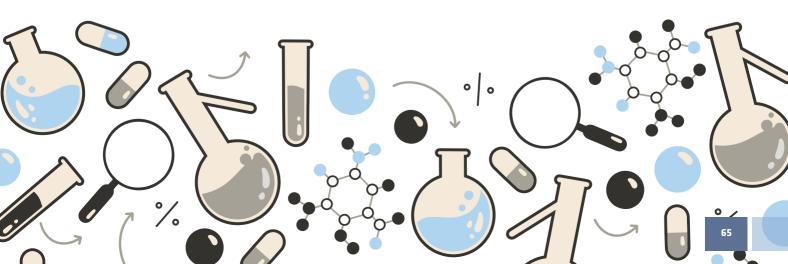
Cell: 01711786340

Email:asedmosin@gmail.com/mftlandtc.dscc@gmail.com

### **Bangladesh Accreditation Board (BAB)**

### A number of testing parameters are accredited in accordance with the international standard 17025: 2017, Some of them are given below:

S.N.	Products/ Materials/ Items of test	Type of tests performed	Specifications/ Standard test methods/Techniques used	Range of testing/Limit of detection
		Field: Microbiolo	gical Testing	
1.	Drinking	Total bacterial count	BDS 1414: 2000, AppL	≥ 1cfu/ml
Water		Total Coliform bacterial count	BDS 1414: 2000, AppK	<1.1 MPN to >23 MPN/100ml
2.	Minandonatan	Total bacterial count	BDS 1414: 2000, AppL	≥ 1cfu/ml
Mineral water		Total Coliform bacterial count	BDS 1414: 2000, AppK	<1.1 MPN to >23 MPN/100ml
		Faecal Coliform count	BDS 1414: 2000, App-K	<1.1 MPN to >23 MPN/100ml
3.	Fruit juice, Fruit Drinks, Tomato ketchup,	Total bacterial count	BDS 513: 2013, AppD	≥ 10cfu/ml or gm
, ,	Total Coliform bacterial count	BDS 513: 2013, AppB	≥ 10cfu/ml or gm	
	Edible Jell, Sauce, Tomato Paste, Soft Drink Powder	Yeast and Mould Count	BDS 1123: 2013, App -D	≥ 10cfu/ml or gm
4.		Total bacterial count	BDS 1083: 2006, AppG	≥ 10cfu/ml or gm
	Protein rich biscuit	Total Coliform bacterial count	BDS 1083: 2006, App.H	≥ 10cfu/ml or gm



# Quality Control Laboratory (QC Lab) for livestock inputs and its food products, Department of Livestock Services (DLS), Savar, Dhaka

#### Available lab services and services under approval:

So many Testing Parameters are accredited in accordance with the international standard 17025: 2017, Some of them are given below:

Specific Tests or Properties Measured	Accredited / Non Accredited	Fees
Enumeration of Total Coliforms in water	Accredited	3000.00
Enumeration of Escherichia coli in water	Accredited	3000.00
Detection of Porcine Derivatives in Beef	Accredited	5000.00
Detection of Bovine Derivatives in Pork	Accredited	5000.00
Detection of Salmonella in chicken meat	Accredited	1000.00
Detection of Salmonella in Beef	Accredited	1000.00
Detection of Salmonella in Milk	Accredited	1000.00
Detection of Salmonella in Feed	Accredited	1000.00
Detection of Salmonella in Egg	Accredited	1000.00
Aerobic Plate Count	Non Accredited	1500.00
Enumeration of Coliforms	Non Accredited	1500.00
Faecal Coliform & E. coli count	Non Accredited	1500.00
Yeast & Mold Count	Non Accredited	1500.00
Beneficial bacterial Count	Non Accredited	1500.00
Bacterial species detection	Non Accredited	1000.00

#### Fee or charge for the services:

No charge applicable

#### **Instrument facilities:**

Bacteriological Incubator, Bacteriological Testing Apparatus, BOD Analyzer, COD Analyzer, Conventional PCR Master cycler, RT-PCR Master cycler, Gel Documentation System, MALDI-TOF. Robotic DNA Extractor etc.

#### Status regarding accreditation and certification:

The Laboratory is accredited by Bangladesh Accreditation Board (BAB), Certificate No. 01.063.21 Date: 29 November 2021 and ISO 9001:2015 certified by UKAS and authorized by SGS Bangladesh Limited. The laboratory is also declared as a reference lab for the test of livestock inputs and its food products.

#### Sample testing capability according to test parameter method and equipment:

The laboratory has performed 8228 tests of 3635 samples in the last financial year. But the laboratory has the capability of testing more samples according to test parameter method and equipment.

#### Biosafety & biosecurity measures:

The laboratory has international standard Biosafety Level 2 (BSL2) microbiology laboratory in conjunction with a general chemistry laboratory and a molecular biology laboratory. The laboratories are equipped with chemical hoods to capture hazardous or odorous materials used or produced in the analyses and to protect employees from hazardous concentrations of airborne toxic substances. Class II biosafety cabinets (BSC) are provided for bio-hazardous analyses and sterility work. Sufficient hood space is provided to laboratory employees. Maintenance is performed routinely on these systems.

#### **Waste management system:**

The laboratory has a 'Zero discharge Effluent Treatment Plant' (ETP) where all the liquid wastes are treated so that no discharge of liquid wastes comes in contact with the environment which is monitored regularly. For microbiological waste management a MOU has been done with PRISM.

#### Other information:

Quality Control Laboratory for Livestock Inputs and its Food Products (QC Lab, DLS) is an International standard, ISO 17025:2017 accredited laboratory of the Department of Livestock Services (DLS) under the Ministry of Fisheries and Livestock, Bangladesh. The laboratory provides testing facilities of livestock feed, additives, biologics as well as livestock products, thus contributing in controlling food safety, promoting livestock production and facilitating export. It comes in operation from 27 August 2020. The laboratory has been accredited to ISO 17025:2017 through the Bangladesh Accreditation Board (BAB) since November 2021. The Quality Management system of the laboratory (ISO 9001:2015) has been certified by UKAS, UK Limited. The laboratory is also declared as a reference lab for testing of livestock inputs and its food products by the Mininstry of Fisheries and Livestock (MOFL)

#### **Contact person and address:**

Dr. Md. Mostofa Kamal

Quality Control Laboratory (QC Lab) for livestock inputs and its food products,

Department of Livestock Services (DLS), Savar Dhaka.

Cell: 01715805090.

Email: mostofa.kamal.phd@gmail.com

### **WAFFEN Research Laboratory Limited**

#### Available lab services and services under approval:

A number of testing parameters are accredited in accordance with the international standard 17025: 2017, Some of them are given below:

SL. #	Test Parameter	Test Price (BDT)	Reference Test Method	Instruments
1.	Total Aerobic Plate Count	1500.00	BAM Chapter -3	Bio Safety Cabinet & Incubator, Sterilizer, Stomacher Machine, Vortex, Balance
2.	Total Coliform	2500.00	ISO 4832:2006	DO
3.	Fecal Coliform	2500.00	IS 1622	DO
4.	E. coli	2500.00	ISO 9308 -1;2014	DO
5.	Salmonella	2500.00	ISO 6579:2002	DO
6.	Staphylococcus aureus	2500.00	BAM Chapter -12	DO
7.	Shigella spp	3000.00	BAM Chapter -6	DO
8.	Pseudomonas spp	2500.00	BAM Chapter -23	DO
9.	Vibrio spp	3000.00	BAM Chapter -9	DO
10.	Listeria spp	3000.00	BAM Chapter -10	DO
11.	Fecal Streptococci	2500.00	IS 5887-2(1976)	DO
12.	Coagulase (+ve) Streptococcus	3500.00	BAM Chapter -12	DO
13.	Campylobacter	3500.00	BAM Chapter -7	DO
14.	Enterococci	2500.00	BAM Chapter -4	DO
15.	Bacillus spp	3000.00	BAM Chapter -14	DO
16.	Anaerobic Bacteria	3000.00	BAM Chapter -	DO
17.	Legionella	Negotiable	ISO 11731:2017	DO
18.	Clostridium	3000.00	BAM Chapter -16	DO
19.	Saccharomyces spp	3500.00	BAM Chapter -	DO
20.	Aspergillus	3500.00	BAM Chapter -	DO
21.	Trichoderma	3500.00		DO
22.	Yeast & Molds count	2500.00	ISO 7954:1987(E)	DO
23.	Antimicrobial Sensitivity (E.coli ATCC:11775)	2000.00	Kirby -Bauer disk diffusion test	DO
24.	Antimicrobial Sensitivity (Staphylococcus aureus ATCC:6538)	2000.00	Kirby -Bauer disk diffusion test	DO
25.	Candida spp.(Fungicidal Activity)	4000.00	Kirby -Bauer disk diffusion test	DO
26.	Staphylococcus aureus (Bactericidal Activity)	2000.00	Kirby -Bauer disk diffusion test	DO
27.	Pseudomonas spp. (Bactericidal Activity)	2500.00	Kirby -Bauer disk diffusion test	DO
28.	E.coli (Bactericidal Activity)	2500.00	Kirby -Bauer disk diffusion test	DO
29.	Aciduric Plate Count	4500.00	William H. Sperber et al., 2009	Do
30.	Heat Resistant Mold Count	6000.00	ISO -7954:1987 (E) & Salomão et al., 2014	DO
31.	Alicyclobacillus	5500.00	Groenewald, Gouws and Witthuhn, 2009	Do

#### Fee or charge for the services:

Not applicable

#### **Instrument facilities:**

Microbiology Laboratory: Bio-safety Cabinet class II, Electronics Balance (2), pH Meter, Digital Colony Counter, Thermometers, Autoclave-I (Sterilization), Autoclave-I (Decontamination), Incubator-1, Incubator-2, Centrifuge, Microscope, Incinerator Burner, Hot Air Oven, Refrigerator (4°C) (Media storage) Refrigerator (4°C) (Sample storage), Freezer (-28°C), Water baths, Micropipette, Distilled Water System, Vortex mixture, Membrane Filtration Unit, Stomacher unit, Laminar air flow.

#### Status regarding accreditation and certification:

Accreditation certificate (ISO/IEC 17025:2017) #01.055.19 under Bangladesh Accreditation Board (BAB), Ministry of Industries.

#### **Biosafety & biosecurity measures:**

Maintain standard operating procedures for sample received, storage and disposal following biosafety and biosecurity

#### **Waste management system:**

PRISM Bangladesh is conducting waste management as per standard protocol under registration from Dhaka City Corporation

#### **Contact person and address:**

Abu Bakkar Siddique Technical Director

113/B, 3rd Floor, Love Road, Tejgaon I/A, Dhaka-1208, Bangladesh;



### Antimicrobial Resistance Reference Laboratory Animal Health Research Division, BLRI

#### Available lab services and services under approval:

- · Microbial load in food and feed
- Microbials contaminants identification and molecular characterization
- AMR pattern determination

#### Fee or charge for the services:

Fees are fixed on the basis of services

#### Instrument facilities:

Autoclave machine, Distilled water plant, Bacteriological incubator, Automated sample diluter and spreader, Automated bacterial colony counter and zone of inhibition counter, Automated microbial detector and drug sensitivity detector, PCR Machine, Nano Sequencing machine, Next generation sequencing Machine, Biosafety Class II A2 cabinet, Laminar Flow, Fume Hood

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL) but Planning for the application of ISO certification

#### Sample testing capability according to test parameter method and equipment:

Approximately 100 samples/day

#### Biosafety & biosecurity measures:

Biosafety level-2

#### Waste management system:

Use separate bin for different categories of chemical wastages and autoclaving them accordingly

#### **Contact person and address:**

Mohammed A. Samad, PhD, Contact number: 01717047877 Animal Health Research Division, BLRI, Savar, Dhaka-1341.

# Food and Feed Safety Laboratory Animal Health Research Division, BLRI

#### Available lab services and services under approval:

- Chemical contamination in food
- Antibiotics residues in food & feed
- Heavy metal residues in food & feed

#### Fee or charge for the services:

Fees are fixed on the basis of services

#### Instrument facilities:

- TLC
- HPLC
- LC MS/MS
- AAS
- ICPMS
- Vacuum evaporator
- Nitrogen evaporator
- Electric oven

#### Status regarding accreditation and certification:

Planning for the application

#### Sample testing capability according to test parameter method and equipment:

Approximately 50 samples/day

#### **Biosafety & biosecurity measures:**

Biosafety level-2 enhances

#### Waste management system:

Use separate bin for different categories chemical wastages and autoclaving them accordingly

#### **Contact person and address:**

Mohammed A. Samad, PhD, Contact number: 01717047877 Animal Health Research Division, BLRI, Savar, Dhaka-1341.

### SAARC Regional Leading Diagnostic Laboratory for PPR Animal Health Research Division, BLRI

#### Available lab services and services under approval:

- Competitive- ELISA (c-ELISA) for the determination of the level of antibody before & after vaccination
- Tissue culture infective dose fifty (TCID50) for the titration of virus in vaccine seed
- Diagnosis of livestock and poultry diseases by molecular and serological techniques (Conventional PCR, RT-PCR and HA, HI test)

#### Fee or charge for the services:

Fees are fixed on the basis of services

#### Instrument facilities:

Automatic ELISA washer and Reader
Digital electric balance
pH machine
Safety cabinet with cell culture incubator
Biological Safety Cabinet class-II
Thermal cycler
Gel electrophoresis machine, gel doc. etc
Nano Drop™ Spectrophotometers

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL) but Planning for the application of ISO certification.

#### Sample testing capability according to test parameter method and equipment:

Approximately 2000 serum samples per year.

Approximately 1000 fresh field samples per year from PPR disease outbreaks.

#### Biosafety & biosecurity measures:

Biosafety level-2

#### Waste management system:

Sterilization of lab wastage by Autoclaving and disposed them properly

#### **Contact person and address:**

Dr. Md. Shahin Alam,

SSO and Director (Lab-in charge), SAARC PPR laboratory. AHRD, BLRI

Mohile: 01312144224

# Animal Nutrition Laboratory Animal Health Research Division, BLRI

#### Available lab services and services under approval:

- Dry Matter (DM)
- Ash
- Organic Matter (OM)
- Crude Protein (CP)
- ADF
- NDF
- Ether Extract (EE)
- Crude Fiber (CF)
- Lignin
- Gross Energy (GE)

#### Fee or charge for the services:

Fees are fixed on the basis of test of feed ingredient.

#### Instrument facilities:

Dryer, Furnace, Ether extraction set, Digestion and distillation chamber, Bomb Calorimeter, Muffle Furnace, Autoclave, Water bath, Hot Air Oven, Grinder

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL), Bangladesh.

#### Sample testing capability according to test parameter method and equipment:

Dry Matter (30) Ash (40)

Organic Matter (40)

Crude Protein (10)

ADF (12)

NDF (12)

Crude Fiber (10)

Lignin (18)

Gross Energy (10)

#### **Biosafety & biosecurity measures:**

The laboratory follows biosecurity measures according to standard protocols.

#### **Waste management system:**

The laboratory follows laboratory waste management and disposal protocol on a daily basis.

#### **Contact person and address:**

Dr. Biplob Kumer Roy

Head APRD and Lab In charge

M: 01935838878

E: biplobkumerroy@gmail.com

# Poultry Feed Analysis Laboratory Poultry Production Research Division, BLRI

#### Available lab services and services under approval:

Proximate component analysis:

- Poultry feed
- Meat (Poultry different species like chicken, duck, quail etc.)
- Egg (Poultry different species)
- Insects

#### Fee or charge for the services:

1.Total proximate components= 1200 taka/ sample

2.Individual sample rate: Moisture=30tk, DM=30tk, CP=210tk, CF=100tk, EE= 750tk, Ash=75tk

#### **Instrument facilities:**

- 1. Muffle furnace MF J 10T
- 2. ISUZU drying oven
- 3. SANSHIN Crude Fibre machine
- 4.SoxTec Ether Extract machine
- 5.Gas Chromatograph (GC) (Agilent 8890 Series, USA)
- 6.Ultra-performance liquid chromatography (UPLC) -Acquity waters

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL), Bangladesh.

#### Sample testing capability according to test parameter method and equipment:

- 1. Proximate analysis: AOAC (2005). Official Methods of Analysis. (18th ed). Association of Analytical Chemists, Washington, DC, USA.
- 2.Gas Chromatograph: Fatty acid methyl ester-(FAME) method
- 3. Amino acid analysis: PDA sample set method, FLR sample set method

#### **Biosafety & biosecurity measures:**

- 1. The laboratory keeps neat, clean and free of materials that are not pertinent to the work.
- 2. Only authorized persons is allowed to enter the laboratory working areas.
- 3. Laboratory coveralls, gowns or uniforms and Appropriate gloves are worn by the working personnel at all times for work in the laboratory. After use, gloves are removed aseptically and hands are washed.
- 4. Take other necessary steps to maintain biosecurity of Poultry feed analysis lab.

#### Waste management system:

The laboratory follows laboratory waste management and disposal protocol on a daily basis.

#### **Contact person and address:**

Halima Khatun

Email: hkr.7519@gmail.com

Mobile:01715810750

# Poultry Feed Analysis Laboratory Poultry Research Center, BLRI

#### Available lab services and services under approval:

Cholesterol and Fatty acid: Poultry Feed, Poultry Meat, Poultry Egg Amino acids: Vitamins, Poultry Meat

#### Fee or charge for the services:

Fees are fixed on the basis of test of feed ingredient.

#### **Instrument facilities:**

- 1. Gas Chromatograph (GC) (Agilent 8890 series USA)
- 2. Ultra-Performance Liquid Chromatography (UPLC)- Acuity waters, USA

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL), Bangladesh

#### Sample testing capability according to test parameter method and equipment:

Not applicable

#### **Biosafety & biosecurity measures:**

- 1. Only authorized persons are allowed to center the laboratory working areas.
- 2. Laboratory personnel wear laboratory coveralls, gowns or uniforms at all time, as well as appropriate gloves are removed aseptically and hands are washed

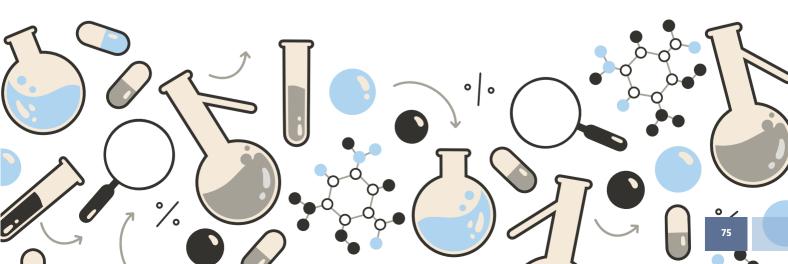
#### **Waste management system:**

The laboratory follows laboratory waste management and disposal protocol on a daily basis.

#### **Contact person and address:**

Dr. Md. Sazedul Karim Sarker PSO, PD and Head of PRC, BLRI, Savar, Dhaka-1341.

Email: sazdulkarim@yahoo.com



# Dairy Research Laboratory Dairy Research and Training Center, BLRI

#### Available lab services and services under approval:

Intra-institutional services are provided regarding -

- Chemical analysis of milk
- · Adulteration tests of milk
- · Microbiological tests of milk and
- Blood serum analysis

#### Fee or charge for the services:

Not fixed yet.

#### Instrument facilities:

LCMSMS machine, Somatic cell counter, Double beam spectrophotometer, Serum analyzer, Double distillation unit, Distillation unit, Biosafety cabinet, Gerber machine, Centrifuge machine, Electronic microscope, Homogenize, Viscometer, Nitrogen evaporator, PH meter

#### Status regarding accreditation and certification:

Not accredited yet.

#### Sample testing capability according to test parameter method and equipment:

Sample testing capability according	g to test parameter method and equipment:
Test name	Test method/standard
Determination of specific gravity of milk & added water	Using Lactometer
Determination of titratable acidity of milk	Goss (1953)
Determination of percent fat of milk	Gerber method (1891)
Alcohol test of milk	Weimar (1922)
Clot on boiling test of milk	According to FAO milk processing guide series (volume 2)
Detection of Hydrogen peroxide, Starch, sugar, urea, neutralizes, salt, formaldehyde, maltodextrins ammonium compounds nitrates & blood glucose in milk	Sharma et al. (2012)
Standard Plate Count of milk	Erba Biochemistry Analyzer
Total Coliform , salmonella, yeast & mold count and blood cholesterol in milk	According to the method developed by AOAC
Determination of blood protein and calcium	Erba Biochemistry Analyzer

#### Biosafety & biosecurity measures:

- Biosafety cabinet is used in all microbial analysis
- All autoclavable utensils are autoclaved before each test
- Entry is restricted into the laboratory
- PPE is used during each test

#### Waste management system:

After analysis, all laboratory wastages (microbial, chemical, glassware) are disposed in a pit according to laboratory disposal guide.

#### **Contact person and address:**

Dr. Md. Rakibul Hassan, Principal Scientific Officer, Dairy Research and Training Center, BLRI Mob: 01712511183



### Biotechnology Laboratory Biotechnology Division, BLRI

#### Available lab services and services under approval:

Milk Analysis (Fat, SNF, Protein, Lactose, Density) Microbial Count (TVC, Coliform, LAB and Salmonella) Biogas Analysis (CH4, CO2, O2, NH3, H2S) Molecular detection of Meat Adulteration (Beef, Goat, Sheep, Pork) Semen Quality Evaluation

#### Fee or charge for the services:

Not fixed yet

#### Instrument facilities:

Lactoscan Milk Analyzer Agar Plate, Plate Counter Biogas Analyzer Biosafety cabinet class-II, Thermal cycler, gel electrophoresis machine, gel doc. Etc Computer Assisted Semen Analyzer (CASA)

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL), Bangladesh.

#### Sample testing capability according to test parameter method and equipment:

Lactoscan Milk Analyzer -30 samples/day
Agar Plate, Plate Counter -30 samples/day
Biogas Analyzer -30 samples/day
Biosafety cabinet class-II, Thermal cycler, gel electrophoresis machine, gel doc. etc - 10 samples/day
Computer Assisted Semen Analyzer (CASA) - 100 samples/day

#### **Biosafety & biosecurity measures:**

The laboratory follows biosecurity measures according to standard protocols.

#### Waste management system of your lab:

Sterilization of lab wastage by Autoclaving and disposed them properly.

#### **Contact person and address:**

Dr. S.M. Jahangir Hossain, Divisional Head Biotechnology Division Mob: 01924-465622 E-mail: dg@blri.gov.bd

### **Reproductive Biotechnology Laboratory**

#### Available lab services and services under approval:

Semen Quality Evaluation

#### Fee or charge for the services:

Not fixed yet

#### Instrument facilities:

Computer Assisted Semen Analyzer (CASA)

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL), Bangladesh

#### Sample testing capability according to test parameter method and equipment:

100 samples/day

#### **Biosafety & biosecurity measures:**

The laboratory follows biosecurity measures according to standard protocols.

#### Waste management system:

Burying or incineration Autoclaving

#### **Contact person and address:**

Dr. S.M. Jahangir Hossain, Head Biotechnology Division Mob: 01924-465622 e-mail: dg@blri.gov.bd

### **Molecular Biotechnology Laboratory**

#### Available lab services and services under approval:

Molecular detection of Meat Adulteration (Beef, Goat, Sheep, Pork)

#### Fee or charge for the services:

Not fixed yet

#### Instrument facilities:

Biosafety cabinet class-II, Thermal cycler, gel electrophoresis machine, gel doc. etc

#### Status regarding accreditation and certification:

Accredited by the Ministry of Fisheries and Livestock (MoFL), Bangladesh.

#### Sample testing capability according to test parameter method and equipment:

10 samples/day

#### **Biosafety & biosecurity measures:**

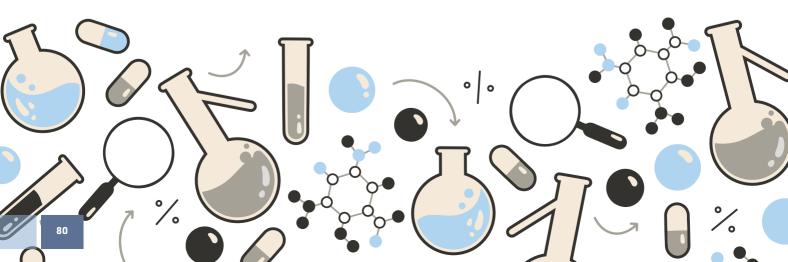
The laboratory follows biosecurity measures according to standard protocols.

#### Waste management system:

Burying or incineration Autoclaving

#### **Contact person and address:**

Dr. S.M. Jahangir Hossain, Head Biotechnology Division Mob: 01924-465622 e-mail: dg@blri.gov.bd



# Professor Muhammed Hussain Central Laboratory Bangladesh Agricultural University

#### Available lab services and services under approval:

Not accredited

#### Fee or charge for the services and Instrument facilities:

SI.	Name of Equipment	Proposed Rate (Taka)			
No.		BAU *	Public Institute **	Others ***	
1.	Distilled Water /litre	20.00	30.00	40.00	
2.	Nanopure Water Purification/litre	40.00	50.00	60.00	
3.	ICPMS/sample	2,000.00	3,000.00	4,000.00	
4.	ICPMS digestion (without chemical)/sample	300.00	500.00	500.00	
5.	ICPMS digestion (with chemical)/sample	1,500.00	2,000.00	2,000.00	
6.	DNA sequencer (without kit)	1,600.00	2,000.00	2,000.00	
	Acid purification (50ml) /1 (one) hour run	500.00	500.00	500.00	
7.	HPLC (without chemical) /sample (with filtering)	500.00	700.00	1,000.00	
8.	Gas Chromatography (with standard) /sample	300.00	400.00	500.00	
9.	Elisa (Washer, Shaker, Reader) (without kit)/set	30.00	50.00	50.00	
10.	UV Spectrophotometer/sample	20.00	30.00	50.00	
11.	Nano drop Spectrophotometer /sample	30.00	40.00	50.00	
12.	PCR/run	100.00	130.00	200.00	
13.	Ultra Centrifuge/cycle	300.00	400.00	500.00	
14.	Distillation Plant/Nitrogen/sample	30.00	40.00	60.00	
15.	Autoclave/cycle	30.00	45.00	60.00	
16.	Digestion Block/sample (without chemical)	200.00	300.00	400.00	
17.	Incubator/1 hour	10.00	20.00	40.00	

17.	Incubator/1 hour	10.00	20.00	40.00
18.	Fat Extractor/sample	100.00	100.00	150.00
19.	Tissue Culture Rotator	10.00	20.00	30.00
20.	Hot Plate & Stirrer/cycle	15.00	30.00	40.00
21.	Dissolved Oxygen Meter/sample	20.00	30.00	50.00
22.	Grain Moisture Meter/sample	15.00	30.00	50.00
23.	Balance/sample	5.00	10.00	20.00
24.	pH Meter/sample	10.00	20.00	30.00
25.	Flecked Ice Maker/Kg	20.00	40.00	50.00
26.	Electrolyte Analyzer (without kit)	30.00	50.00	100.00
27.	Leaf Area Meter/sample	15.00	30.00	40.00
28.	Oven (Micro & Hybridization) /hour	20.00	30.00	40.00
29.	Orbital Shaking Incubator/hr	10.00	20.00	50.00
30.	Transilumenator Table	20.00	30.00	50.00
31.	Gel Documentation Gel/sample	20.00	30.00	50.00

<sup>\*\*</sup>This fee or charge is subjected to any change as per decision of the PMHCL, BAU.

#### **Status regarding accreditation and certification:**

In preparation for accreditation and ISO certification

#### Sample testing capability according to test parameter method and equipment:

Usually as per request

#### **Biosafety & biosecurity measures:**

Basic measures

#### **Waste management system:**

Basic system

#### **Contact person and address:**

Prof. Dr. Md. Tanvir Rahman

Director,

Professor Muhammed Hussain Central Laboratory,

Professor of Microbiology, Department of Microbiology and Hygiene,

Faculty of Veterinary Science, Bangladesh Agricultural University,

Mymensingh-2202, Bangladesh.

Office. + 88-091-67401-6/ Ext. 63215

Phone. + 88-01913323307;

Fax + 88-09161510

Email: tanvirahman@bau.edu.bd





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