

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 18/08/2020 Rev. No: 09 LAB 154
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Accreditation No: LAB 154

Awarded to

**Soil & Water Testing Lab, Govt. Agri. Farm, Old Shujabad Road.
Multan, 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

02-03-2021
Date

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Director General



Testing Laboratory.

Accreditation Scope of SWT Lab. MULTAN, 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
Boron Fertilizer (Solid+Liquid)	Chemical Testing	Quantitative Determination of Boron.	<p>SOP: SWTLM/SOP-B/L3/005</p> <p>(Based on Official Methods of Analysis of AOAC International, 18th Edition, 2005, Current Through Revision, 4, 2011. Method No. 2.6.04 (AOAC Official Method 982.01), Fertilizers Chapter 2, Subchapter 6, Page 28)</p> <p>Technique: (Spectrophotometer)</p>
Nitrogen fertilizers(Total Nitrogen, Ammonical Nitrogen, Nitrate Nitrogen,) (Solid Liquid)		Quantitative Determination of 1.Total Nitrogen 2. Ammonical Nitrogen 3. Nitrate Nitrogen 4. Uric Nitrogen	<p>SOP: SWTLM/SOP-N/L3/001</p> <p>(Based on i. Tandon HLS (Ed.) 2009. Methods of Analysis of Soils, Plants, Waters, Fertilizer and Organic Manures Fertilizer Development and Consultation Organization, New Delhi. Pp 161-162 ii. Official Methods of Analysis of AOAC International, 18th Edition, 2005, Current through Revision, 4, 2011. Method No. 2.4.10 (AOAC Official Method 892.01), Fertilizers Chapter 2 Page 16.)</p> <p>Technique: (Kjeldhal's Method)</p>
Phosphorus fertilizer (Solid+Liquid)		Quantitative Determination of Phosphorus.	<p>SOP: SWTLM/SOP-P/L3/002</p> <p>(Based on Pakistan standard for single super phosphate (2nd edition) BS..-1996 PSQCA Karachi)</p> <p>Technique: (Titration Method)</p>

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Zinc Fertilizer (Solid+Liquid)	Quantitative Determination of Water Soluble Zinc	SOP: SWTLM/SOP-Zn/004 (Based on Official Methods of Analysis of AOAC International, 18th Edition, 2005, Current Through Revision, 4, 2011. Method No. 2.6.01 (AOAC Official Method 965.09), Fertilizers Chapter 2, Subchapter 6, Page 29-30) Technique: (Atomic Absorption Spectrophotometer)
Fertilizer (Zn, Cu, Fe, Mn) (Solid+Liquid)	Quantitative Determination of (Chelated Zn, Cu, Fe, Mn)	SOP:SWTLM/SOP-Micro-Ch/L3/010 (Based on Vogel's Text Book Of Quantitative Chemical Analysis, 6th Edition, J Mendham, R C Denney, J D Barnes, M J K Thomas) Technique: (Atomic Absorption Spectrophotometer)
Potassium Fertilizer (Solid+Liquid)	Quantitative Determination of Water Soluble Potassium	SOP: SWTLM/SOP-K/L3/003 (Based On Testing Methods for Fertilizers (2013). Incorporated Administrative Agency. Food and Agricultural Materials Inspection Center. Japan. Technique: Flame photometer
Fertilizer Amino Acid (Solid+Liquid)	Quantitative Determination of Amino Acid	SOP: SWTLM/SOP-AA/L3/009 (Based on FAO nutritional studies no 24(1970). Pellet, L P and Young (1980). Theymoli Balasubramanian, Sadasivam (1987). www.eplantsceinece.com) Technique: (Kjeldhal)
Fertilizer Humic Acid (Soild+Liquid)	Quantitative Determination of Humic Acid	SOP: SWTLM/SOP-HA/L3/008 (Based on F.J.Stevenson, J.Environ.uality,1972,1,333. A. K . FATAFTAHA, Ph.d thesis,north estern university,Boston,1997. T.L.Senn and A.R.Kingman,A review of Humus and Humic Acid research, www.Humate.com/methodology/ HTML Richard T. Lamar. 2009. Critical Comparison of Humic Acid test methods.

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			<p>Communications in soil science and plant analysis, 40: 2309-2322,2009)</p> <p>Technique: (Gravimetric Method)</p>
Organic matter Waste Compost (Solid+Liquid)		<p>Quantitative Determination in waste Compost</p> <p>1.Organic matter 2.Cation Exchange Capacity (CEC)</p>	<p>SOP: SWTLM/SOP-OM/L3/007</p> <p>(Based on Official method of Analysis of AOAC international, 18th edition, 2005, current through revision, 4, 2011.method number 2,2.7.08 and (AOAC official method 967.05), fertilizers chapter 2, sub chapter 6 page 54-56.)</p> <p>Technique: (Oven, Furnace & Titration)</p>

02-03-2021

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Director