

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 18/08/20 Rev. No: 09 LAB 152
---	-------------------------------	---

Accreditation No: LAB 152

Awarded to

**Soil and Water Testing Laboratory for Research, Jhang Road,
opposite Rescue 1122, AARI, Faisalabad, Pakistan**

The scope of accreditation is in accordance with the standard specifications outlined in the following page(s) of this document. The accredited scope shall be visible and legible in areas such as customer service, sample-receiving section etc and shall not mislead its users.

The accreditation was first time granted on **02-07-2018** by Pakistan National Accreditation Council.

The laboratory complies with the requirements of **ISO/IEC 17025:2017**.

The accreditation requires regular surveillance, and is valid until **01-07-2021**.

The decision of accreditation made by Pakistan National Accreditation Council implies that the organization has been found to fulfill the requirements for accreditation within the scope.

The organization however, itself is responsible for the results of performed measurements/tests.

PAKISTAN NATIONAL ACCREDITATION COUNCIL

23-11-2020

Date

-xxdxx-

Director General

Testing Laboratory.

**Soil and Water Testing Laboratory for Research, Jhang Road,
 opposite Rescue 1122, AARI, Faisalabad, Pakistan**

Permanent laboratory premises

Materials / Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
1.Available Phosphorus in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)	Chemical Testing	Quantative Determination of Citrate soluble Phosphorus in Fertilizer	SWTLF/SOP/037; Based on Pakistan Standard for Single super Phosphate (2 nd Edition) PS:67-1996.Pakistan Standard & Quality Control Authority, Karachi.
2.Available Potassium in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)	Chemical Testing	Quantative Determination of Available Potassium in Fertilizer	SWTLF/SOP/038; Based on Standard Operating and Service Manual of Flamephotometer PFP7, Section 3, P 11-13.
3.Zinc in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)		Quantative Determination of Zinc in Fertilizer	SWTLF/SOP/039; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision, 4, 2011. Method No. 2.6.31 (AOAC Official Method 975.02), Fertilizers, Chapter2, Subchapter 6, Page 40
4.Boron in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)		Quantative Determination of Boron in Fertilizer	SWTLF/SOP/041; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision, 3, 2006. Method No. 2.6.04 (AOAC Official Method 982.01), Fertilizers Chapter 2, Subchapter 6, Page 31.
5.Humic Acid in Fertilizer(Solid /Liquid)	Chemical Testing	Quantative Determination of Humic acid in Fertilizer	SWTLF/SOP/047; Based on F J. Stevenson, J. Environ. Quality, 1972, Vol 1, page 333
6 Organic matter / Waste compost (Solid /Liquid /Mixed liquid /Mixed Solid)		Organic matter/C:N/CEC in Fertilizer	SWTLF/SOP/045; Based on Official methods of Analysis of AOAC International, 20 th Ed., 2016, Method No. 2.7.08 (AOAC Official Method 967.05), fertilizer, Chapter 2, Subchapter 7, page 54

7. Iron in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)	Chemical Testing	Quantative Determination of Iron in Fertilizer	SWTLF/SOP/043; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision, 4, 2016. Method No. 2.6.15 (AOAC Official Method 980.01), Fertilizers, Chapter2, Subchapter 6, Page 35.
8. Copper in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)		Quantative Determination of Copper in Fertilizer	SWTLF/SOP/042; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision, 4, 2016. Method No. 2.6.11 (AOAC Official Method 975.01), Fertilizers, Chapter2, Subchapter 6, Page 33
9. Manganese in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)		Quantative Determination of Manganese in Fertilizer	SWTLF/SOP/044; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision, 4, 2016. Method No. 2.6.25 (AOAC Official Method 972.03), Fertilizers, Chapter2, Subchapter 6, Page 38.
10. Sulphur in fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)	Chemical Testing	Quantative Determination of Sulphur in Fertilizer	SWTLF/SOP/048, based on Pakistan Standard specifications For Potassium Sulphate Fertilizer Grade (2nd Revision)PS:1501-2011 (R ICS:65.080) page 10-11, PSQCA. Karachi.
11. Amino acid in fertilizer (Solid /Liquid)	Chemical Testing	Quantative Determination of Amino Acid in Fertilizer	SWTLF/SOP/046, based on FAO nutritional studies No. 24(1970) amino acid content of food and biological data on proteins FAO Rome
12. Bio Organic Phosphorus (BOP) (Solid)		Quantative Determination of Organic matter & Total Phosphorus in Fertilizer	SWTLF/SOP/037; Based on Pakistan Standard for Single super Phosphate (2 nd Edition) PS:67-1996. Pakistan Standard & Quality Control Authority, Karachi. (Total Phosphorus) and SWTLF/SOP/045; Based on Official methods of Analysis of AOAC International, 20 th Ed., 2016, Method No. 2.7.08 (AOAC Official Method 967.05), fertilizer, Chapter 2, Subchapter 7, page 54 (Organic matter contents).
13. Chelated micronutrients (Zinc) in Fertilizer (Solid / Liquid)		Quantative Determination of Chelated micronutrients in Fertilizer	SWTLF/SOP/040, Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision, 4 th , 2016. Method No. 2.6.01 (AOAC Official Method 965.09), Fertilizers Chapter 2, Subchapter 6, Page 29-30

14. Total Potassium in Fertilizer (Solid /Liquid)	Chemical Testing	Quantative Determination of Total Potassium in Fertilizer	SWTLF/SOP/038; Based on Standard Operating and Service Manual of Flamephotometer PFP7, Section 3, P 11-13.
15. Total Phosphorus in Fertilizer (Solid Liquid)		Quantative Determination of Total Phosphorus in Fertilizer	SWTLF/SOP/037; Based on Pakistan Standard for Single super Phosphate (2 nd Edition) PS:67-1996. Pakistan Standard & Quality Control Authority, Karachi.
16. Ammonical Nitrogen in Fertilizer (Solid/ Liquid /Mixed liquid /Mixed Solid)		Quantative Determination of Ammonical Nitrogen in Fertilizer	SWTLF/SOP/036; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision 4 th 2016. Method No. 2.4.10 (AOAC Official Method 892.01), Fertilizers Chapter 2 Subchapter 6, Page 15-16
17. Nitrate Nitrogen in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)		Quantative Determination of Nitrate Nitrogen in Fertilizer	SWTLF/SOP/036; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision 4 th 2016. Method No. 2.4.10 (AOAC Official Method 892.01), Fertilizers Chapter 2 Subchapter 6, Page 15-16
18. Total Nitrogen in Fertilizer (Solid / Liquid)	Chemical Testing	Quantative Determination of Total Nitrogen in Fertilizer	SWTLF/SOP/036; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision 4 th 2016. Method No.. 2.4.05 (AOAC Official Method 955.04), Fertilizers Chapter 2 Subchapter 6, Page 13-14
19, Uric Nitrogen in Fertilizer (Solid /Liquid /Mixed liquid /Mixed Solid)	Chemical Testing	Quantative Determination of Uric Nitrogen in Fertilizer	SWTLF/SOP/036; Based on Official Methods of Analysis of AOAC International, 20 th Edition, 2016, Current Revision 4 th 2016. Method No.. 2.4.05 (AOAC Official Method 955.04), Fertilizers Chapter 2 Subchapter 6, Page 13-14