

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 10/08/15 Rev. No: 07 LAB 143
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Accreditation No: LAB 143

Awarded to

Soil and Water Testing Laboratory for Research, Suelmanpura, Sargodha, 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 **29-06-2018** 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 **28-06-2021**.

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

29-01-2020

Date

Director General

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Testing Laboratory.

**Accreditation Scope of, Soil and Water Testing Laboratory for
Research, Suelmanpura, Sargodha, 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. Phosphate fertilizer (Single or Mixed element, solid/liquid Fertilizer)	Fertilizer/Chemical Testing	Citrate soluble phosphorus estimation	Pakistan standard for Single Super Phosphate (2 nd edition) PS: 67-1996. PSQCA. Karachi
2. Potassium Fertilizer (Single or Mixed element, solid/liquid Fertilizer)	Fertilizer/Chemical Testing	Water soluble potassium estimation	Testing Methods for Fertilizers (2016). Incorporated Administrative Agency. Food and Agricultural Materials Inspection Center. Japan. (Modified Method)
3. Nitrogen fertilizers (Single or Mixed element, solid/liquid Fertilizer)	Fertilizer/Chemical Testing	Inorganic/ organic nitrogen estimation (ammonical, nitrate and uric)	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, 20 th Edition, 2016. Method No. 2.4.10, 2.4.05 (AOAC Official Methods 978.02, 892.01), Fertilizers Chapter 2 Page 14-17. (Modified Method)
4. Zinc fertilizer (Single or Mixed element, solid/liquid Fertilizer)	Fertilizer/Chemical Testing	Water soluble zinc estimation	Official Methods of Analysis of AOAC International, 20 th Edition, 2016. Method No. 2.6.01 (AOAC Official Method 965.09), Fertilizers Chapter 2, Subchapter 6, Page 29-30.

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5. Boron fertilizers (Single or Mixed element, solid/liquid Fertilizer)	Fertilizer/Chemical Testing	Water soluble boron estimation	Official Methods of Analysis of AOAC International, 20th Edition, 2016. Method No. 2.6.04 (AOAC Official Method 982.01), Fertilizers Chapter 2, Subchapter 6, Page 31-32.
6. Phosphate in Bio-Organic fertilizers (Solid/Liquid Fertilizer)	Fertilizer/Chemical Testing	Total phosphorus estimation	Pakistan standard for BOP.PS:5295/2017 (2nd Rev.), PSQCA. Karachi
7. Organic Matter (Solid/Liquid Fertilizer)	Fertilizer/Chemical Testing	Organic matter contents	Official Methods of Analysis of AOAC International, 20th Edition, 2016, Method No. 2.7.08 (AOAC Official Method 967.05), Fertilizers Chapter 2, Subchapter 7 Page 54
8. Organic Matter (Solid/Liquid Fertilizer)	Fertilizer/Chemical Testing	Cation exchange capacity	Official Methods of Analysis of AOAC International, 20th Edition, 2016. Method No. 2.7.13 (AOAC Official Method 973.09), Fertilizers Chapter 2, Subchapter 7, Page 56
9. Humic acid (Single or Mixed, Solid/Liquid Fertilizer)	Fertilizer/Chemical Testing	Humic acid contents	1. F.J. Stevenson, J. Environ. Quality, 1972, 1, 333. 2. A.K. Fataftah, PhD Thesis, Northeastern University, Boston, 1997. 3. T. L. Senn and A. R. Kingman, A Review of Humus and Humic Acid Research, (Modified Method)
10. Micronutrient (Inorganic) (Single or Mixed Element, Solid/Liquid Fertilizer)	Fertilizer/Chemical Testing	Acid Soluble fraction estimation of Zn, Fe, Cu and Mn. Where applicable	Official Methods of Analysis of AOAC International, 20th Edition, 2016, Method No. 2.6.01-C(a). (AOAC Official Method 965.09), Fertilizers Chapter 2, Sub Chapter-6. Page 29-30
11. Micronutrient (Organic) (Single or Mixed Element, Solid or Liquid Fertilizer)	Fertilizer/Chemical Testing	Charred / Ashed fraction estimation of Zn, Fe, Cu and Mn. Where applicable	Official Methods of Analysis of AOAC International, 20th Edition, 2016, Method No: 2.6.01-C(b) (AOAC Official Method 965.09), Fertilizers Chapter 2 Sub Chapter-6. Page 29-30

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<p>12. Micronutrient (Inorganic Fertilizer) (Single or Mixed element, Solid /Liquid Fertilizer)</p>	<p>Fertilizer/Chemical Testing</p>	<p>Water Soluble Zn, Cu, Mn and Fe estimation. Where applicable</p>	<p>Official Methods of Analysis of AOAC International, 20th Edition, 2016, Method No. 2.6.01 (AOAC Official Method 965.09), Fertilizers Chapter 2, Page 29-30 and Method 2.6.25 page 38 (Official AOAC 972.03)</p>
<p>13. Micronutrient (Chelated Fertilizer) (Single or Mixed element, solid/liquid Fertilizer)</p>	<p>Fertilizer/Chemical Testing</p>	<p>Chelated Fraction estimation of Zn , Fe, Cu and Mn. Where applicable</p>	<p>1. M. S. A. Khan, M. A. Qazi, S.M. Mian, M. Akram, Comparison of Three Analytical Methods for Separation of Mineral and Chelated Fraction from an Adulterated Zn-EDTA Fertilizer, Journal of Chemical Society of Pakistan, 35, 2 (2013). 2. Official Methods of Analysis of AOAC International, 20th Edition, 2016. Method No. 2.6.16 (AOAC Official Method 980.01), Fertilizers Chapter 2, Page 35</p>

29-01-2020

Date

Director