

	<b>ACCREDITATION DOCUMENT</b>	<b>F-06/02</b> <b>Issue Date: 18/08/20</b> <b>Rev. No: 09</b> <b>LAB 141</b>
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## **Accreditation No: LAB 141**

**Awarded to**

### **Leader AG Quality Assurance Laboratory, 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 **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**

04-03-2021  
Date

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Director General

	<b>ACCREDITATION DOCUMENT</b>	<b>F-06/02</b> <b>Issue Date: 18/08/20</b> <b>Rev. No: 09</b> <b>LAB 141</b>
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## Testing Laboratory.

Accreditation Scope of **Leader AG Quality Assurance Laboratory,**  
**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
Pesticide formulated/ finished products for Emulsifiable concentrate (EC) (Chlorpyrifos, Pyriproxyfen, Emamectin benzoate, Pendimethalin, Lufenuron, Bifenthrin, Metolachlor).	Physical testing of Pesticides	Qualitative test for Emulsion Stability (EC)	SOP No.024 Verified Method (Based on CIPAC Vol. F, 2007, Method No. 36 Page No.108-110) Miscellaneous/ Measuring cylinder
		Qualitative test for Density (EC)	SOP No.025 Verified Method (Based on CIPAC Vol. F, 2007, Method No. 3 Page No.11) Direct Through Density Meter

04-03-2021

Date

xxdxx

Director



**ACCREDITATION DOCUMENT**

**F-06/02**  
**Issue Date: 18/08/20**  
**Rev. No: 09**  
**LAB 141**

<p>Pesticide formulated/ finished products for Soluble Liquid (SL)          (Imidacloprid, Acetamiprid, Glyphosate)</p>		<p>Qualitative test for Density (SL)</p>	<p>SOP No.025          (Verified Method based on CIPAC Vol. F, 2007, Method No. 3 Page No.11)          Direct Through Density Meter</p>
<p>Pesticide formulated/ finished products for Suspension Concentrate (SC)          (Fipronil, Iprodione, Clothianidin, Chlorfenapyr, Tebuconazole)</p>		<p>Qualitative test for Density (SC)</p>	<p>SOP No.026          (Verified Method based on CIPAC Vol. F, 2007, Method No.3.3.1, Page No.18-19)          Hydrometer method</p>
<p>Pesticide formulated/ Technical          (Chlorpyrifos, Pyriproxyfen, Emamectin benzoate, Pendimethalin, Lufenuron, Bifenthrin, Imidacloprid, Acetamiprid, Fipronil, Iprodione, Clothianidin, Chlorfenapyr, Chlorsulfuron, Metsulfuron, Clodinafop propergyl, Cymoxanil, Sulphur, Metolachlor,</p>	<p>Chemical testing of Pesticides</p>	<p>Quantitative testing of Chlorpyrifos (Active Ingredient)</p>	<p>SOP No.004          (Verified Method based on CIPAC Vol. 1C, Method No. 221.b Page No.2028-2021)          HPLC Technique</p>
		<p>Quantitative testing of Pyriproxyfen (Active Ingredient)</p>	<p>SOP No.020          (Verified method based on CIPAC Vol. M, 2009 Method No. 715 Page No.180-188)          HPLC Technique</p>
		<p>Quantitative testing of Emamectin benzoate (Active Ingredient)</p>	<p>SOP No.009          (Validated method Based on Pak china )          HPLC Technique</p>
		<p>Quantitative testing of Pendimethalin (Active Ingredient)</p>	<p>SOP No.019          (Verified method based on CIPAC Vol. M, 2009 Method No. 357 Page No.148-154)          HPLC Technique</p>
		<p>Quantitative testing of Lufenuron (Active</p>	<p>SOP No.014          (Verified method based on CIPAC Vol. M, 2009 Method</p>

04-03-2021

Date

xxdxx

Director



**ACCREDITATION DOCUMENT**

**F-06/02**  
**Issue Date: 18/08/20**  
**Rev. No: 09**  
**LAB 141**

Glyphosate, Tebuconazole Myclobutanil, , Metalaxyl, Thiophenate methyl)	Ingredient)	No. 704 Page No.106-114) HPLC Technique
	Quantitative testing of Bifenthrin (Active Ingredient)	SOP No.002 (Validated method Based on NLA South Africa) HPLC Technique
	Quantitative testing of Imidacloprid (Active Ingredient)	SOP No.012 (Verified method based on CIPAC Vol. H, 2008 Method No. 581 Page No.185-193) HPLC Technique
	Quantitative testing of Acetamiprid (Active Ingredient)	SOP No.01 (Verified method based on CIPAC Vol. L, 2008 Method No. 649 Page No.04-15) HPLC Technique
	Quantitative testing of Fipronil (Active Ingredient)	SOP No.010 (Verified method based on CIPAC Vol. J, 2012 Method No. 581 Page No.60-65) HPLC Technique
	Quantitative testing of Iprodion (Active Ingredient)	SOP No.0113 (Verified method based on CIPAC Vol. J, 2008 Method No. 278 Page No.98-104) HPLC Technique
	Quantitative testing of Clothianidin (Active Ingredient)	SOP No.007 (Verified method based on CIPAC Vol. N, 2012 Method No. 738 Page No.14-24) HPLC Technique
	Quantitative testing of Chlorfenapyr (Active Ingredient)	SOP No.003 (Verified method based on CIPAC Vol. O, 2017 Method No.570 Page No.22-30) HPLC Technique
	Quantitative testing of Chlorsulfuron (Active Ingredient)	SOP No.005 (Verified method based on CIPAC Vol. H, 2008 Method No.391 Page No.89-95) HPLC Technique
	Quantitative testing of Metsulfuron (Active Ingredient)	SOP No.017 (Verified method based on CIPAC Vol. H, 2008 Method No.441 Page No.204-211) HPLC Technique

04-03-2021

Date

xxdxx

Director



**ACCREDITATION DOCUMENT**

**F-06/02**  
**Issue Date: 18/08/20**  
**Rev. No: 09**  
**LAB 141**

	Quantitative testing of Clodinafop propargyl (Active Ingredient)	SOP No.006 (Verified method based on CIPAC Vol. M, 2009 Method No.240 Page No.26-39) HPLC Technique
	Quantitative testing of Cymoxanil (Active Ingredient)	SOP No.008 (Verified method based on CIPAC Vol. J, 2008 Method No.419 Page No.22-28) HPLC Technique
	Quantitative testing of Sulphur (Active Ingredient)	SOP No.021 (Verified method based on CIPAC Vol. E, 1993 Method No.18, Gravimetric Technique. Page No.202-210)
	Quantitative testing of Metolachlor (Active Ingredient)	SOP No.016 (Validated method based on NLA South Africa, HPLC Technique.
	Quantitative testing of Glyphosate (Active Ingredient)	SOP No.011 (Verified method based on CIPAC Vol. H, 2008 Method No.284, Page No.182-184) HPLC Technique
	Quantitative testing of Myclobutanil (Active Ingredient)	SOP No.018 (Validated method Based on Dow Agro Sciences ) GC Technique
	Quantitative testing of Metalaxyl (Active Ingredient)	SOP No.024 (Verified method based on CIPAC Vol. H, 2008 Method No.284, Page No.261-268) GC Technique
	Quantitative testing of Tebuconazole (Active Ingredient)	SOP No.022 (Verified method based on CIPAC Vol. H, 2008 Method No.494, Page No.261-268) GC Technique
	Quantitative testing of Thiophenate methyl (Active Ingredient)	SOP No.023 (Verified method based on CIPAC Vol. D, 2008 Method No.262, Page No.162-168) HPLC Technique

04-03-2021

Date

xxdxx

Director



**ACCREDITATION DOCUMENT**

**F-06/02**  
**Issue Date: 18/08/20**  
**Rev. No: 09**  
**LAB 141**

<p>Fertilizer formulated/ Technical (Nitrogen, Direct Available Phosphorus, Soluble Potassium, Humic acid)</p>	<p>Chemical Testing of Fertilizer</p>	<p>Quantitative testing of Total Nitrogen (Active Ingredient)</p>	<p>SOP No.027            Verified Method based on Tandon HLS (Ed.) 2009. Methods of Analysis of Soils, Plants, waters, Fertilizer and Organic Manures Fertilizer Development and Consultation Organization, New Delhi Page No. 158 Kjeldhal Apparatus Technique</p>
		<p>Quantitative testing of Uric Nitrogen (Active Ingredient)</p>	
		<p>Quantitative testing of Ammonical Nitrogen (Active Ingredient)</p>	<p>SOP No.028            Verified Method based on Tandon HLS (Ed.) 2009. Methods of Analysis of Soils, Plants, waters, Fertilizer and Organic Manures Fertilizer Development and Consultation Organization, New Delhi Page No. 158 Kjeldhal Apparatus Technique</p>
		<p>Quantitative testing of Nitrate Nitrogen (Active Ingredient)</p>	<p>SOP No.029            Verified Method based on Tandon HLS (Ed.) 2009. Methods of Analysis of Soils, Plants, waters, Fertilizer and Organic Manures Fertilizer Development and Consultation Organization, New Delhi Page No. 161 Kjeldhal Apparatus Technique</p>
		<p>Quantitative testing of Direct Available Phosphorus (P2O5)(Active Ingredient)</p>	<p>SOP No.030            Verified Method based on AOAC 970.01 OMA .15 Addition Plant Analysis Hand Book,USA Kjeldahl Apparatus Technique</p>

04-03-2021

Date

xxdxx

Director



# ACCREDITATION DOCUMENT

**F-06/02**  
**Issue Date: 18/08/20**  
**Rev. No: 09**  
**LAB 141**

		Quantitative testing of Citrate soluble Phosphorus (Active Ingredient)	SOP No.031 PS :-5295/2017(2 <sup>nd</sup> Rev.) Chemical Division P-8/12 SDC/PSQCA
		Quantitative testing of Soluble Potassium (Active Ingredient)	SOP No. 32 United state salinity laboratory staff agriculture Handbook No. 60 issued February 1954 USDA Saline and alkali Soils Flame photometer Technique
		Quantitative testing of Humic acid (Active Ingredient)	SOP No. 33 A.K Fataftah .PhD Thesis,Northeastern University,Boston,1997.

04-03-2021

Date

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Director