

Parameters of Microbiology Services

FOOD MICROBIOLOGY

<u>Test Description</u>	<u>Test Unit</u>	<u>Test Method</u>	<u>Time</u>	<u>sample</u>
Total Viable Count (TVC)	Cfu/gm	CCFRA 1.1.1:2003	48hrs	50gm
Total coliform count (Pour plate)	Cfu/gm	CCFRA 2.2.1:2003	48hrs	50gm
Enumeration of Enterobacteriaceae	Cfu/gm	CCFRA 2.3.1:2003	48hrs	50gm
Enumeration of E.coli	Cfu/gm	CCFRA 2.4.2:2003	48hrs	50gm
Detection of E.coli 0157:H7	Present or absent / 25gm	AOAC 200048hrs	2 days	100gm
Staphylococcus aureus	Cfu/gm	AOAC975.55	2days	50gm
Salmonella spp in food.	Present absent / 25gm	AOAC 967.26	3 to 5days	100gm
Detection of Listeria monocytogene.	Present absent / 25gm	CCFRA 3.2.2:2003	3days	100gm
Enumeration of Listeria monocytogene.	Cfu/gm	CCFRA 3.2.1:2003	3days	100gm
Enumeration of Bacillus cereus	Cfu/gm	AOAC 980.31	3days	50gm
anaerobic gas producing clostridia	present/absent	SASO130	2days	50gm

WATER MICROBIOLOGY

<u>Parameters</u>	<u>Units</u>	<u>Test Method</u>	<u>Time</u>	<u>Sample</u>
Total Viable Count	cfu/ml	AWWA9215.B	48hrs	100ml
Total Coliforms	MPN/100ml	AWWA9221.B	48hrs	200ml
Fecal Coliforms	MPN/100ml	AWWA9221.E1	48hrs	200ml
Total Coliforms	presence/absence	AWWA9221.D	48hrs	200ml
Escherichia coli	presence/absence	AWWA9221.F	48hrs	200ml
Enterococci	MPN/100ml	AWWA9230B	3days	200ml
Fecal Streptococci	MPN/100ml	AWWA9230B	3days	200ml
Pseudomonas spp.	MPN/100ml	AWWA9213F	48hrs	200ml
Sulfate reducing bacteria	MPN/100ml	ASTM-D4412	21days	1L
Legionella spp.	Cfu/ml	BS6068-4.12.1998	12days	2L

Chemical analysis of water:

Chemical analysis of water for portability test: Appearance, Odour, pH@25⁰C, Electric Conductivity @25⁰C, Total | Suspended Solids(TSS), Total Dissolved solids(TDS), Chloride(Cl), Sulfate(SO₄), Nitrate(NO₃), Bicarbonate(CO₃), Carbonate, Total alkalinity as CaCO₃, Total Hardness as CaCO₃, Carbonate hardness as CaCO₃, Non Carbonate Hardness as CaCO₃, Calcium(Ca), Magnesium(Mg), Sodium (Na), Potassium (K), Iron (Fe), Copper (Cu), Manganese (Mn), Zinc (Zn), Silica as SiO₂. As per Standard Methods for the Examination of Water & Wastewater Published by APHA.

Chemical analysis of Feed and Food: Analysis of animal feed , food like cheese butter , milk , juices for total protein, carbohydrates, total fat and energy, and TVN *level as per AOAC, Pearson and SASO methods.*

Other services: Assessment of phenols, disinfectants for their effectiveness against micro-organisms and the testing price depends upon selected test method and nature sample.

Sample preservation and precautions:

- All microbiology samples should be collected with aseptic technique.
- When the Water sample collected for microbiological analysis leave ample air space in the bottle to facilitate mixing by shaking before examination.
- For sampling chlorinated water add 0.1ml of a 10% sodium thiosulfate in sterile 120ml bottle.
- Holding time and temperature of water sample for microbiology examination, if testing cannot be processed within 1hr after collection use an iced cooler for storage during transportation to the laboratory. Hold temperature of all stream pollution, Drinking and waste water samples below 10°C during a maximum of 8hrs.
- Holding time and temperature of food sample for microbiology examination, if testing cannot be processed within 1hr after collection use an iced cooler for storage during transportation to the laboratory. Hold temperature of food samples below 10°C during a maximum of 8hrs.

Test Method Description:

- (AWWA) Standard Methods for the Examination of Water & Wastewater
- (BS) British Standards
- (ASTM) American Society for Testing and Materials Standard Specifications
- (CCFRA) manual of Microbiological Methods for the Food and Drink Industry 4th edition.