

Laboratory Information Management System

User Manual for Client



National Food Testing Laboratory

Bhutan Agriculture and Food Regulatory Authority

Ministry of Agriculture and Forests

Laboratory Information
Management System

User Manual for Client

Manual developed by:

National Food Testing Laboratory

Layout, design and edited by:

Dr Kinley Penjor

Karma Jamtsho

DOCUMENT RELEASE NOTICE

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1.0 Laboratory Information Management System



1.1 Overview

LIMS is an important component of the lab management system. The important function that LIMS plays in a Laboratory is to enhance the operational efficiency of the laboratory by automating and streamlining the workflows, eliminating the need for maintaining information manually and meeting the regulatory guidelines. A good LIMS facilitates both easy record keeping and reporting, thus eliminating the risks of human errors and improving the overall turnaround time. LIMS can provide other benefits like sample management wherein a user can efficiently track samples through the laboratory, laboratory can secure and restrict access to the data leading to better data privacy and protection, can lead to easy data backup and data mining options, resolving data accessibility issues. Significantly, there will be ease of reporting wherein an authorized user can quickly generate reports of the various test performed, data required for auditing and quick batch analysis for various purposes.

A LIMS helps in three main ways:

1. Accuracy – A LIMS helps labs produce accurate, repeatable results
2. Efficiency – A LIMS helps labs to automate and speed up laborious tasks
3. Management - A LIMS helps labs store and retrieve results quickly

1.2 Terms and Definitions

Laboratory Information Management System: Software based solution with features that allows the effective management of flow of samples, test result and associated data to improve lab efficiency and service delivery.

Reference/NFTL code: Code generated upon the successful registration of sample to be tested for the entire lot.

Laboratory Information Management System

FTL Code: Single code generated for each individual sample within the lot

System admin: The user with overall access control and management of the system.

Analyst: Laboratory official designated to perform specific test and provide test results.

Endorser: A laboratory official authorized to verify the test results in the respective disciplines.

Dashboard: A user interface which presents information to the user.

1.0 Client Registration

This feature enables the general public/clients to submit their registration form. The clients will be using the registered details to submit the test samples, seek interpretations and to obtain test reports for the submitted samples. Agency Administrator manages the clients in the Laboratory Information Management System (LIMS). After the client registration application is submitted, the agency admin will approve or reject the registration application based on the details provided by the clients.

1.1 Submit Client Registration

For submitting the online client registration form, a client must open the LIMS web portal.

- ✓ **Action:** Follow the link: <https://lims.bafra.gov.bt/>
- ✓ **Result:** LIMS application appears as shown below.



མཚན་མོ་རྒྱལ་ཁབ་འཕུལ་བཤུགས་ལྷན་ཁག་།
འབྲུག་མི་དམངས་རྒྱལ་ཁབ་རྒྱུ་མཚན་ལྷན་ཁབ་ལེན་།
ལྷན་ཁབ་འཕུལ་བཤུགས་ལྷན་ཁག་།

National Food Testing Laboratory
Bhutan Agriculture and Food Regulatory Authority
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Laboratory Information Management System (LIMS) Login Client Register

Functions of NFTL

The NFTL Complex is located within the area of 19 608 acres at Yusipang about 15 Km from Thimphu city. It has testing facilities for Food Microbiology, Residues, Contaminants, Nutrition and GMO (Biotechnology) detection aspects with the following mandates:

- Perform laboratory analysis of food and agricultural products for quality and safety of microbiological and chemical parameters and GMO contents in food and agricultural products and generate test reports.
- Work in close coordination with other divisions of BAFRA to complement the regulatory activities carried out by BAFRA.
- Provide technical backstopping to BAFRA field offices in sampling and analysis.
- Liaise with other relevant International, Regional and National level laboratories and organizations to improve laboratory services.

Client Registration

Document Type *

CID PASSPORT

10901000158 Norbu Jamtsho

Email ID 17278037

Laboratory NFTL

Thimphu Chang

20190112929 Thimphu Yusipang

Submit Cancel

1.1.1 Process: Click “*Client Registration*” link to open the registration page.

1.1.2 Result: When clicked on “Client Registration”, the following page appears.

1.1.3 Process: Enter the client details (Contact Person, CID No, Client Name, Address, Dzongkhag, Gewog, Mobile no, Email) and click Submit to submit the Client Registration form.

1.1.4 Result: The registration details are submitted as shown above.

2.0 Sample Test Application

2.1 Submit sample test application

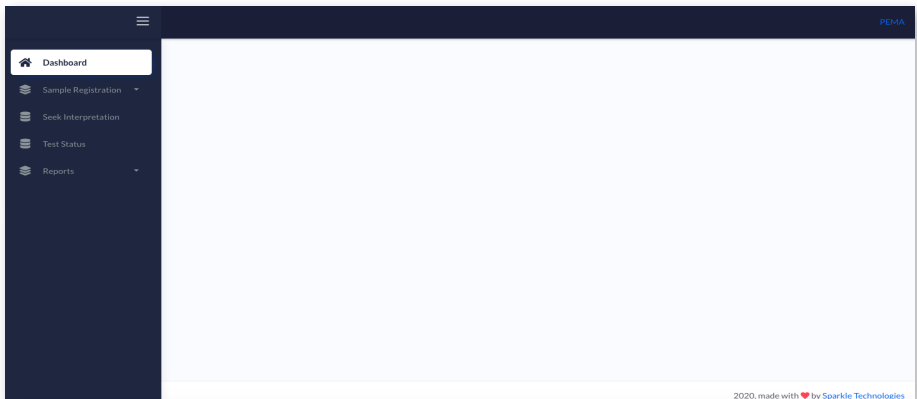
For submitting sample test application, the client needs to be a registered user.

- ✓ **Action:** Follow the link: <https://lims.bafra.gov.bt/>
- ✓ **Result:** LIMS application appears as shown below.



Process 2.1.1: Login with the user credential provided.

Result 2.1.2: On Successful login, the user will be redirected to the following LIMS dashboard.



Process 2.1.3: Click **Sample Registration > New Registration.**

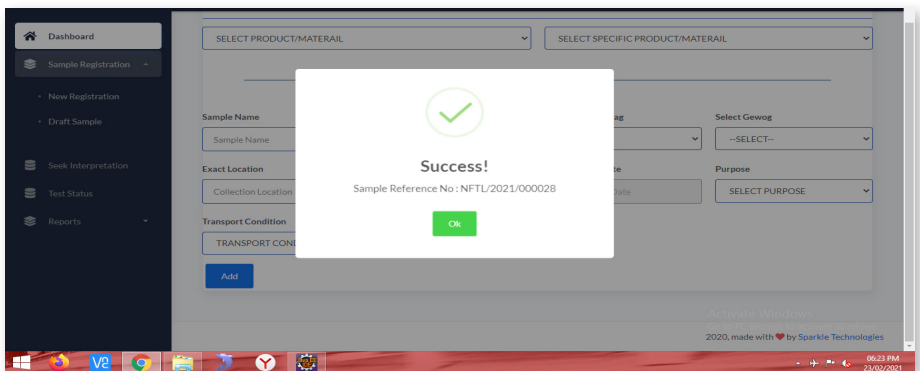
Result 2.1.4: The user will get the following Sample test application form.

The screenshot displays a web-based form for sample registration. It includes several input fields and dropdown menus for sample details. Below the form is a table with one entry.

Sl.No.	Sample Name	Product	Specific Product
1	sample 1	Food for infant Nutrition	Cereal based Complimentary food

Process 2.1.5: Select the sample details, Product, Specific Product, Test and click on **Add** button. If the sample batch contains more than one product sample, repeat the selection process and click on Add button. Next click **Submit** button to submit the sample test request.

Result 2.1.6: The Sample Reference Number generated from the system will help NFTL in identifying the samples submitted to the laboratory and therefore the reference number has to be sent along with the sample package to the laboratory. On successful submission, the system will generate the reference number / NFTL number as shown below. The reference number/NFTL is a unique number generated by the system. The user will be able to track the application based on the NFTL number / reference number.



3.0 Test / Application Status

3.1 View application status

On successful submission of sample test application, the system generates a unique reference number / NFTL number. The client can track their application status from within the system

3.1.1 Process: To track the application status, click **Test Status** link as shown below.

3.1.2 Result: The user will get the following form.

Sl.No.	Sample Reference No	Status
1	NFTL/2021/000004	COMPLETED
2	NFTL/2021/000006	COMPLETED
3	NFTL/2021/000017	PENDING

Showing 1 to 3 of 3 entries

3.1.3 Process: To know the application status in detail, click **NFTL number** of the application.

3.1.4 Result: The system will generate the following report.

Specific Product	Specific test	FTL Code	Result/Status
Apple Juice	TSS	FTL/2021/000004/001	Completed
Apple Juice	pH	FTL/2021/000004/001	Completed
Apple Juice	Total plate count	FTL/2021/000004/002	Completed
Apple Juice	Yeast count	FTL/2021/000004/002	Completed

4.0 Test Report

After the completion of the test requested. The client receives an email notification.

4.1 View test report

4.1.1 Process: Click on the **Reports link** to open the view the reports published


4.1.2 Result: The user will get the following form:

The screenshot displays the 'Client Test Report' page. On the left is a dark sidebar with a menu containing: Dashboard, Sample Registration, Seek Interpretation, Test Status, and Reports (with sub-items: Test Report and Interpretation Report). The main content area has a title 'Client Test Report' and a search bar. Below is a table with 8 rows of test data. Each row includes a 'View' button.

SI.No.	Client	Sample Ref.No.	FTL_Code	Specific Product	
1	MoAF	NFTL/2021/000038	FTL/2021/000038/001	Apple Juice	View
2	MoAF	NFTL/2021/000033	FTL/2021/000033/002	Cereal based Complimentary food	View
3	MoAF	NFTL/2021/000027	FTL/2021/000027/001	Carbonated beverages	View
4	MoAF	NFTL/2021/000023	FTL/2021/000023/001	Apple Juice	View
5	MoAF	NFTL/2021/000022	FTL/2021/000022/001	Beans	View
6	MoAF	NFTL/2021/000021	FTL/2021/000021/003	Brinjal	View
7	MoAF	NFTL/2021/000021	FTL/2021/000021/002	Raw Water	View
8	MoAF	NFTL/2021/000021	FTL/2021/000021/001	Carbonated beverages	View

4.1.3 Process: To view the test report in detail, click *FTL code* of the sample.

4.1.4 Result: The user will be able to view the test report as shown below:




འབྲུག་རྒྱལ་ཁབ་འཕུལ་ཁྲུན་ལྷན་ཁག་གི་

ལཱ་དཔེ་དཔྱད་ལྷན་ཁག་གི་

ལྷན་ཁག་གི་ལྷན་ཁག་གི་

Royal Government of Bhutan
Ministry of Agriculture and Forests
Bhutan Agriculture and Food Regulatory Authority (BAFRA)
National Food Testing Laboratory


TC-5463

NTFL/2021/000038 - FTU/2021/000038/001
Date: 10-03-2021

Test Report

Name and Address of the Client	MoAF Babesa, Thimphu	Date of Completion	10-03-2021
Client Registration No	C/2020/000003	Date of Reporting	10-03-2021
Type and Nature/Name of the Product	Beverages (Non-Alcoholic)	Condition of Sample Upon Receipt	Normal Condition
Date of Collection	10-03-2021	Batch No	GH56
Date of Receipt	10-03-2021	Manufactured Date	2021-03-03
Date of Start of Analysis	10-03-2021	Sampled By	Sample submitted by MoAF

Test Result


Parameter Tested For	Unit Of Measurement	Result	Range Of testing/LOQ	Acceptable Level	Analytical Method
FTL/2021/000038/001 Sample Name : Apple Juice 1					
Chemical					
TSS	Brix %	5%	1% to 80%	Min 10%	AOAC
Biological					
Total plate count	cfu/ml	Greater than equal to 1 cfu	Greater Than or Equal To 1cfu	Less Than or Equal To 10000	IS:5402:2012
Mould count	cfu/ml	Less than 1 cfu	Greater Than or Equal To 1cfu	Less Than or Equal To 1000	#1, IS:5403:1999 (reaff:2018), #2, FAO manual of Food Quality control, 14/4 Rev.1, Chapter-19.

- The test results relate only to the particular samples submitted for Testing as per the test method referred above
- This Test Report shall not be reproduced except in full, without approval from the issuing authority
- The test results are based on the sample received.


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- This Test Report shall not be reproduced except in full, without approval from the issuing authority
- The test results are based on the sample received

Biological Discipline

Analyzed By




Endorsed By




Chemical Discipline

Analyzed By



Endorsed By



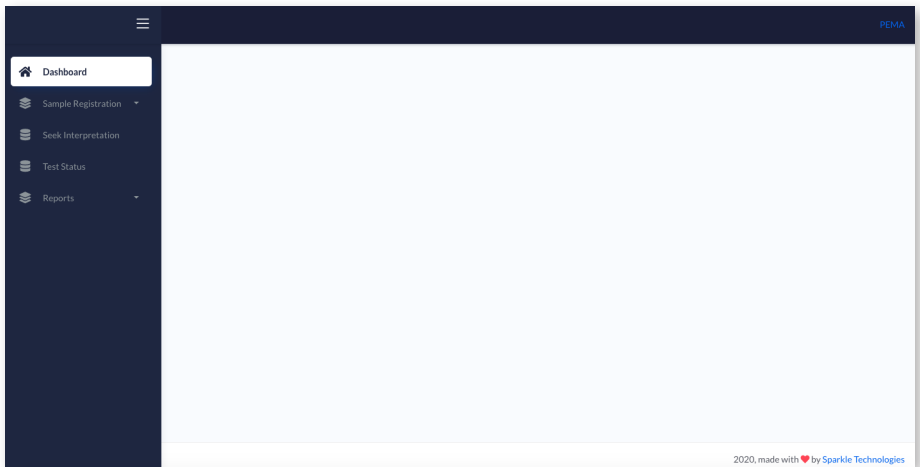
5.0 Test Interpretation Application

If necessary, the client may seek interpretation for the specific test parameter(s) if the client require further technical clarification.

5.1 Submit test interpretation application

5.1.1 Process: Login with the user credential.

5.1.2 Result: On Successful login, the user will be redirected to the following LIMS dashboard.



5.1.3 Process: To seek interpretation of the sample test results, click **Seek Interpretation link**.

5.1.4 Result: The user will get the following form.

Seek Interpretation	
<input type="checkbox"/> Specific Test	
<input type="checkbox"/> TSS	
<input type="checkbox"/> pH	
<input type="checkbox"/> Yeast count	
<input type="checkbox"/> Mould count	

5.1.5 Process: Enter the FTL Number and click on **Go** button as shown above.

5.1.6 Result: On providing the correct FTL number, the system will display the list of tests conducted as shown above.

5.1.7 Process: Fill in the text box for which you want to seek test interpretation as shown above and click on Submit button.

5.1.8 Result: On clicking the Submit button, the application for seeking interpretation will be forwarded to the respective Lab In-charge.

5.2 View interpretation

5.2.1 Process: To view the test result interpretation, Click on **Reports link > Interpretation Link**

5.2.2 Result: The following form will be displayed

5.2.3 Process: To view the interpretation report, Click **view** for the specific FTL code or product if the status is completed.

5.2.4 Result: The interpretation report will be displayed as shown below.

KANTUR

- Dashboard
- Sample Registration
- Seek Interpretation
- Test Status
- Reports
 - Test Report
 - Interpretation Report

Search:

Sl.No	NFTL Code	FTL Code	Specific Product	Status	
11	NFTL/2021/000001	FTL/2021/000001/001	Apple Juice	PENDING	
12	NFTL/2021/000038	FTL/2021/000038/001	Apple Juice	COMPLETE	View

Showing 11 to 12 of 12 entries

Previous 1 2 Next

Interpretation Report

Search:


Sl.No	FTL	Test Parameter	Result	Interpretation Sought	Interpretation Result
1	FTL/2021/000038/001	TSS	5%	What is the range of testing?	1 to 80 %

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