

	<b>ACCREDITATION DOCUMENT</b>	<b>F-06/02</b> <b>Issue Date: 18/08/2020</b> <b>Rev. No: 09</b> <b>LAB 170</b>
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## **Accreditation No: LAB 170**

**Awarded to**

**Warble Quality Control Laboratory,  
Plot No. 38 -A, Phase I, Industrial Estate,  
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 **25-02-2019** 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 **24-02-2025**.

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**

05-04-2022  
Date

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Director General

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## Testing Laboratory.

Accreditation Scope of **Warble Quality Control Laboratory, 38 -A, Industrial Estate, 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
Lufenuron, Pyriproxyfen, Chlorpyrifos	Physical Testing	Emulsion (Finished/Formulated Product)	<b>WARBLE/QCL/SOP/02</b> Based on reference: MT 36, CIPAC Volume F, 2007, page # 108 – 114
Lufenuron , Pyriproxyfen, Chlorpyrifos, Imidacloprid, Diafenthiuron, Paraquat , Acetamiprid, Fipronil, Clothianidin, Nitrogen fertilizer liquid, Phosphate fertilizer liquid, Potassium fertilizer liquid, Zinc fertilizer liquid, Boron fertilizer liquid, Humic acid liquid, Paclobutrazole liquid, Naphthyl Acetic Acid liquid		Density (Finished/Formulated Product)	<b>WARBLE/QCL/SOP/01</b> Based on reference: MT 3, CIPAC Volume F, 2007, Pyknometer Method/ Hydrometer Method Page # 11 – 15
Clodinafop Propargyle, Nitrogen fertilizer liquid, Phosphate fertilizer liquid, Potassium fertilizer liquid, Zinc fertilizer liquid, Boron fertilizer liquid, Humic acid liquid.		pH	<b>WARBLE/QCL/SOP/29</b> Based on reference: MT 75- Determination of pH values, CIPAC Volume F, 2007. pH meter & glass electrode
<b>Humic acid</b> Formulations & Technical	Physical testing	Quantitative determination of active ingredient Humic Acid	<b>WARBLE/QCL/SOP/14</b> Based on reference: Gravimetric method of humic acid analysis. ISO 19822:2018 Gravimetric method

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<b>Organic matter</b> Formulations	Physical testing	Quantitative determination of active ingredient Organic Matter in Compost	<b>WARBLE/QCL/SOP/12</b> Based on reference: Official Methods of Analysis of AOAC International, 21 <sup>st</sup> Edition, 2019, Volume I, Current Through Revision, 2019, Method No. 2.7.08 (AOAC Official Method 967.05), Fertilizers Chapter 2, Subchapter 6 Page 72 (Oven & Furnace)
<b>Pyriproxyfen</b> Formulations & Technical	Chemical testing	Quantitative determination of Pyriproxyfen (active ingredient)	<b>WARBLE/QCL/SOP/04</b> Based on reference: 715/EC/M, CIPAC Volume M, 2009. HPLC
<b>Lufenuron</b> Formulations & Technical		Quantitative determination of Lufenuron (active ingredient)	<b>WARBLE/QCL/SOP/03</b> Inhouse validation Based on reference: 704/EC/M, CIPAC Volume M 2009. HPLC
<b>Imidacloprid</b> Formulations & Technical		Quantitative determination of Imidacloprid (active ingredient)	<b>WARBLE/QCL/SOP/17</b> Based on reference: 582/TC/M/ CIPAC Volume -H, 2008. HPLC
<b>Diafenthiuron</b> Formulations & Technical		Quantitative determination of Diafenthiuron (active ingredient)	<b>WARBLE/QCL/SOP/18</b> Inhouse validation Based on Syngenta reference, HPLC
<b>Cartap Hydrochloride</b> Formulations & Technical		Quantitative determination of Cartap Hydrochloride (active ingredient)	<b>WARBLE/QCL/SOP/19</b> Based on reference: 387/TC/M/ CIPAC Volume -D, 1988. Spectrophotometer
<b>Carbofuran</b> Formulations & Technical		Quantitative determination of Carbofuran (active ingredient)	<b>WARBLE/QCL/SOP/20</b> Based on reference: 276/TC/M/ Volume -D, CIPAC 1988. HPLC
<b>Paraquat</b> Formulations & Technical		Quantitative determination of Paraquat (active ingredient)	<b>WARBLE/QCL/SOP/21</b> Based on reference: 56/SL/M/ CIPAC Volume -E, 1993. Spectrophotometer

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<b>Acetamiprid</b> Formulations & Technical		Quantitative determination of Acetamiprid (active ingredient)	<b>WARBLE/QCL/SOP/22</b> Based on reference: 649/TC/M/ CIPAC Volume -L, 2006. HPLC
<b>Fipronil</b> Formulations & Technical		Quantitative determination of Fipronil (active ingredient)	<b>WARBLE/QCL/SOP/23</b> Based on reference: 581/TC/M/ CIPAC Volume -J, 2000. HPLC
<b>Clothianidin</b> Formulations & Technical		Quantitative determination of Clothianidin (active ingredient)	<b>WARBLE/QCL/SOP/24</b> Based on reference: 738/TC/M/ CIPAC Volume -N, 2012. HPLC
<b>Clodinafop Propargyl</b> Formulations & Technical		Quantitative determination of Clodinafop Propargyl (active ingredient)	<b>WARBLE/QCL/SOP/25</b> Based on reference: 683.225/TC/M/ CIPAC Volume -M, 2009. HPLC
<b>Chlorpyrifos</b> Formulations & Technical		Quantitative determination of Chlorpyrifos (active ingredient)	<b>WARBLE/QCL/SOP/26</b> Based on reference: 221.B/TC/M/ CIPAC Volume -1C, 1983. HPLC
<b>Bensulfuron-Methyle</b> Formulations & Technical		Quantitative determination of Bensulfuron- Methyle (active ingredient)	<b>WARBLE/QCL/SOP/27</b> Based on reference: 502/TC/M/ CIPAC Volume -K, 2003. HPLC
<b>Rimsulfuron</b> Formulations & Technical		Quantitative determination of Rimsulfuron (active ingredient)	<b>WARBLE/QCL/SOP/28</b> Based on reference: 716/TC/M/ CIPAC Volume -M, 2009. HPLC
<b>Nitrogen fertilizers</b> Formulations & Technical	Chemical testing	Quantitative determination of active ingredient <b>Ammonical Nitrogen</b>	<b>WARBLE/QCL/SOP/07</b> Based on reference: Official Methods of Analysis of AOAC International, 21 <sup>st</sup> Edition, 2019, Volume I, Current through Revision, 2019. Method No. 2.4.05 (AOAC Official Method 978.02), Fertilizers Chapter 2
		Quantitative determination of active ingredient <b>Nitrate Nitrogen</b>	

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		Quantitative determination of active ingredient <b>Total Nitrogen</b>	Page 14-15 (Kjeldhal,s distillation apparatus)
		Quantitative determination of active ingredient <b>Uric Nitrogen</b>	
<b>Phosphate fertilizer</b> Formulations & Technical	Chemical testing	Quantitative determination of active ingredient Citrate soluble & Total Phosphorous (P <sub>2</sub> O <sub>5</sub> )	<b>WARBLE/QCL/SOP/06</b> Based on reference: Pakistan standard for Single Super Phosphate (2nd edition) PS: 67-1996. PSQA. Karachi Titrimetric Method
<b>Potassium fertilizer</b> Formulations & Technical		Quantitative determination of active ingredient Water Soluble Potassium (K <sub>2</sub> O)	<b>WARBLE/QCL/SOP/09</b> Based on reference: Richards. L.A. 1954 Diagnosis & Improvement of Saline & Alkali Soils. USDA, Agric, Hand Book 60, Washington, D.C. (Flame Photometry)
<b>Fertilizer</b> (Zinc,Copper, Iron & Manganese) Formulations & Technical		Quantitative determination of active ingredient (Water Soluble Zinc,Copper, Iron & Manganese)	<b>WARBLE/QCL/SOP/05</b> Based on reference: Official Methods of Analysis of AOAC International, 21 <sup>st</sup> Edition, 2019, Volume I, Current Through Revision, 2019. Method No. 2.6.01 (AOAC Official Method 965.09), Fertilizers Chapter 2, Subchapter 6, Page 29-30 (Atomic Absorption Spectrophotometry)
<b>Fertilizer</b> (Zinc,Copper, Iron & Manganese) Formulations & Technical		Quantitative determination of active ingredient (Acid Soluble Zinc,Copper, Iron & Manganese)	<b>WARBLE/QCL/SOP/10</b> Based on reference: Official Methods of Analysis of AOAC International, 21 <sup>st</sup> Edition, 2019, Volume I, Current Through Revision, 2019. Method No. 2.6.01 (AOAC Official Method 965.09), Fertilizers Chapter 2, Subchapter 6, Page 29-30 (Atomic Absorption Spectrophotometry)

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<p><b>Boron fertilizer</b> Formulations &amp; Technical</p>		<p>Quantitative determination of active ingredient Water Soluble Boron</p>	<p><b>WARBLE/QCL/SOP/08</b> Based on reference: Official Methods of Analysis of AOAC International, 21<sup>st</sup> Edition, 2019, Volume I, Current Through Revision, 2019. Method No. 2.6.04 (AOAC Official Method 982.01), Fertilizers Chapter 2, Subchapter 6, Page 31-32 (Spectrophotometry)</p>
<p><b>Chelated zinc</b> Formulations</p>		<p>Quantitative determination of active ingredient Chelated Zinc</p>	<p><b>WARBLE/QCL/SOP/11</b> Based on reference: Vogel`s Text Book Of Quantitative Chemical Analysis, 6<sup>th</sup> Edition, J Mendham, R C Denney, J D Barnes, M J K Thomas (Atomic Absorption Spectrophotometry)</p>
<p><b>Cation Exchange Capacity (ECE)</b> 5-80 meq/100 gm</p>		<p>Quantitative determination of active ingredient Cation Exchange Capacity</p>	<p><b>WARBLE/QCL/SOP/13</b> Based on reference: Official Methods of Analysis of AOAC International, 21<sup>st</sup> Edition, 2019, Volume I, Current Through Revision, 2019, Method No. 2.7.13 (AOAC Official Method 973.09), Fertilizers Chapter 2, Page 74</p>
<p><b>Paclobutrazole liquid</b> Formulations &amp; Technical</p>		<p>Quantitative determination of active ingredient Paclobutrazole</p>	<p><b>WARBLE/QCL/SOP/15</b> Based on reference: Inhouse validation (HPLC)</p>
<p><b>Naphthyl Acetic Acid</b> Formulations &amp; Technical</p>		<p>Quantitative determination of active ingredient Naphthyl Acetic Acid</p>	<p><b>WARBLE/QCL/SOP/16</b> Based on reference: Evaluation of two plant growth regulators as chemical pruning agents for Kiwi fruits vines in summer, New Zealand Journal of Experimental Agriculture, 19886, Vol. 14: 199-203 (HPLC)</p>

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<b>Metolachlor</b> Formulations & Technical	Physiochemical Testing	<b>1) Emulsion</b> (Finished/Formulated Product) <b>2) Density</b> (Finished/Formulated Product)  <b>3) Quantitative determination of active ingredient</b>	<b>WARBLE/QCL/SOP/30</b> Inhouse validation Based on NLA (PT Provider) analysis method, HPLC
<b>Lambda-cyhalothrin</b> Formulations & Technical			<b>WARBLE/QCL/SOP/31</b> Based on Inhouse validation, (HPLC)
<b>Emmamectin Benzoate</b> Formulations & Technical			<b>WARBLE/QCL/SOP/32</b> Inhouse validation Based on Syngenta reference analysis method, (HPLC)
<b>Bifenthrin</b> Formulations & Technical			<b>WARBLE/QCL/SOP/33</b> Inhouse validation Based on NLA (PT Provider) analysis method, (HPLC)
<b>Abamectin</b> Formulations & Technical			<b>WARBLE/QCL/SOP/34</b> Based on Inhouse validation (HPLC)

<b>Mesotrione</b> Formulation & Technical	Physiochemical Testing	<b>Quantitative determination of active ingredient</b>	<b>WARBLE/QCL/SOP/35</b> Inhouse Validation based on NLA Method (HPLC)
<b>Azoxystrobin</b> Formulation & Technical		<b>Quantitative determination of active ingredient</b>	<b>WARBLE/QCL/SOP/36</b> Inhouse Validation based on NLA Method (HPLC)
<b>Difenoconazole</b> Formulation & Technical		<b>Quantitative determination of active ingredient</b>	<b>WARBLE/QCL/SOP/37</b> Inhouse Validation based on NLA Method (HPLC)

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