

**FACILITIES AVAILABLE WITH SOIL AND WATER TESTING LABORATORY OF NORTH EASTERN
REGIONAL INSTITUTE OF LAND AND WATER MANAGEMENT, TEZPUR**

The Soil and Water Testing Laboratory, NERIWALM provides the state of the art facilities of analytical instrumentations for carrying out analysis, imparting hands on training and research in the areas of soil , water and plant sample analysis for agricultural, irrigational purpose and drinking water characterizations at a nominal and competitive rate . The laboratory is the torch bearer in the studies of ground water arsenic contamination and river quality monitoring and assessment in the north east India besides providing laboratory supports to a number of DPR preparations on irrigation projects and command areas. The laboratory provides instrumentations and analysis as followed:

A. SOIL ANALYSIS

Sl. No.	Parameters	Instrumentations
01	pH	pH electrode
02	Electrical Conductivity	Conductivity meter
03	Soil Texture	Universal Pipette method
04	Soil Moisture	Gravimetric method
05	Organic carbon	Wet oxidation method (Walkley and Black)
06	Available Nitrogen	Automated Micro Kjeldahl method
07	Total Nitrogen	Automated Micro Kjeldahl method
08	Available Phosphorus	Bray and Kurtz UV-VIS Spectrophotometric Method
09	Total Phosphorus	Acid digestion and Titration Method
10	Available Potassium	Flame Photometric Method
11	Available Sulphate	Turbidimetric method (Kilmer and Neapass)
12	Micronutrients	
12 (a)	Zinc	Atomic Absorption Spectrophotometer
12(b)	calcium	Atomic Absorption Spectrophotometer
12 (c)	Magnesium	Atomic Absorption Spectrophotometer
12 (d)	Manganese	Atomic Absorption Spectrophotometer
12 (e)	Copper	Atomic Absorption Spectrophotometer
12 (f)	iron	Atomic Absorption Spectrophotometer
12 (g)	Boron	UV-VIS Spectrophotometric method
12 (h)	Molybdenum	UV-VIS Spectrophotometric method
12 (i)	Sodium	Flame Photometric method
13	Contaminants	
13 (a)	Lead	Atomic Absorption Spectrophotometer
13 (b)	cadmium	Atomic Absorption Spectrophotometer
13 (c)	Nickel	Atomic Absorption Spectrophotometer
13 (d)	Arsenic	Atomic Absorption Spectrophotometer
13(e)	iron	Atomic Absorption Spectrophotometer
13 (f)	Aluminium	Atomic Absorption Spectrophotometer
14	Cation Exchange caoacity	Flame Photometric by saturation with sodium (Bower)
15	Exchangeable bases (Na, K, Ca, Mg)	Black method
16	Lime Requirement	Schofield , woodruff and Shoemaker method
17	Sodium Adsorption ration	Richards method
18	Infiltration rate	Black method
19	Field capacity	Field method (Veihmeyer and hendricksen)
20	Permanent Wilting point (for project work only)	Veihmeyer and hendricksen method

14	Chloride	Titrimetric method
15	Residual chlorine	Titrimetric method
16	Fluoride	ISE method (Ion meter)
17	Arsenic	Atomic Absorption Spectrophotometer
18	Calcium	Atomic Absorption Spectrophotometer
19	Magnesium	Atomic Absorption Spectrophotometer
20	Manganese	Atomic Absorption Spectrophotometer
21	Copper	Atomic Absorption Spectrophotometer
22	Iron	Atomic Absorption Spectrophotometer
23	Chromium	Atomic Absorption Spectrophotometer
24	Lead	Atomic Absorption Spectrophotometer
25	cadmium	Atomic Absorption Spectrophotometer
26	Nickel	Atomic Absorption Spectrophotometer
27	Aluminium	Atomic Absorption Spectrophotometer
28	Barium	Atomic Absorption Spectrophotometer
29	Barillyum	Atomic Absorption Spectrophotometer
30	Sodium	Flame Photometric method
31	Potassium	Flame Photometric method
32	Sodium Adsorption Ration (SAR)	Flame Phtometric and AAS method

C. PLANT SAMPLE ANALYSIS:

Sl. No.	Parameters	Instrumentations
01	Total Nitrogen	Automated Micro Kjeldahl method
02	Phosphorus	Bray and Kurtz UV-VIS Spectrophotometric Method
03	Potassium	Flame Phtometric Method
04	Sulphur	Gravimetric/ Turbidimetric method
05	Sodium	Flame Phtometric Method
06	Chloride	Titrimetric method
07	Silica	Gravimetric method
08	Zinc	Atomic Absorption Spectrophotometer
09	calcium	Atomic Absorption Spectrophotometer
10	Magnesium	Atomic Absorption Spectrophotometer
11	Manganese	Atomic Absorption Spectrophotometer
12	Copper	Atomic Absorption Spectrophotometer
13	iron	Atomic Absorption Spectrophotometer
14	Boron	UV-VIS Spectrophotometric method
15	Molybdenum	UV-VIS Spectrophotometric method
16	Sodium	Flame Photometric method
	Contaminants	
17	Lead	Atomic Absorption Spectrophotometer
18	cadmium	Atomic Absorption Spectrophotometer
19	Nickel	Atomic Absorption Spectrophotometer
20	Arsenic	Atomic Absorption Spectrophotometer
21	iron	Atomic Absorption Spectrophotometer
22	Aluminium	Atomic Absorption Spectrophotometer

**FACILITIES AVAILABLE WITH SOIL AND WATER TESTING LABORATORY OF NORTH EASTERN
REGIONAL INSTITUTE OF LAND AND WATER MANAGEMENT, TEZPUR**

The Soil and Water Testing Laboratory, NERIWALM provides the state of the art facilities of analytical instrumentations for carrying out analysis, imparting hands on training and research in the areas of soil , water and plant sample analysis for agricultural, irrigational purpose and drinking water characterizations at a nominal and competitive rate . The laboratory is the torch bearer in-the studies of ground water arsenic contamination and river quality monitoring and assessment in the north east India besides providing laboratory supports to a number of DPR preparations on irrigation projects and command areas. The laboratory provides instrumentations and analysis as followed:

A. SOIL ANALYSIS

Sl. No.	Parameters	Instrumentations
01	pH	pH electrode
02	Electrical Conductivity	Conductivity meter
03	Soil Texture	Universal Pipette method
04	Soil Moisture	Gravimetric method
05	Organic carbon	Wet oxidation method (Walkley and Black)
06	Available Nitrogen	Automated Micro Kjeldahl method
07	Total Nitrogen	Automated Micro Kjeldahl method
08	Available Phosphorus	Bray and Kurtz UV-VIS Spectrophotometric Method
09	Total Phosphorus	Acid digestion and Titration Method
10	Available Potassium	Flame Photometric Method
11	Available Sulphate	Turbidimetric method (Kilmer and Neapass)
12	Micronutrients	
12 (a)	Zinc	Atomic Absorption Spectrophotometer
12(b)	calcium	Atomic Absorption Spectrophotometer
12 (c)	Magnesium	Atomic Absorption Spectrophotometer
12 (d)	Manganese	Atomic Absorption Spectrophotometer
12 (e)	Copper	Atomic Absorption Spectrophotometer
12 (f)	iron	Atomic Absorption Spectrophotometer
12 (g)	Boron	UV-VIS Spectrophotometric method
12 (h)	Molybdenum	UV-VIS Spectrophotometric method
12 (i)	Sodium	Flame Photometric method
13	Contaminants	
13 (a)	Lead	Atomic Absorption Spectrophotometer
13 (b)	cadmium	Atomic Absorption Spectrophotometer
13 (c)	Nickel	Atomic Absorption Spectrophotometer
13 (d)	Arsenic	Atomic Absorption Spectrophotometer
13(e)	iron	Atomic Absorption Spectrophotometer
13 (f)	Aluminium	Atomic Absorption Spectrophotometer
14	Cation Exchange caoacity	Flame Photometric by saturation with sodium (Bower)
15	Exchangeable bases (Na, K, Ca, Mg)	Black method
16	Lime Requirement	Schofield , woodruff and Shoemaker method
17	Sodium Adsorption ration	Richards method
18	Infiltration rate	Black method
19	Field capacity	Field method (Veihmeyer and hendricksen)
20	Permanent Wilting point (for project work only)	Veihmeyer and hendricksen method