



UGANDA NATIONAL BUREAU OF STANDARDS

CERTIFICATE OF LABORATORY RECOGNITION

Certificate No: UNBS/LRS/0028

This certificate is valid as per the scope stated in the accompanying schedule of recognition, Annex "A" which is an integral part of the present certificate bearing the above recognition number for

Chemistry and Microbiology Testing of Food Products.

In accordance with the recognised International Standard ISO/IEC 17025:2017

Being supplied to

MAKERERE UNIVERSITY - DEPARTMENT OF FOOD TECHNOLOGY AND NUTRITION LABORATORIES.

School of Food Technology, Nutrition and Bio-engineering, Makerere University
P. O. Box 7062, Kampala.

The recognition demonstrates technical competence and the operation of a laboratory quality management system to perform the tests as described in the Annex. While this certificate remains valid, the recognised laboratory above is authorised to use the relevant UNBS recognition number to issue facility reports and /or certificates.

Recognition Decision Date: 2022-02-14
Date of original issue: 2022-02-14
Certificate Issue No: 01

Effective Date: 2022-02-14
Expiry date: 2025-02-13
Certificate Issue date: 2022-02-14

A blue ink signature of the Executive Director is placed over a dotted line.

Executive Director
UGANDA NATIONAL BUREAU OF STANDARDS



ANNEX A
SCHEDULE OF RECOGNITION – TESTING LABORATORIES

Facility Number	UNBS/LRS/ 0028	S/N	Technical Signatories (TS) and Analysts (A)	Method
Makerere University - Department of Food Technology and Nutrition Laboratories		1.	Dr. Stellah Byakika (Microbiology) (TS&A)	<ul style="list-style-type: none"> • DFTNL/TM-M-F/01, Pour-plate; ISO 4833-1 • DFTNL/TM-M-F/02, Pour-plate; ISO 4832 • DFTNL/TM-M-F/02, Pour-plate; ISO 4832 • DFTNL/TM-M-F/03, Spread plate; ISO 6888-1 • DFTNL/TM-M-F/04, Pour-plate; ISO 21528-2 • DFTNL/TM-M-F/05, ISO 6579-1; • DFTNL/TM-M-F/06, Spread plate, ISO 21527 • DFTNL/TM-M-W/01, Pour-plate, ISO 6222 • DFTNL/TM-M-W/02, Membrane filtration, ISO 9308-1 • DFTNL/TM-M-W/02, Membrane filtration, ISO 9308-1 • DFTNL/TM-M-W/03, Membrane filtration; ISO 7899-2 • DFTNL/TM-M-W/04, Membrane filtration; ISO 6888-1 • DFTNL/TM-M-W/05, Membrane filtration; ISO 16266 • DFTNL/TM-M-W/06, Membrane filtration; ISO 19250
School of Food Technology, Nutrition and Bio-engineering, Makerere University		2.	Mr. Atwine Ambrose (Microbiology) (TS&A)	<ul style="list-style-type: none"> • DFTNL/TM-M-F/01, Pour-plate; ISO 4833-1 • DFTNL/TM-M-F/02, Pour-plate; ISO 4832 • DFTNL/TM-M-F/02, Pour-plate; ISO 4832 • DFTNL/TM-M-F/03, Spread plate; ISO 6888-1 • DFTNL/TM-M-F/04, Pour-plate; ISO 21528-2 • DFTNL/TM-M-F/05, ISO 6579-1; • DFTNL/TM-M-F/06, Spread plate, ISO 21527 • DFTNL/TM-M-W/01, Pour-plate, ISO 6222 • DFTNL/TM-M-W/02, Membrane filtration, ISO 9308-1 • DFTNL/TM-M-W/02, Membrane filtration, ISO 9308-1 • DFTNL/TM-M-W/03, Membrane filtration; ISO 7899-2 • DFTNL/TM-M-W/04, Membrane filtration; ISO 6888-1 • DFTNL/TM-M-W/05, Membrane filtration; ISO 16266 • DFTNL/TM-M-W/06, Membrane filtration; ISO 19250
P.O. Box 7062, Kampala Makerere Hill		3.	Mr. Emmanuel Okalany	<ul style="list-style-type: none"> • DFTNL/TM-C/01

		(chemistry) (TS&A)	<ul style="list-style-type: none"> • DFTNL/TM-C/02 • DFTNL/TM-C/13
4.	Dr. Balamaze Joseph (chemistry) (TS&A)		<ul style="list-style-type: none"> • DFTNL/TM-C/01 • DFTNL/TM-C/02 • DFTNL/TM-C/13

Material or products tested	Type of tests/property measured, Range of Measurement	Standard used	specifications, Techniques/Equipment
TESTING FIELD - MICROBIOLOGY			
Water (packaged drinking water, packaged natural mineral water, potable water)	Total Viable Count at 22°C and 37°C	DFTNL/TM-M-W/01, Pour-plate, ISO 6222, plate count agar, diluents, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter	
	Enumeration of Total Coliforms	DFTNL/TM-M-W/02, Membrane filtration, ISO 9308-1, E. coli Coliforms Chromogenic agar, diluents, membrane filtration unit, membrane filters, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter	
	Escherichia coli enumeration	DFTNL/TM-M-W/02, Membrane filtration; ISO 9308-1, E. coli Coliforms Chromogenic agar, diluents, membrane filtration unit, membrane filters, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter	
	Salmonella detection	DFTNL/TM-M-W/06, Membrane filtration; ISO 19250, buffered peptone water, Rappaport Vassiliadis Soy broth, Muller Kauffmann tetrathionate novobiocin broth, Xylose lysine desoxycholate agar, brilliant green agar, triple sugar iron agar, peptone water, Kovac's reagent, Simmons citrate agar, urease broth, diluents, membrane filtration unit, membrane filters, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter, wire loop	
	Pseudomonas aeruginosa	DFTNL/TM-M-W/05, Membrane filtration; ISO 16266, Pseudomonas Agar base (PCN), glycerol, CFC supplement, acetamide broth, king's B agar, UV lamp, diluents, membrane filtration unit, membrane filters, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter	
	Staphylococcus aureus	DFTNL/TM-M-W/04, Membrane filtration; ISO 6888-1, Baird Parker agar, egg York tellurite, rabbit plasma, brain heart infusion broth, diluents, membrane filtration unit, membrane filters, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter	
	Streptococcus faecalis	DFTNL/TM-M-W/03, Membrane filtration; ISO 7899-2, Slanetz and Bartley agar, bile azide aesculin agar, enterococcosel agar, diluents, membrane filtration unit,	

		membrane filters, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
-Milk and milk products (UHT milk, Dried whole milk and skimmed milk powder, Raw milk, Pasteurized milk, Fermented milks, Soya milk, Dairy ices and dairy ice creams Milk fat products (e.g. ghee and cheeses)	Total plate Count	DFTNL/TM-M-F/01, Pour-plate; ISO 4833-1; plate count agar, diluent, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Total Coliforms	DFTNL/TM-M-F/02, Pour-plate; ISO 4832; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of E. coli	DFTNL/TM-M-F/02, Pour-plate ; ISO 16649-2; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Staphylococcus aureus	DFTNL/TM-M-F/03, Spread plate; ISO 6888-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Enterobacteriaceae	DFTNL/TM-M-F/04, Pour-plate; ISO 21528-2; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Salmonella Detection	DFTNL/TM-M-F/05, ISO 6579-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Yeasts and Moulds Count	DFTNL/TM-M-F/06, Spread plate, ISO 21527; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
-Cereals Cereal flours, cereal grains and Processed cereal-based foods	Total plate Count	DFTNL/TM-M-F/01, Pour-plate; ISO 4833-1; plate count agar, diluent, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Total Coliforms	DFTNL/TM-M-F/02, Pour-plate; ISO 4832; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of E. coli	DFTNL/TM-M-F/02, Pour-plate ; ISO 16649-2; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Staphylococcus aureus	DFTNL/TM-M-F/03, Spread plate; ISO 6888-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Enterobacteriaceae	DFTNL/TM-M-F/04, Pour-plate; ISO 21528-2; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Salmonella Detection	DFTNL/TM-M-F/05, ISO 6579-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter

	Yeast and Moulds Count	DFTNL/TM-M-F/06, Spread plate, ISO 21527; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
- Beverages fruit and vegetable juices Alcoholic beverages Malted cereal beverages Fermented (non-alcoholic) cereal beverages Alcoholic beverages - Ready to Drink (RTD) Fermented beverages Dairy beverages Carbonated and non-carbonated soft drinks	Total plate Count	DFTNL/TM-M-F/01, Pour-plate; ISO 4833-1; plate count agar, diluent, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Total Coliforms	DFTNL/TM-M-F/02, Pour-plate; ISO 4832; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of E. coli	DFTNL/TM-M-F/02, Pour-plate ; ISO 16649-2; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Staphylococcus aureus	DFTNL/TM-M-F/03, Spread plate; ISO 6888-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration Enterobacteriaceae	DFTNL/TM-M-F/04, Pour-plate; ISO 21528-2; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Salmonella Detection	DFTNL/TM-M-F/05, ISO 6579-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Yeast and Moulds Count	DFTNL/TM-M-F/06, Spread plate, ISO 21527; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Total plate Count	DFTNL/TM-M-F/01, Pour-plate; ISO 4833-1; plate count agar, diluent, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Total Coliforms	DFTNL/TM-M-F/02, Pour-plate; ISO 4832; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of E. coli	DFTNL/TM-M-F/02, Pour-plate ; ISO 16649-2; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration of Staphylococcus aureus	DFTNL/TM-M-F/03, Spread plate; ISO 6888-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Enumeration Enterobacteriaceae	DFTNL/TM-M-F/04, Pour-plate; ISO 21528-2; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter

	Salmonella Detection	DFTNL/TM-M-F/05, ISO 6579-1; Incubator, culture media, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter
	Yeasts and Moulds Count	DFTNL/TM-M-F/06, Spread plate, ISO 21527; culture media, Incubator, autoclave, Lamina air flow bench, water baths, pipettes/pipette tips, weighing scale, pH meter

TESTING FIELD - CHEMISTRY

-cereals Cereal flours, cereal grains and Processed cereal-based foods	Moisture content	DFTNL/TM-C/13, Oven($100\pm05^{\circ}\text{C}$), dessicator with desiccant, weighing scale
	Total ash content	DFTNL/TM-C/01, Muffle furnace ($550\text{-}600^{\circ}\text{C}$), dessicator with dessicant, weighing balance, crucibles, oven.
	Acid insoluble ash	DFTNL/TM-C/02, Muffle furnace ($550\text{-}600^{\circ}\text{C}$), dessicator with dessicant, weighing balance, crucibles, ash free filter papers, HCl, filter funnel, distilled water, pH indicator, oven
-Dried whole milk and skimmed milk powder	Moisture content	DFTNL/TM-C/13, Oven($100\pm05^{\circ}\text{C}$), dessicator with desiccant, weighing scale
	Total ash content	DFTNL/TM-C/01, Muffle furnace ($550\text{-}600^{\circ}\text{C}$), dessicator with dessicant, weighing balance, crucibles, oven.
	Acid insoluble ash	DFTNL/TM-C/02, Muffle furnace ($550\text{-}600^{\circ}\text{C}$), dessicator with dessicant, weighing balance, crucibles, ash free filter papers, HCl, filter funnel, distilled water, pH indicator, oven
-Animal Feeds (Poultry feeds, Rabbit feeds, Fish feeds, compounded animal feeds, Poultry feed premix,	Moisture content	DFTNL/TM-C/13, Oven($100\pm05^{\circ}\text{C}$), dessicator with desiccant, weighing scale
	Total ash content	DFTNL/TM-C/01, Muffle furnace ($550\text{-}600^{\circ}\text{C}$), dessicator with dessicant, weighing balance, crucibles, oven.
	Acid insoluble ash	DFTNL/TM-C/02, Muffle furnace ($550\text{-}600^{\circ}\text{C}$), dessicator with dessicant, weighing balance, crucibles, ash free filter papers, HCl, filter funnel, distilled water, pH indicator, oven

ISSUED BY

UGANDA NATIONAL BUREAU OF STANDARDS

MANAGER CERTIFICATION DEPARTMENT