

DHARTI KA DOCTOR

Soil Testing Machine



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ABOUT BHARUWA AGRISCIENCE

Bharuwa Agriscience is committed to nurturing the growth of a robust and prosperous nation characterized by content, well-informed farmers, and enriched, fertile soil. Leveraging the wealth of digitally accessible data, we meticulously analyze the Socio-Economic Landscape of Farmers. This multifaceted information is consolidated into a single, concise Data Warehouse, readily accessible to meet the diverse needs of various Governmental Departments. This accessibility forms the cornerstone for the effective implementation of farmer welfare and subsidy initiatives.

At the heart of our endeavors, Bharuwa Agriscience has conceived and developed three groundbreaking mobile applications: “Harit Kranti,” “Annadata,” and “DKD Lab,” all meticulously designed to empower farmers. The “Harit Kranti” mobile app offers agronomic services, equipping farmers with invaluable insights. It works harmoniously with the “Annadata” app, establishing a platform for the online trading of agricultural produce, facilitated through fixed pricing or dynamic bidding. This symbiotic approach creates a transparent and seamless avenue for farmers and the trading community to engage in the sale and procurement of farm products.

In alignment with our unwavering commitment, Bharuwa Agriscience is dedicated to addressing challenges associated with the excessive use of fertilizers and pesticides, declining soil health, and substandard seed/planting materials. This is where the “DKD Lab” mobile app takes center stage, elevating the quality of farming practices and agronomy through advisory services. Serving as the conduit, the “Annadata” mobile app tackles issues of market access and equitable pricing for farm produce, ultimately resulting in heightened revenues, improved farmer welfare, and an elevated quality of life.

Upon accessing the “Harit Kranti” mobile app, farmers are greeted with an abundance of information, encompassing geo-fenced and geo-tagged farm details, current weather data, soil profiles, nutrient levels (Soil pH, Organic Carbon, Nitrogen, Phosphorus, Potassium, and micronutrients), soil moisture content, pest surveillance data, projected days to maturity, and yield estimates –

all presented through visually engaging graphics. This comprehensive dataset is derived from satellite imagery and processed to offer tailored agronomic advice. Weather forecasts empower farmers to adeptly plan their farming activities. Drawing from soil nutrient profiles, pest surveillance data, and specific farming methods, the app delivers guidance for optimizing soil fertility through appropriate nutrient applications.

The innovative “Dharti Ka Doctor (DKD) soil testing kit”, the “DKD Soil Testing Machine” emerge as holistic and cost-effective solutions for farmers. The “DKD Lab Application” further elevates user experience, enabling households to assess their soil status effortlessly. The app streamlines the process of data collection, sample identification, and findings dissemination – all underscored by transparency.

Within the “DKD Lab Application,” farmers can effortlessly store and retrieve crucial information about their farming endeavors, encompassing soil samples and reports. A standout feature is the integration of a fertilizer calculator within the soil test report. This empowers farmers to make well-informed decisions about fertilizer application, considering factors like organic, inorganic, or hybrid farming approaches.

Integration with the “Annadata” app provides real-time access to mandi rates and a wide pool of potential buyers. Farmers can opt for fixed pricing or engage in bidding, a mechanism that promotes optimal returns and transaction flexibility. The “Annadata” mobile app accommodates diverse payment methods, including cards, internet banking, and offline payments. The imminent integration of wallet functionality will further enhance user convenience. Our all-encompassing approach, ranging from holistic management to personalized farmer assistance, generates significant employment opportunities.

PATENTS

 
Government of India

Application Number
201911012091



Remark
Rapid Soil Testing Kit

 
Government of India

Application Number
202211043761



Remark
Automated Soil Testing Machine

 
Government of India

Application Number
201911012148



Remark
Soil Testing System (DKD)

 
Government of India

Application Number
202311044793



Remark
Soil Testing and Pesticide Residue Mapping

TECHICAL ACCREDITATION



MANUFACTURING TECHNOLOGY



ORGANIC CARBON TESTING TECHNOLOGY



BIO-DECOMPOSER MANUFACTURING TECHNOLOGY



BIO PESTICIDE MANUFACTURING TECHNOLOGY



FOR CERTIFIED AGRO INPUTS



ISO CERTIFIED COMPANY



FOR TRAINING OF FARMERS



DSIR REGISTRIES OF R&D FACILITY



CIB REGISTRATION FOR BIO PESTICIDES



REGISTRATION WITH STARTUP INDIA



FOR MACHINE VALIDATION

Certificate of Registration

This is to Certify that
Quality Management System of

BHARUWA AGRI SCIENCE PRIVATE LIMITED

GROUND FLOOR, 7 DIVYA YOG MANDIR, DADUBAGH, KANKHAL,
HARIDWAR - 249408, UTTRAKHAND, INDIA.

has been assessed and found to conform to the requirements of

ISO 9001:2015

for the following scope :

MANUFACTURE OF SOIL TESTING KIT, AND SUPPLY OF BIO PESTICIDES, BIO
FERTILIZERS, SEEDS AND AGRICULTURAL PRODUCTS, RESEARCH &
DEVELOPMENT IN VARIOUS AGRICULTURAL ACTIVITIES INCLUDING TISSUE
CULTURE, DEVELOPER OF DEVICES, MOBILE APPS, SOFTWARE AND VARIOUS
APPARATUS FOR CONDUCTING THE TESTING OF SOIL, FERTILIZERS AND
ALLIED IT SOLUTIONS.

| | | | |
|---------------------------|--------------|----------------|--------------|
| Certificate No | : 23EQMF15 | | |
| Initial Registration Date | : 20/06/2023 | Issuance Date | : 20/06/2023 |
| Date of Expiry | : 19/06/2026 | | |
| 1st Surve. Due | : 20/05/2024 | 2nd Surve. Due | : 20/05/2025 |



Dewi...
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DHARTI KA DOCTOR SOIL TESTING MACHINE

The Dharti Ka Doctor (DKD) is a groundbreaking soil testing machine that has revolutionized farming practices in India. It provides invaluable support to farmers by offering comprehensive soil analysis, enabling them to make informed decisions and enhance their agricultural productivity.

- ✿ One of the key advantages of the DKD machine is its ability to quickly and affordably evaluate soil quality. Farmers can easily assess the health of their soil by utilizing this innovative tool, thereby reducing production costs and optimizing their field productivity.
- ✿ The development of the DKD machine is the result of years of dedicated research and development by Patanjali scientists. Its design prioritizes reliability, precision, and ease of use, making it a dependable instrument for soil testing. With the DKD machine, farmers can conduct multiple tests to thoroughly analyze their soil and gain a comprehensive understanding of its health and fertility.
- ✿ The DKD machine has become an essential tool for farmers who prioritize the health and productivity of their soil. By utilizing this advanced technology, they can optimize their agricultural practices, minimize environmental impact, and make informed decisions regarding soil management. The DKD machine represents a significant step forward in supporting sustainable and efficient farming in India, contributing to the well-being of farmers and the overall agricultural industry.

KEY FEATURES OF DKD MACHINE

- | Automated process
- | Geo-spatial technology for soil sampling
- | Time efficient
- | Highly accurate and cost-effective.
- | Minimal manpower engagements



SOIL TESTING

SALIENT FEATURES

1. **COMPREHENSIVE SOIL ANALYSIS**

The DKD Machine evaluates 12 essential parameters of soil, providing a thorough analysis of its composition and quality.

2. **SEAMLESS GEO-TAGGING**

Effortlessly link soil samples to specific geographic locations by integrating ground geo codes, enhancing sample traceability and location-specific analysis.

3. **MOBILE APP INTEGRATION**

The DKD machine seamlessly connects with a mobile application, enabling farmers to receive test results directly on their smartphones.

4. **USER-FRIENDLY INTERFACE**

The machine features an intuitive and user-friendly interface, making it accessible to farmers with varying levels of technical expertise.

5. **PERSONALIZED RECOMMENDATIONS AND FERTILIZER CALCULATOR**

The DKD Machine, in conjunction with the mobile app, offers customized recommendations and utilizes a fertilizer calculator based on the soil analysis results. These tailored suggestions empower farmers to optimize their agricultural practices, enhance crop yields, and make informed decisions regarding fertilizer usage.

6. **SOIL HEALTH MONITORING**

The DKD machine allows farmers to regularly monitor the health of their soil, monitoring any changes or deficiencies that may impact crop growth. This proactive approach helps prevent potential issues and enables timely interventions

7. RELIABLE AND ACCURATE RESULTS

Equipped with advanced sensors and detectors, the DKD machine ensures precise and reliable soil analysis, minimizing the risk of errors and providing accurate data for decision-making.

8. TIME-EFFICIENT ANALYSIS

Soil analysis is completed swiftly, with an average turnaround time of just 40 minutes, saving valuable time for farmers.

9. HIGH ACCURACY RESULTS

Analysis results boast an impressive accuracy rate of 95-96%, providing reliable data for informed decisions on soil management practices.

10. COST-EFFECTIVE SOLUTION

The soil analysis process is economical, offering low operating costs compared to traditional laboratory-based methods, making it accessible to a wide range of farmers.

11. MINIMAL MANPOWER INVOLVEMENT

The process requires minimal human intervention, reducing the need for extensive supporting staff and streamlining the analysis workflow, saving time and resources.

12. AUTOMATED RESULT GENERATION

Analysis results are automatically generated, ensuring efficiency and eliminating the potential for human error, delivering accurate and actionable information in a timely manner.

13. ENHANCED PRODUCTIVITY

The speedy analysis process allows farmers to save valuable time, enabling them to focus on other critical aspects of their farming operations.

14. EFFICIENT RESOURCE ALLOCATION

Timely analysis results assist in optimizing the allocation of resources, such as fertilizers and pesticides, leading to improved productivity and cost-effectiveness.

BENEFITS OF DKD MACHINE

Soil testing machines are essential tools for evaluating the quality and composition of soil. Here are some benefits of using a soil testing machine:

Accurate and Reliable Detection

The DKD machine plays a crucial role in soil testing analysis. Equipped with advanced sensors and detectors, it accurately measures soil nutrients. This capability provides farmers with reliable information about nutrient levels, enabling them to make informed decisions and take appropriate actions to address any deficiencies or imbalances in the soil, thereby enhancing their agricultural practices and improving crop yield.

Cost-Effective Solution

The DKD machine offers a cost-effective approach to soil testing. By automating and streamlining the testing process, it reduces the reliance on extensive laboratory testing, which can be both expensive and time-consuming. This cost-effectiveness not only saves farmers money but also ensures compliance with safety standards without compromising accuracy. The efficient and economical nature of the DKD machine empowers farmers to conduct frequent and precise soil analyses, allowing them to make timely adjustments to their farming practices for improved crop yield and soil health.

Timely Action and Decision-making

With real-time monitoring capabilities, the DKD machine empowers farmers to monitor changes in pesticide residue levels promptly. This timely information allows them to take necessary actions, such as adjusting pesticide application rates, implementing targeted pest management strategies, or considering crop rotation. By facilitating informed decision-making, the DKD machine enhances agricultural practices and contributes to crop health and yield.

Sustainable Farming Practices

The DKD machine plays a crucial role in promoting sustainable farming practices by minimizing the use of fertilizers and providing valuable insights for optimizing their application. Through accurate soil analysis, farmers can reduce unnecessary fertilizer usage, thereby minimizing environmental impact. The DKD machine empowers farmers to adopt sustainable management strategies, fostering a more environmentally conscious approach to agriculture. By reducing the overuse of fertilizers based on precise soil information, farmers can not only improve their crop yield but also contribute significantly to environmental conservation by minimizing chemical runoff and its adverse effects on ecosystems. This technology encourages a balanced and eco-friendly approach to agricultural practices.

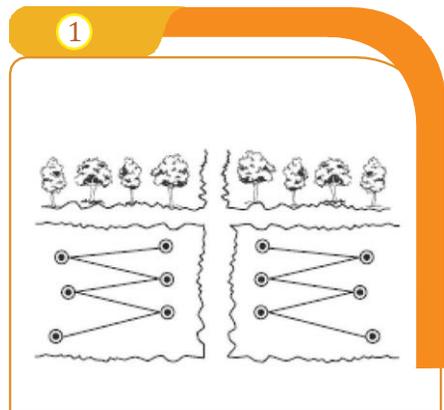
Enhanced Regulatory Compliance

The DKD machine greatly assists farmers in adhering to regulatory standards by providing accurate and high-quality data on soil testing. This ensures that farmers can meet enhanced regulatory compliance by having precise and reliable information on soil quality. With the DKD machine, farmers can confidently adhere to the required standards, contributing to a safer and more sustainable agricultural practice. This accurate and dependable technology supports farmers in meeting and exceeding regulatory expectations, thereby fostering a more responsible and compliant approach to soil management and agricultural practices.

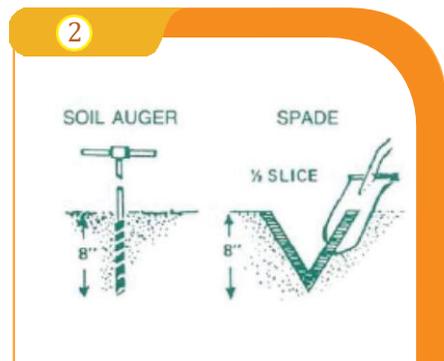
SCIENTIFIC METHOD OF SOIL SAMPLING

For taking soil sample clean the grass and weeding form the soil surface.

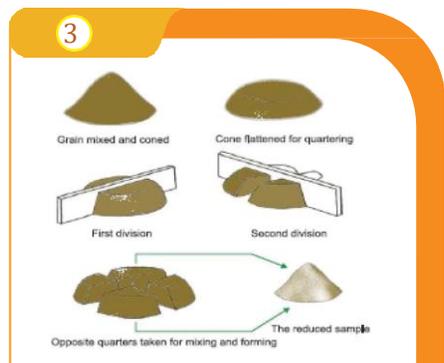
Take sample from whole field as show in the diag 1, idea is to represent whole field.



Make V shape and take soil from base 15-20 cm deep as shown in diag 2.



Make 4 parts of soil and take only 2 parts diagonally as shown in diag 3.



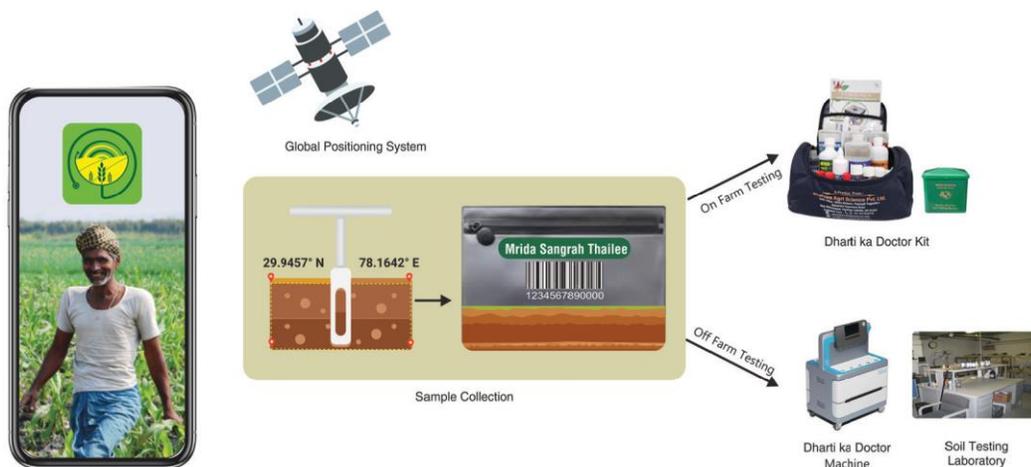
SOIL SAMPLING THROUGH GEO-SPATIAL TECHNOLOGY

1

The soil sample will be collected in a barcoded pouch named “Mrida Sangrah Thalee” and a patent for the same has been filed with the Patent number 202111056212.

2

To save time, money, and accuracy, online data from the field will be sent to the laboratory for analysis, and a report with recommendations will be delivered to the farmers. Further, farmers can choose on farm testing using DKD as well as off-farm in soil testing labs.



SETUP CONNECTION TO DKD INTERFACE

Connect the DKD machine to the mobile device/ tablet computer using the provided cable.

Open the **DKD app** on the device.

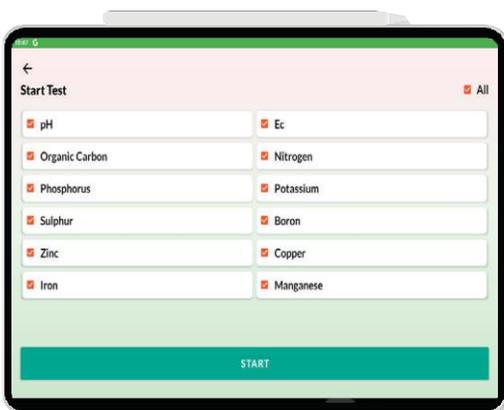
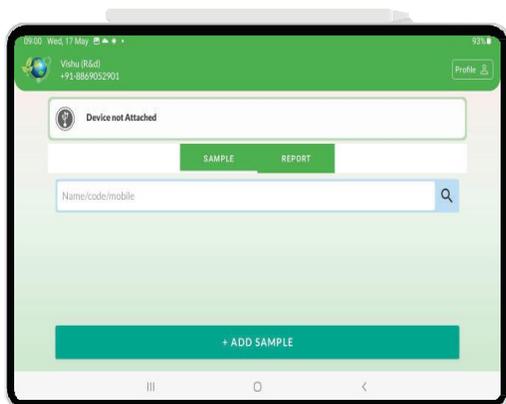
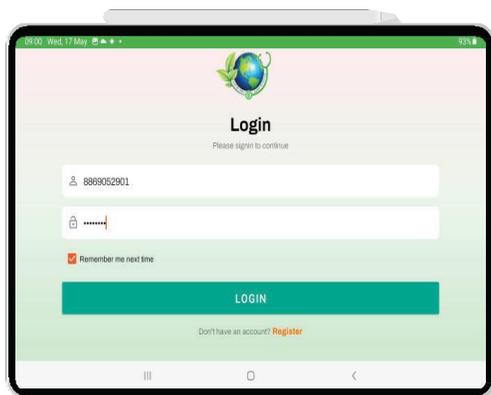
Register and create an account if necessary.

Click on **“Add Sample”** and provide the relevant sample details.

Once the sample details are entered, a start test menu will appear.

Select the specific parameter you want to analyze from the available options.

Click on **“START”** to initiate the analysis for the selected parameter.



SOIL TESTING PROCEDURES FOR VARIOUS ELEMENTS OF SOIL

ORGANIC CARBON

Take 1 g soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Organic Carbon-A** button displayed on the screen and wait until the reagent is added.

Press the **Organic Carbon-B** button displayed on the screen and wait until the reagent is added.

Shake the solution for 5 minutes and leave it for 20 minutes.

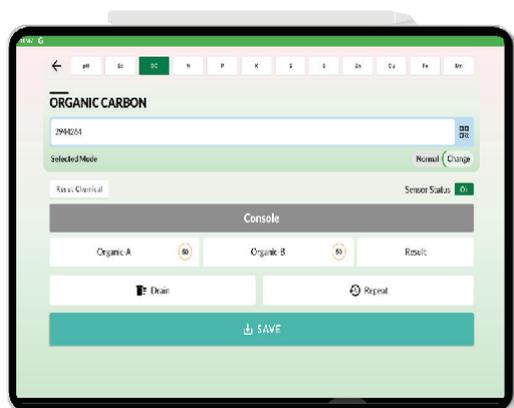
Filter the solution into the new bottle by using the funnel and filter paper.

Put the filtrate at given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.



AVAILABLE NITROGEN

Take 4 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Nitro-1** button displayed on the screen and wait until the reagent is added.

Shake the solution for 15 minutes with the help of a shaker.

Filter the solution into the new bottle by using a funnel and filter paper.

Take 2 ml of the filtrate in the centrifuge.

Press the **Nitro-2** button displayed on the screen and wait until the reagent is added.

Add 5 drops of the **Nitro-3** to the centrifuge tube

Press the **Nitro-4** button displayed on the screen and wait until the reagent is added.

Press the **Distilled Water** button displayed on the screen and wait until the reagent is added.

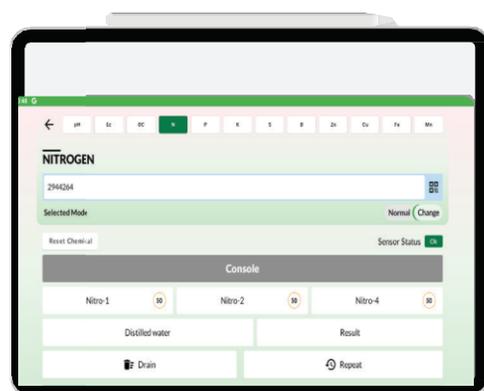
Shake the solution for 1 minute and leave it for 30 minutes.

Put the filtrate in the given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.



AVAILABLE PHOSPHORUS

Take 1 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Phos-1** button displayed on the screen and wait until the reagent is added.

Add 1 microspoon of the **Phos-2** to the bottle.

Shake the solution for 30 minutes by using the shaker.

Filter the solution into the new bottle by using a funnel and filter paper.

Take 2 ml of the filtrate in the centrifuge tube.

Press the **Phos-3** button and wait until the reagent is added.

Shake the centrifuge tube 10-15 times.

Repeat the same process for the **Phos-4**, **Phos-5**, and **Distilled Water** buttons.

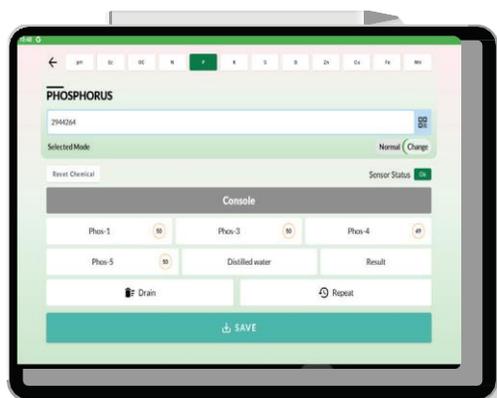
Shake the solution for 1 minute and leave the solution for 20 minutes.

Put the solution in given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.



AVAILABLE POTASSIUM

Take 1 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Potash-1** button displayed on the screen and wait until the reagent is added.

Add 1 microspoon of **Potash-2** to the bottle.

Shake the solution for 30 minutes by using the shaker.

Filter the solution into the new bottle by using the funnel and filter paper.

Take 1 ml of the filtrate in the centrifuge tube.

Press the **Potash-3** button displayed on the screen and wait until the reagent is added.

Press the **Potash-4** button displayed on the screen and wait until the reagent is added.

Shake the centrifuge tube 3-4 times and let it stand for 3 minutes.

Add 0.25 ml or 5 drops of **Potash-5*** to the bottle.

Press the **Potash-6** button as displayed on the screen and wait until the reagent is added.

Press the **Distilled Water** button displayed on the screen and wait until the reagent is added.

Shake the solution for 1 minute and leave the solution for 20 minutes.

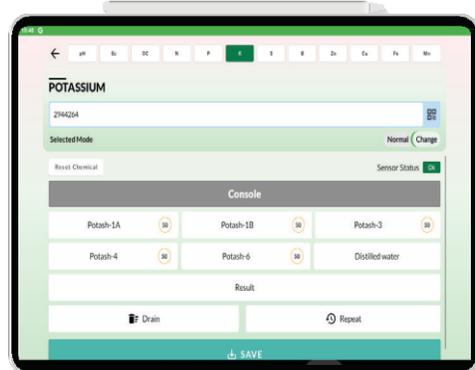
Put the solution in the given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.

Note: Potash-5* Reagent Preparation: Put 1 vial of **Potash-5** in the centrifuge tube, add 3 ml distilled water, and mix well. Filter the mixture into **Potash-5** bottle by using a funnel and filter paper (for 5 samples; use within 24 hours).



AVAILABLE SULPHUR

Take 3 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Sulphur-1** button displayed on the screen and wait until the reagent is added.

Shake the solution for 30 minutes by using the shaker.

Filter the solution into the new bottle by using a funnel and filter paper.

Take 6 ml of the filtrate in the centrifuge tube.

Add 0.30 g of the **Sulphur-2** to the centrifuge tube and shake for 1 minute.

Press the **Sulphur-3** button displayed on the screen and wait until the reagent is added.

Press the **Distilled Water** button displayed on the screen and wait until the reagent is added.

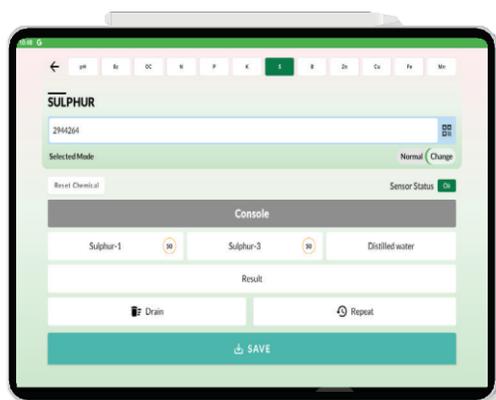
Shake the solution for 1 minute and leave the solution for 10 minutes.

Put the filtrate at given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** option.

Click the **DRAIN** button to discard the solution.



MANGANESE

Take 4 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Manganese-1** button displayed on the screen and wait until the reagent is added.

Shake the solution for 30 minutes by using the shaker.

Filter the solution into the new bottle by using the funnel and filter paper.

Take 10 ml of the filtrate in the centrifuge tube.

Press the **Manganese-2** button displayed on the screen and wait until the reagent is added.

Add 0.4 g of the **Manganese-3** to the solution.

Keep the solution in a boil water (100°C) for 15 minutes.

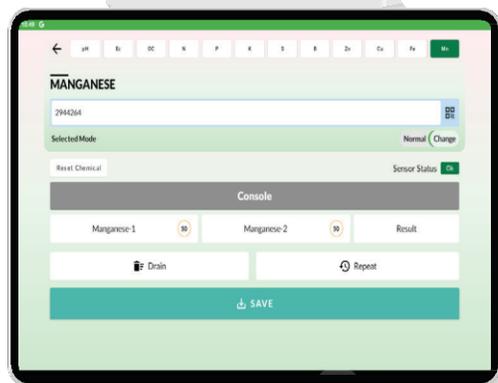
Let the centrifuge tube cool for 5 minutes.

Take 10 ml of solution from the centrifuge tube and pour it at the given place in the machine with the help of an injection.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.



BORON

Take 10 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Boron-1** button displayed on the screen and wait until the reagent is added.

Shake the bottle for 30 minutes by using the shaker.

Filter the solution into the new bottle by using the funnel and filter paper.

Take 6 ml of the filtrate in the centrifuge tube.

Press the **Boron-2** button displayed on the screen and wait until the reagent is added.

Add 2 ml of **Boron-3*** to the solution.

Shake the solution for 1 minute and leave the solution for 30 minutes.

Put the solution in the given place in the machine.

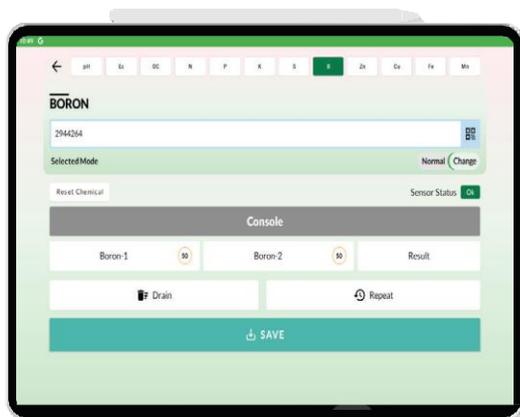
Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.

Note: Use only PVC or quartz bottles for boron testing.

Boron-3* reagent preparation: Dissolve 1 vial of **Boron-3** in 12 ml of distilled water (for 5 samples; use within 24 hours)



ZINC, IRON AND COPPER

Take 4 g of soil sample in a bottle by using a spatula.

Place the bottle under the dispenser.

Press the **Zinc, Iron & Copper** button displayed on the screen and wait until the reagent is added.

Shake the bottle for 30 minutes by using the shaker.

Filter the solution into the new bottle by using a funnel and filter paper.

This filter liquid can be utilized for analysis of zinc, iron, and copper.



ZINC

Take 2 ml of the filtrate in the centrifuge tube.

Place the centrifuge tube under the dispenser.

Press the **Zinc-1B** button on the screen and wait until the reagent is added.

Press the **Zinc-2** button displayed on the screen and wait until the reagent is added.

Add 1 ml of **Zinc-3*** to the bottle.

Add 2 ml of **Zinc-4*** to the bottle.

Shake the centrifuge tube for 1 minute and leave it for 15 minutes.

Put the solution in the given place in the machine.

Press the **RESULT** button and observe the displayed reading.

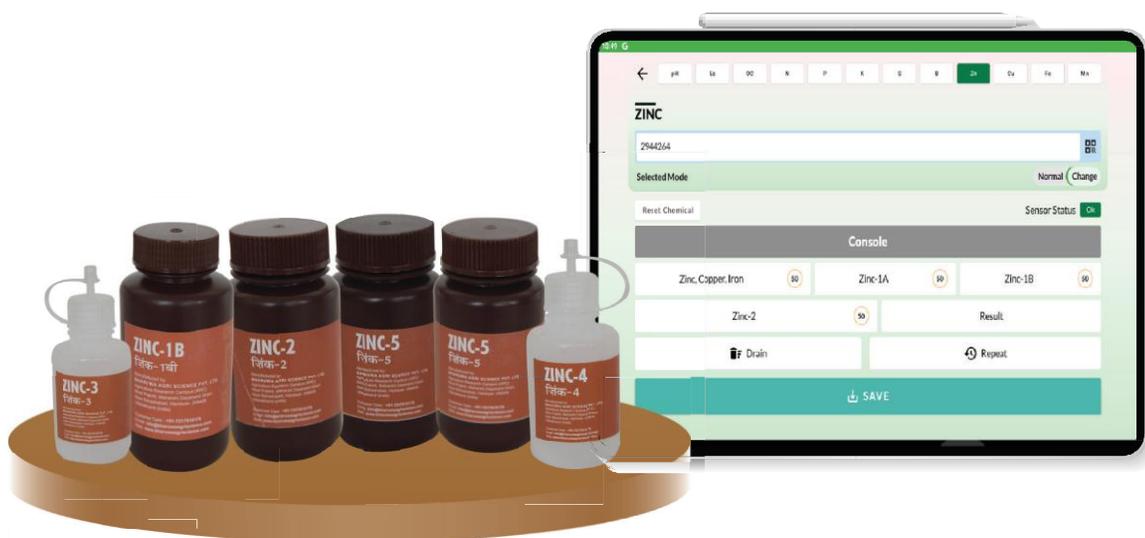
Save the results by clicking on the **SAVE** button.

To discard the solution, click on the **DRAIN** button.

Note: Preparation of:

Zinc-3* Reagent: Dissolve 1 vial of **Zinc-3** in 6 ml of distilled water (for 5 samples; use within 24 hours).

Zinc-4* Reagent: Dissolve 1 vial of **Zinc-4** in 12 ml of **Zinc-5** (for 5 samples; use within 24 hours).



IRON

Take 4 ml of the filtrate in the centrifuge tube.

Place the centrifuge tube under the dispenser.

Press the **Zinc, Iron & Copper-B** button displayed on the screen and wait until the reagent is added.

Press the **Iron-1** button displayed on the screen and wait until the reagent is added.

Press the **Iron-2** button displayed on the screen and wait until the reagent is added.

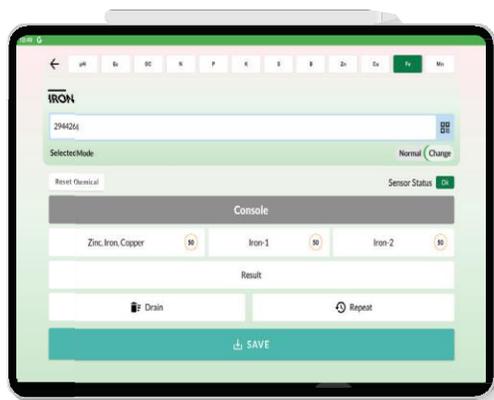
Shake the centrifuge tube for 1 minute and leave it for 15 minutes.

Put the solution at given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.



COPPER

Take 6 ml of the filtrate in the centrifuge tube.

Place the centrifuge bottle under the dispenser.

Press the **Copper-1** button displayed on the screen and wait until the reagent is added.

Press the **Copper-2** button displayed on the screen and wait until the reagent is added.

Shake the centrifuge tube for 1 minute and filter the solution.

Take 4 ml of the filtrate in the centrifuge tube.

Press the **Copper-2** button again as displayed on the screen and wait until the reagent is added.

Add 1.5 ml of **Copper-3*** to the centrifuge tube.

Shake the centrifuge tube for 1 minute and leave it for 15 minutes.

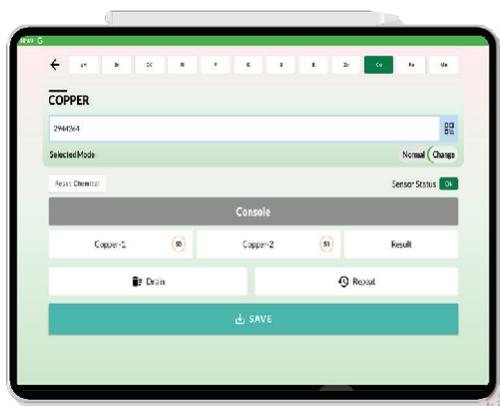
Put the solution at given place in the machine.

Press the **RESULT** button and observe the reading displayed on the screen.

Save the results by clicking on the **SAVE** button.

Click the **DRAIN** button to discard the solution.

Note: Copper-3* reagent preparation: Dissolve 1 vial of **Copper-3** in 10 ml of distilled water (for 5 samples; use within 24 hours).



SOIL pH

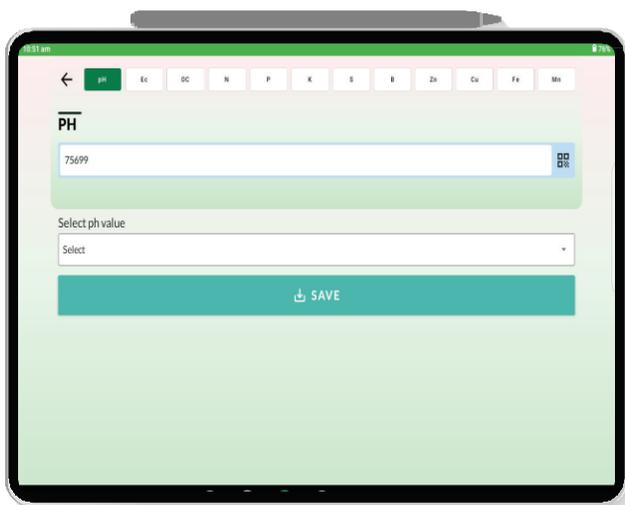
Take 20 g soil sample in the beaker with the help of the spatula.

Add 40 ml distilled water to the beaker.

Shake the beaker for 2 minutes and leave it for 30 minutes.

Remove the cap of the pH meter and start the meter.

Dip the pH electrode in the solution and take the reading.



SOIL ELECTRICAL CONDUCTIVITY

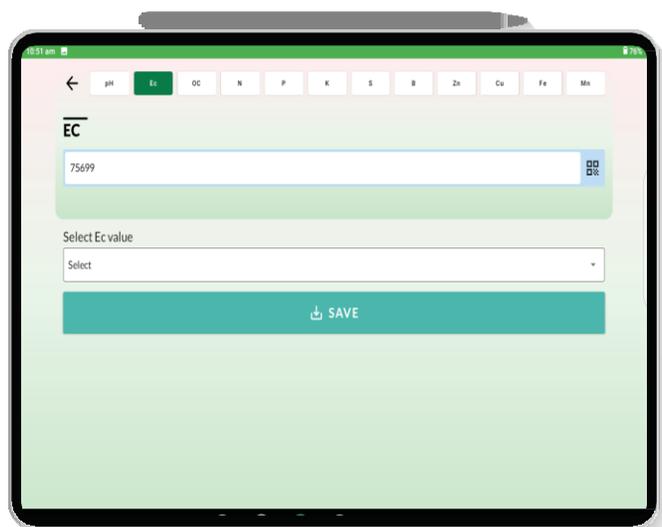
Take 20 g soil sample in the beaker with the help of the spatula.

Add 40 ml distilled water to the beaker.

Shake the beaker for 2 minute and leave it for 30 minutes.

Remove the cap of EC meter and start the meter.

Dip the EC electrode in the solution and take the reading.



ANNEXURE



URS PRODUCTS AND TESTING PRIVATE LIMITED

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 CIN NO U21014UP1987PTC008956

MACHINE VALIDATION TEST REPORT

| | | | |
|--------------------------------------|---|--------------------|------------|
| TEST REPORT NO: | URS/LAB/02/RID/23-24/2036 | DATE OF ISSUE: | 04/07/2023 |
| NAME OF LABORATORY: | URS PRODUCTS AND TESTING PRIVATE LIMITED | | |
| ADDRESS OF LABORATORY: | A-29, Sector-5, Noida-201301, India | | |
| TESTING LOCATION: | On-Site (7.GROUND FLOOR, DIVYA YOG MANDIR, DADUBAGH, KANKHAL, HARIDWAR, UTTARAKHAND, 249408) | | |
| CUSTOMER NAME: | BHARUWA AGRI SCIENCE PRIVATE LIMITED | | |
| CUSTOMER ADDRESS: | 7, GROUND FLOOR, DIVYA YOG MANDIR, DADUBAGH, KANKHAL, HARIDWAR, UTTARAKHAND, 249408 | | |
| TEST ITEM DESCRIPTION | | | |
| PRODUCT NAME: | 1. Dharti Ka Doctor Machine (Automated Soil Testing Machine). 2. Soil Testing System. | | |
| DATE OF RECEIPT | 17/04/2023 | SAMPLE CONDITION | Good |
| RECEIPT NUMBER | URS/LAB/PCBs/23-24/451 | NO. OF SAMPLE | 01 |
| TRADE MARK | Dharti Ka Doctor Machine | SERIAL/PART NUMBER | 0001 |
| MODEL | DKDA0001 | | |
| RATINGS/SPECIFICATION | 220Vac | | |
| NAME OF MANUFACTURER | BHARUWA AGRI SCIENCE PRIVATE LIMITED | | |
| ADDRESS OF MANUFACTURER | 7, GROUND FLOOR, DIVYA YOG MANDIR, DADUBAGH, KANKHAL, HARIDWAR, UTTARAKHAND, 249408 | | |
| TECHNICAL DATA | | | |
| STANDARD TEST METHOD / TEST PROTOCOL | Machine Validation and Onsite Testing As Per Customer Specification and Quality Validation Plan | | |
| START DATE OF TESTING | 17/04/2023 | DATE OF COMPLETION | 04/07/2023 |
| ENVIRONMENTAL CONDITIONS | Temperature: 15-35 °C & 45-75 % RH | | |
| CONCLUSION | | | |
| RESULT | The validation results refer to the comparison tables as per the requirement of the machine performance on the obtained observations in comparison chart values/results mentioned in this test report. | | |
| REMARK | <p>This is a qualitative validation approach which has been done on behalf machine manufacturer's Quality procedure SOP. A fresh or new validation approach may be processed by the machine manufacturer for new production batch/lot as per their own quality procedure recommendation time to time.</p> <p>The conclusion of this test reports are related to the particularly mention model number and serial number of the machine which related to the specific production batch/lot.</p> <p>This validation report is only provide the summery and analysis of the results observed from the different test reports and DKD machine.</p> <p>The Soil Parameters Scale of Low, Medium and High has been taken from the Methods Manual for "Soil Testing in India" issued by the Department of Agriculture & Cooperation Ministry of Agriculture Government of India & Operational Guidelines for implementation of CENTRALLY SPONSORED SCHEME SOIL HEALTH CARD</p> | | |

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Asst. General Manager

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Note:

1. This test report is valid only for the particular machine validated On-site.
2. The test report is not permitted to be duplicated/reproduced in part or in extract in any circumstances.
3. URS Lab is not responsible for authenticity of photocopied or reproduced test report.
4. The validation conclusion reported in this report are valid at the time of and under the stated conditions of measurements.
5. Any correction/retouse shall invalidate the test report.
6. This validation report pertains to the test(s) carried out as requested by the customer.
7. This validation report shall not be utilized for any legal purpose and shall not be produced in the court of law & no responsibility would be attached to URS Lab



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DATE OF ISSUE: 04/07/2023

CUSTOMER NAME: BHARUWA AGRI SCIENCE PRIVATE LIMITED.

CUSTOMER CITY: HARIDWAR

1. OBJECTIVE:

The objective of this interim report is to document the Dharti Ka Doctor Machine (Automated Soil Testing Machine) Testing results and process parameters obtained during the testing of 5 soil samples collected randomly from the farmers' fields in presence of the laboratory representative and evaluate the machine performance by comparing the results obtained by DKD machine to the results provided by the 5 other soil testing laboratories on the same 5 soil samples collected randomly from the farmers' fields.

2. VALIDATION STRATEGY:

The Dharti Ka Doctor Machine (Automated Soil Testing Machine) were validate under the control of *URS Products and Testing Pvt. Ltd. (F-3, Sector 6, Noida, Uttar Pradesh)*.

A prospective and qualitative validation approach was used for this validation study.

All the Dharti Ka Doctor Machine (Automated Soil Testing Machine) having the same testing method of the soil as detailed in the manufacturing instructions.

All critical process variables in the testing process were reviewed. Testing validation of the machine were analysed as set out in this report under the protocol of the machine operation and the test results are summarised in this report.

The detailed strategy of the validation was to collect the 5 different soil samples from the farmer's filed and testing of these samples has been done with the Dharti Ka Doctor Machine (Automated Soil Testing Machine) at soil testing lab of BHARUWA AGRI SCIENCE PRIVATE LIMITED at 7, GROUND FLOOR, DIVYA YOG MANDIR, DADUBAGH, KANKHAL, UTTARAKHAND, 249408 in presence of the representative of the URS Products and Testing Pvt Ltd (F-3, Sector 6, Noida, Uttar Pradesh).

| Sr. No. | Manufacturer's In-house Soil Testing Lab and Address | Soil Sample Code | Parameter analysed in soil sample |
|---------|---|--|---|
| 1 | BHARUWA AGRI SCIENCE PRIVATE LIMITED, 7, GROUND FLOOR, DIVYA YOG MANDIR, DADUBAGH, KANKHAL, UTTARAKHAND, 249408 | URS-01, URS-02, URS-03, URS-04, URS 05 | OC(%), Available N (Kg/h), Available P (kg/h), Available K (kg/h), B (ppm), S (ppm), Zn (ppm), Fe (ppm), Mn (ppm), Cu (ppm) |

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The same sample of the soil has been sent to the 5 different central, state and regional reputed soil testing laboratories at the below locations:-

| Sr. No. | External Soil Testing Lab and Address | Soil Sample Code | Parameter analysed in soil sample |
|---------|---|--|---|
| 1 | FOREST RESEARCH INSTITUTE, DEHRADUN | URS-01, URS-02, URS-03, URS-04, URS-05 | OC(%), Available N (Kg/h), Available P (kg/h), Available K (kg/h), B (ppm), S (ppm), Zn (ppm), Fe (ppm), Mn (ppm), Cu (ppm) |
| 2 | SOIL TESTING LABORATORY, DEHRADUN | URS-01, URS-02, URS-03, URS-04, URS-05 | OC(%), Available P (kg/h), Available K (kg/h), S (ppm), Zn (ppm), Fe (ppm), Mn (ppm), Cu (ppm) |
| 3 | REGIONAL SOIL TESTING LABORATORY, SRI NAGAR, GARHWAL | URS-01, URS-02, URS-03, URS-04, URS-05 | OC(%), Available P (kg/h), Available K (kg/h), S (ppm), Zn (ppm), Fe (ppm), Mn (ppm), Cu (ppm), B (ppm) |
| 4 | REGIONAL SOIL TESTING LABORATORY, RUDRAPUR, UDHAM SINGH NAGAR | URS-01, URS-02, URS-03, URS-04, URS-05 | OC(%), Available P (kg/h), Available K (kg/h), S (ppm), Zn (ppm), Fe (ppm), Mn (ppm), Cu (ppm), B (ppm) |
| 5 | SOIL TESTING LABORATORY, BHIMTAL | URS-01, URS-02, URS-03, URS-04, URS-05 | OC(%), Available P (kg/h), Available K (kg/h), S (ppm), Zn (ppm), Fe (ppm), Mn (ppm), Cu (ppm), B (ppm) |

Aberration: OC : Organic Carbon (%)

N : Available Nitrogen (kg/h)

P : Available Phosphorus (kg/h)

K : Available Potash (kg/h)

S : Sulphur (ppm)

Cu: Copper (ppm)

B: Boron (ppm)

Fe: Iron (ppm)

Zn: Zinc (ppm)

Mn : Manganese (ppm)

In-process In-house testing - use what is applicable:

In-process results and statistical analysis performed to identify the state of process control are documented in this report in Section A

This report documents the sampling and testing required and performed on the soil samples.

The 5 validation soil samples, taken from 5 different points of the farmer's field, distributed throughout into the 5 central, state and regional reputed soil testing laboratories for the analysis to validate the results of DKD machine. Sample uniformity for testing were maintained during the sample distribution and analysis. The comparative data of the test to be performed on 5 batches of the same type of soil samples has been compared to validate each soil parameters.

This report elaborate the comparison profile of the soil parameters results along with the results provided by the Dharti Ka Doctor Machine (Automated Soil Testing Machine).

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Process Validation of Dharti Ka Doctor Machines (Automated Soil Testing Machine):

The machine settings and ranges listed below were identified as normal operating settings / ranges provided in user manual. The following operating range are allowed for these parameters and the actual settings used for the validation batch were recorded in user manual and operating instructions.

| Sr. No. | Parameter | Dosage | Remark |
|---------|----------------------|--|---|
| 1 | Organic Carbon | Take 1 gm of soil sample with the help of spatula in 50 ml reagent bottle. Press process P1 and add 10 ml of OC A in the reagent bottle. Press process P2 and add 10 ml of OC B in the reagent bottle. Mix the solution for 1 min. keep the solution for 20 mins. Filter the contents in the 50 ml reagent bottle. Put the filtrate in the marked place in the machine. Press process P3 and observe the readings through the application. | - |
| 2 | Available Nitrogen | Take 4 gm of soil sample with the help of spatula in 50 ml reagent bottle. Press Process P1 and add 10 ml of Nitro 1 in 50 ml reagent bottle. Shake the contents for 1 min. Keep the solution for 10 min. Filter the contents in a 50 ml reagent bottle. Take 4 ml of filtrate and add 6 ml of distilled water Press process P4 in the filtrate and add 4 drops of Nitro 2. Mix for 5 min. and put the filtrate at the marked place in the machine. Observe the readings through the application. | - |
| 3 | Available Phosphorus | Take 1 gm soil sample with the help of spatula in 50 ml reagent bottle. Press Process P1 and add 10 ml of Phos 1 in 50 ml reagent bottle. Add a pinch of Phos 2 powder with the help of pinch. Shake for 30 min. with the help of shaker. Take 2 ml of filtrate in the reagent bottle. Add 0.25 ml of Phos 3 in the reagent bottle. Add 2 ml of Phos 4 in the reagent bottle. Press Process P2 and add 1 ml of Phos 5 in the reagent bottle. Make up the volume up-to 10 ml with distilled water. Put the filtrate at the marked place in the machine. Press Process P3 and observe the readings through the application after 20 min. | - |
| 4 | Available Potassium | Take 1 gm of soil sample with the help of spatula in 50 ml reagent bottle. Press Process P1 and add 5 ml of potash 1 in reagent bottle. Add 1 pinch of Potash 2 powder in reagent bottle. Shake for 30 min. with the help of shaker. Filter the contents in the reagent bottle. Take 1 ml of filtrate in reagent bottle. Press Process P2 and add 1 ml of Potash 1. Add 1 ml of Potash 3. Add 0.55 ml of Potash 4 (11 Drop). Add 0.25 ml of Potash 5 (6 Drop). Press Process P3 and add 1 ml of Potash 6. Put the filtrate at the marked place in the machine. Observe the readings through the application after 20 mins. | Note: Potash 5 = 1 vial dissolves in 2.5 ml. distilled water. |

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| Sr. No. | Parameter | Dosage | Remark |
|---------|---------------------|--|--|
| 5 | Sulphur | Take 3 gm of soil sample with the help of spatula in 50 ml reagent bottle. Press process P1 and add 15 ml of S 1 in reagent bottle. Shake for 30 min. with the help of shaker. Filter the contents. Add 6 ml filtrate. Add 0.3 gm of S2. Press process P 2 and add 0.3 ml of S3 in the reagent bottle. Press process P 3 and add 1.2 ml of distilled water. Put the filtrate at the marked place in the machine. Press process P 4 and observe the readings through the application after 10 min. | - |
| 6 | Boron | Take 10 gm of soil sample with the help of spatula in 50 ml reagent bottle. Press process P1 and add the 20 ml of B1 in reagent bottle. Shake for 30 min. with the help of shaker. Filter the contents in reagent bottle. Take 6 ml of filtrate in 50 ml reagent bottle. Press process P2 and add 2 ml of B2 in reagent bottle. Add the 2 ml of reagent B3 in reagent bottle. Put the filtrate at the marked place in the machine. Press process P3 and observe the readings through the application after 30 min. | Note: Use Quartz Only Note: B3 = 1 vial dissolves in 5 ml. distilled water. |
| | Zinc, Iron & Copper | Take 4 gm of soil sample with the help of spatula in the 50 ml reagent bottle. Add 20 ml of ZnFeCu reagent. Shake for 30 min. Filter the contents in reagent bottle. Follow the below steps for respective element. | - |
| 7 | Zinc | Take 2 ml of filtrate. Press process P2 and add 3 ml of Zn 1A in reagent bottle. Add 2 ml of Zn 2 in reagent bottle. Add 1 ml of Zn 3 in reagent bottle. Add 2 ml of Zn 4 in reagent bottle. Shake the contents and keep it for 15 min. Put the filtrate at the marked place in the machine. Press process P3 and observe the readings through the application. | Note: Zn3 = 1 vial dissolves in 2.5 ml. distilled water. Note: Zn4 1= 1 vial dissolve in 12 ml Zn4 2 |
| 8 | Iron | Take 4 ml of filtrate reagent bottle. Press process P2 and add 2 ml of ZnFeCu in reagent bottle. Press process P3 and add 2 ml F 1 in the reagent bottle. Add 2 ml F 2 in the reagent bottle. Shake the contents and keep it for 15 min. Put the filtrate at the marked place in the machine. Press process P4 and observe the readings through the application. | - |
| 9 | Copper | Take 6 ml of filtrate in reagent bottle. Press process P2 and add 3 ml Cu 1 in reagent bottle. Add 1.5 ml of Cu 2 in reagent bottle. Shake & filter the contents in reagent bottle. Take the 4 filtrate in reagent bottle. Add the reagent 1.5 ml Cu 2 in reagent bottle. Add 2 ml Cu 3 in reagent bottle. Shake the contents and keep it for 15 min. Put the filtrate at the marked place in the machine. Press process P3 and observe the readings through the application. | Note: Cu3= 1 vial dissolves in 5 ml distilled water. |
| 10 | Manganese | Take 4 gm of soil sample in 50 ml reagent bottle. Press process P1 and add 20 ml of Mn1 in reagent bottle. Shake for 30 min. with the help of shaker. Filter the contents in reagent bottle. Take 10 ml of filtrate. Press process P2 and collect 2 ml of Mn 2 in reagent bottle. Add 0.4 g Mn 3 in reagent bottle. Keep in a hot water bath for 15 min. till colour changes. Put the filtrate at the marked place in the machine. Press process P3 and observe the readings through the application. | - |

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| Sr. No. | Parameter | Dosage | Remark |
|---------|--------------------|---|--------|
| 11 | pH determination | Measure 20 gm of soil and add it to a 150 ml beaker. Then pour in 100 ml of distilled water. This gives you a 1:5 ratio of soil to distilled water. Stir for two minutes, then leave to settle for five minutes. Remove the electrode cap from the pH meter and switch on. Dip the electrode 1-2 cm into the solution and stir. Wait for the display to stabilise. Take the meter readings. | - |
| 12 | E.C. determination | Measure 20 gm of soil and add it to a 150 ml beaker. Then pour in 100 ml of distilled water. This gives you a 1:5 ratio of soil to distilled water. Stir for two minutes, then leave to settle for five minutes. Remove the electrode cap from the EC meter and switch on. Dip the electrode 1-2 cm into the solution and stir. Wait for the display to stabilise. Take the meter readings. | - |

List of Chemical Used in Machine While Testing of the 5 Collected Sample with the Machine DKD

| Element determination | Bottle label name | Bottle size in vol. | No .of bottles in a machine | Specification |
|-----------------------------|-------------------|---------------------|-----------------------------|----------------|
| Organic Carbon | Organic A | 500 ml | 1 | - |
| | Organic B | 500 ml | 1 | - |
| Available Nitrogen | Nitro 1 | 500 ml | 1 | - |
| | Nitro 2 | 30 ml | 1 | Dropper |
| Available Phosphorus | Phos 1 | 500 ml | 1 | - |
| | Phos 2 | 20 gm | 1 | - |
| | Phos 3 | 30 ml | 1 | - |
| | Phos 4 | 125 ml | 1 | - |
| | Phos 5 | 60 ml | 1 | - |
| Available Potassium | Potash 1 | 500 ml | 1 | - |
| | Potash 2 | 20 gm | 1 | - |
| | Potash 3 | 60 ml | 1 | - |
| | Potash 4 | 30 ml | 1 | - |
| | Potash 5 | 60 ml | 2 | Dropper |
| | Potash 6 | 60 ml | 1 | - |
| Sulphur | Sulphur 1 | 1000 ml | 1 | - |
| | Sulphur 2 | 20 gm | 1 | - |
| | Sulphur 3 | 60 ml | 1 | - |

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| Boron | | | | |
|--------------|---------|---------|---|----------------|
| | Boron 1 | 1000 ml | 1 | - |
| | Boron 2 | 125 ml | 1 | - |
| | Boron 3 | 60 ml | 2 | Dropper |

| | | | | |
|-------------------------|--------------------|---------|---|----------------|
| Zinc Iron Copper | | | | |
| | Zinc Iron & copper | 1000 ml | 1 | - |
| | Zinc Iron & copper | 125 ml | 1 | - |
| Zinc | | | | |
| | Zinc 1A | 250 ml | 1 | - |
| | Zinc 1 B | 250 ml | 1 | - |
| | Zinc 2 | 125 ml | 1 | - |
| | Zinc 3 | 60 ml | 2 | Dropper |
| | Zinc 4 | 60 ml | 2 | Dropper |
| | Zinc 5 | 125 ml | 1 | - |
| Iron | | | | |
| | Iron 1 | 125 ml | 1 | - |
| | Iron 2 | 125 ml | 1 | - |
| Copper | | | | |
| | Copper 1 | 250 ml | 1 | - |
| | Copper 2 | 250 ml | 1 | - |
| | Copper 3 | 60 ml | 2 | Dropper |
| Manganese | | | | |
| | Manganese 1 | 1000 ml | 1 | - |
| | Manganese 2 | 100 ml | 1 | - |
| | Manganese 3 | 20 gm | 1 | - |

3. Equipment Used for In-process In-house testing – Validation Status

| Sr. No. | Machine Name | Machine Model | Machine Part Number/Sr. Number |
|---------|--|-----------------------|--------------------------------|
| 1 | Dharti Ka Doctor Machines (Automated Soil Testing Machine) | Automated DKD Machine | DKDAM-0001/0623 |
| 2 | pH meter | pH meter | pH -0001/0623 |
| 3 | EC (Electrical Conductivity) Tester | EC meter | EC-0001/0623 |

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4. FINAL TEST RESULTS :

The table below details the release test results for All release testing report from different outside regional, state and Central soil testing laboratories and test results obtained from the Dharti Ka Doctor Machine (Automated Soil Testing Machine) during in-house testing.

| Sr. No. | External Soil Testing Lab and Address | Soil Sample Code | Annexure for Test Report |
|---------|---|---|--------------------------|
| 1 | FOREST RESEARCH INSTITUTE, DEHRADUN | URS-01, URS-02, URS-03, URS-04, URS-05 | Annexure 1 |
| 2 | SOIL TESTING LABORATORY, DEHRADUN | URS-01, URS-02, URS-03, URS-04, URS-05 | Annexure 2 |
| 3 | REGIONAL SOIL TESTING LABORATORY, SRI NAGAR, GARHWAL | URS-01, URS-02, URS-03, URS-04, URS-05 | Annexure 3 |
| 4 | REGIONAL SOIL TESTING LABORATORY, RUDRAPUR, UDHAM SINGH NAGAR | URS-01, URS-02, URS-03, URS-04, URS-05 | Annexure 4 |
| 5 | SOIL TESTING LABORATORY, BHEEMTAL | URS-01, URS-02, URS-03, URS-04, URS-05 | Annexure 5 |
| 6 | BHARUWA AGRI SCIENCE PRIVATE LIMITED, 7, GROUND FLOOR, DIVYA YOG MANDIR, DADUBAGH, KANKHAL, UTTARAKHAND, 249408 | URS-01, URS-02, URS-03, URS-04, URS-05 | Annexure 6 |

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Annexure 1

श्री अंकित कुमार से प्राप्त 05 मृदा नमूनों की मृदा नमूना विश्लेषण रिपोर्ट-

| S.No. | Sample Name | pH | EC (dS/m) | Organic Carbon (%) | Available Nitrogen (kg/h) | Available Phosphorus (kg/h) | Potassium (kg/h) | Boron (ppm) | Sulphur (ppm) | Copper (ppm) | Iron (ppm) | Zinc (ppm) |
|-------|-------------|-----|-----------|--------------------|---------------------------|-----------------------------|------------------|-------------|---------------|--------------|------------|------------|
| 1. | URS-01 | 6 | 2.8 | 1.23 | 250.88 | 17.92 | 266.4 | 3.476 | 3.813 | 2.1 | 2.64 | 5.04 |
| 2. | URS-02 | 8.2 | 1.8 | 0.59 | 224.00 | 18.94 | 577.2 | 3.0176 | 3.938 | 1.49 | 2.28 | 5.04 |
| 3. | URS-03 | 7.7 | 1.5 | 0.75 | 250.88 | 15.68 | 532.8 | 3.2144 | 2.188 | 1.49 | 3.46 | 5.04 |
| 4. | URS-04 | 7.3 | 2.8 | 0.71 | 275.52 | 11.96 | 421.8 | 3.1160 | 4.375 | 1.52 | 2.67 | 5.04 |
| 5. | URS-05 | 8.1 | 1.7 | 0.69 | 224.00 | 18.82 | 510.6 | 3.2144 | 3.188 | 3.6 | 12.96 | 5.04 |

टिप्पणी- ये परिणाम किसी भी व्यावसायिक प्रचार या कानून या अदालती कार्यवाही के लिए मान्य नहीं है।

Asoni
श्री. अन्तरिक्ष सोनी
तकनीकी अधिकारी
व पा ज प प्र
वन अनुसंधान संस्थान

4/20/2023
श्री. पारुल भट्ट कोटियाल
वैज्ञानिक-ई,
व पा ज प प्र
वन अनुसंधान संस्थान
वैज्ञानिक/Scientist
वन परिस्थिती एवं जलवायु परिवर्तन विभाग
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CUSTOMER NAME: BHARUWA AGRI SCIENCE PRIVATE LIMITED.

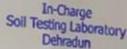
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CUSTOMER CITY: HARIDWAR

Annexure 2

Test Results of Soil samples

| Lab No | pH | EC | OC | P | K | S | Zn | B | Fe | Mn | Cu |
|----------|------|------|------|--------|--------|-------|------|-----|-------|-------|------|
| | | dS/m | % | kg/hac | kg/hac | ppm | ppm | ppm | ppm | ppm | ppm |
| 37/URS01 | 5.57 | 0.20 | 0.92 | 22.4 | 180.32 | 16.6 | 2.38 | | 31.04 | 15.03 | 3.93 |
| 38/URS02 | 7.32 | 0.13 | 0.51 | 22.4 | 91.95 | 23.46 | 1.51 | | 16.89 | 08.56 | 1.70 |
| 39/URS03 | 7.09 | 0.16 | 0.71 | 22.4 | 101.02 | 13.85 | 1.71 | | 17.25 | 09.21 | 1.57 |
| 40/URS04 | 7.20 | 0.20 | 0.69 | 22.4 | 269.13 | 22.38 | 1.00 | | 17.43 | 12.37 | 2.38 |
| 41/URS05 | 7.71 | 0.17 | 0.48 | 31.36 | 76.38 | 15.13 | 1.08 | | 12.45 | 07.63 | 1.35 |


In-Charge
Soil Testing Laboratory
Dehradun


In-Charge
Soil Testing Laboratory
Dehradun

TESTED BY

Ankit Gupta Asst.
Manager

AUTHORIZED SIGNATURE



Ankit Kumar
Asst. General Manager

ISSUED BY

Ankit Kumar
Asst. General Manager



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DATE OF ISSUE: 04/07/2023
CUSTOMER CITY: HARIDWAR

Annexure 3

**कार्यालय सहायक निदेशक (मृदा परीक्षण),
क्षेत्रीय मृदा परीक्षण प्रयोगशाला,
श्रीनगर गढ़वाल।**

पत्रांक:- मृ०परी० / 14 / मृदा स्वास्थ्य कार्ड वितरण पत्रा० / 2023-24 दिनांक 24.04.2023।

URS Products and Testing Pvt. Ltd.
F-3, Sector 6, Noida,
Uttar Pradesh - 201301.

TEST

विषय:- मृदा परीक्षण परिणाम उपलब्ध करवाने विषयक।

मुख्य कृषि अधिकारी, पौड़ी गढ़वाल ने अपने पत्रांक 107 दिनांक 18.04.2023 के द्वारा इस प्रयोगशाला को आपके द्वारा उपलब्ध करवाये गये मृदा नमूने परीक्षण हेतु प्रेषित करने के साथ ही निर्देशित किया गया कि उक्त मृदा नमूनों के परीक्षण परिणाम आपको उपलब्ध करवाये जायें।

उक्त के क्रम में मृदा नमूनों के परीक्षण के उपरान्त परीक्षण परिणाम आपको निम्नानुसार प्रेषित किये जा रहे हैं।

| Sample No. | Testing Result | | | | | | | | | | |
|------------|----------------|------|-------|-------|--------|--------|-------|--------|-------|-------|-------|
| | EC | pH | O/C | P | K | S | Zn | Mn | Cu | Fe | B |
| URS 01 | 0.215 | 6.02 | 0.828 | 33.71 | 178.08 | 10.862 | 1.050 | 15.250 | 2.148 | 10.62 | 0.229 |
| URS 02 | 0.201 | 8.06 | 0.402 | 41.90 | 087.36 | 10.636 | 0.910 | 03.962 | 0.664 | 12.04 | 0.065 |
| URS 03 | 0.184 | 7.67 | 0.575 | 29.99 | 100.80 | 10.183 | 0.984 | 03.932 | 0.622 | 15.72 | 0.163 |
| URS 04 | 0.295 | 7.39 | 0.655 | 20.38 | 273.08 | 09.051 | 0.686 | 08.534 | 1.104 | 11.97 | 0.196 |
| URS 05 | 0.198 | 8.04 | 0.414 | 18.69 | 074.40 | 10.862 | 0.212 | 03.016 | 0.562 | 09.32 | 0.098 |

सहायक निदेशक (मृ०परी०)
क्षेत्रीय मृदा परीक्षण प्रयोगशाला
श्रीनगर गढ़वाल

(डा० *Hoshi*)
सहायक निदेशक (मृदा परीक्षण)
क्षेत्रीय मृदा परीक्षण प्रयोगशाला
श्रीनगर गढ़वाल

पत्रांक:- मृ०परी० / 14 / मृदा स्वास्थ्य कार्ड वितरण पत्रा० / 2023-24 उक्त दिनांकित।

प्रतिलिपि:- मुख्य कृषि अधिकारी, पौड़ी गढ़वाल को उनके पत्रांक 107 दिनांक 18.04.2023 के क्रम में सूचनाार्थ।

(*Hoshi*)
सहायक निदेशक (मृ०परी०)
क्षेत्रीय मृदा परीक्षण प्रयोगशाला
श्रीनगर गढ़वाल

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TESTED BY

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Ankit Gupta Asst.
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TEST REPORT NO.: URS/LAB/02/RID/23-24/2036

CUSTOMER NAME: BHARUWA AGRI SCIENCE PRIVATE LIMITED.

DATE OF ISSUE: 04/07/2023

CUSTOMER CITY: HARIDWAR

Annexure 4

क्षेत्रीय मृदा परीक्षण प्रयोगशाला
रुद्रपुर, ऊधम सिंह नगर

दिनांक : 27/04/2023

विषय: मृदा परीक्षण परिणाम के सम्बन्ध में।

| Sample No | Soil Analysis Report | | | | | | | | | | |
|-----------|----------------------|-----|--------|-----------|-----------|-------|--------|--------|-------|--------|--------|
| | EC | pH | OC (%) | P (kg/ha) | K (kg/ha) | S ppm | Zn ppm | Mn ppm | B ppm | Fe ppm | Cu ppm |
| URS 01 | 1.40 | 8 | 0.52 | 21.60 | 36.06 | 7.70 | 2.482 | 0.684 | 0.77 | 0.718 | 0.370 |
| URS 02 | 1.35 | 8 | 0.13 | 22.05 | 36.73 | 14.55 | 1.912 | 0.982 | 0.79 | 0.830 | 0.430 |
| URS 03 | 1.32 | 8 | 0.20 | 37.80 | 75.71 | 14.57 | 2.084 | 1.446 | 0.63 | 1.616 | 0.650 |
| URS 04 | 1.32 | 8 | 0.24 | 19.80 | 48.72 | 20.54 | 1.516 | 0.552 | 0.61 | 0.942 | 0.510 |
| URS 05 | 1.33 | 7.9 | 0.39 | 20.70 | 62.27 | 10.27 | 1.176 | 0.450 | 0.74 | 3.920 | 0.570 |

Incharge
Soil Testing Lab, Rudrapur
सहायक निदेशक (मृदा परीक्षण)
क्षेत्रीय भूमि परीक्षण प्रयोगशाला
रुद्रपुर (ऊधम सिंह नगर)

TESTED BY


Ankit Gupta Asst.
Manager

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Ankit Kumar
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CUSTOMER NAME: BHARUWA AGRI SCIENCE PRIVATE LIMITED.

CUSTOMER CITY: HARIDWAR

Annexure 5

SOIL ANALYSIS REPORT
SOIL TESTING LABORATORY , BHIMTAL (NAINITAL)

TO,
URS Products and Testing PVT LTD
Noida , U.P.

Date: 9.5.2023

Subject: Regarding soil testing analysi result.

| S. No. | Lab. No. | pH | EC (dS/m) | Organic Carbon (%) | Kg/ha | | ppm | | | | | |
|--------|----------|-----|-----------|--------------------|------------------|------------------|----------------|--------------|-------------|-------------|-----------------|---------------|
| | | | | | Avail. Poshporus | Avail. Potassium | Avail. Sulphur | Avail. Boron | Avail. Zinc | Avail. Iron | Avail. Mangnese | Avail. Copper |
| 1 | URS 1 | 7.5 | 0.21 | 1.70 | 10.35 | 384 | 20.28 | 0.85 | 2.01 | 16.29 | 6.37 | 0.27 |
| 2 | URS2 | 9.4 | 0.23 | 0.95 | 4.95 | 231 | 18.98 | 0.76 | 3.81 | 18.79 | 6.04 | 0.61 |
| 3 | URS3 | 8.3 | 0.23 | 1.42 | 2.25 | 156 | 19.24 | 0.85 | 1.91 | 12.62 | 3.81 | 0.61 |
| 4 | URS4 | 8.2 | 0.26 | 1.42 | 2.25 | 334 | 19.11 | 0.76 | 0.69 | 9.05 | 4.03 | 1.02 |
| 5 | URS5 | 9.2 | 0.25 | 0.81 | 2.25 | 167 | 19.37 | 0.86 | 0.84 | 7.77 | 4.30 | 1.08 |

Incharge 915/2023
Soil Testing Lab
Bhimtal
भारुवा,
बदायूँ-परीक्षक, हरियाणा
कॉमपोसिब (ननीताल)

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TESTED BY

Ankit Gupta Asst. Manager

AUTHORIZED SIGNATURE



Ankit Kumar
Asst. General Manager

ISSUED BY

Ankit Kumar
Asst. General Manager



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CUSTOMER CITY: HARIDWAR

Annexure 6



BHARUWA AGRI SCIENCE PVT. LTD.

#startupindia
DIPP75905

CIN: U24200UR2020PTCO11674

Ref. No. Date:
 Date: 09/06/2023

Subject: Soil testing report.
 The analysis results of soil samples are given below:

| S.N. | Sample No | Soil Analysis Report | | | | | | | | | | | |
|------|-----------|----------------------|-----|----|-------|-----------|-----------|-------|--------|--------|-------|--------|--------|
| | | EC | pH | OC | N (%) | P (kg/ha) | K (kg/ha) | S ppm | Zn ppm | Mn ppm | B ppm | Fe ppm | Cu ppm |
| 1 | URS 01 | 0.28 | 6.5 | VH | L | M | M | L | H | H | H | H | H |
| 2 | URS 02 | 0.19 | 8 | M | L | M | L | H | H | H | H | H | H |
| 3 | URS 03 | 0.22 | 7.2 | M | L | M | L | H | H | H | H | H | H |
| 4 | URS 04 | 0.27 | 7.5 | M | L | M | M | H | H | H | H | H | H |
| 5 | URS 05 | 0.21 | 7.8 | L | L | H | L | H | H | H | H | H | H |

| S.N. | Parameter | Critical levels |
|------|------------------------------|---|
| 1 | Organic Carbon (%) | VL=<0.25, L=0.25-0.50, M=0.50-0.75, H=0.75-1.0, VH=>1.0 |
| 2 | Available Nitrogen (kg/ha) | VL=<140, L=140-280, M=280-560, H=560-700, VH=>700 |
| 3 | Available Phosphorus (kg/ha) | VL=<5, L=5-10, M=10-25, H=25-40, VH=>40 |
| 4 | Available Potash (kg/ha) | VL=<60, L=60-120, M=120-280, H=280-560, VH=>560 |
| 5 | Sulphur (ppm) | L=10, M=10-20, H=>20 |
| 6 | Copper (ppm) | L=<0.2, M=0.2-0.4, H=>0.4 |
| 7 | Boron (ppm) | L=<0.5, M=0.5-0.75, H=>0.75 |
| 8 | Iron (ppm) | L=5, M=5-10, H=>10 |
| 9 | Zinc (ppm) | L=<0.6, M=0.6-1.0, H=>1 |
| 10 | Manganese (ppm) | L=<2, M=2.0-4.0, H=>4 |

Aberration: VL= very Low, L= Low, M= Medium, H= High, VH= Very High.
 Critical Limits Aberration (For Micro-nutrients): L= Low (Deficient), M= Medium (Moderate), H= High (Sufficient).

| | | |
|---|---|---|
| Analysed By  Mr. Vishu Phor Machine Operator Soil Testing Lab Bharuwa Agri. Science | Approved By  Dr. Harish Kumar Scientist ARC, Soil Testing Lab Haridwar, Uttarakhand | Witness By  Mr. Ankit Kumar AGM URS Products and Testing Private Limited F-3, Sector 6, Noida-201301, India |
|---|---|---|



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CUSTOMER CITY: HARIDWAR

5. Conclusion: - Comparison Chart Scale

| S.N. | Parameter | Critical levels |
|------|------------------------------|---|
| 1 | Organic Carbon (%) | VL= <0.25, L=0.25-0.50, M= 0.50-0.75, H=0.75-1.0,VH= >1.0 |
| 2 | Available Nitrogen (kg/ha) | VL= <140, L=140-280, M= 280-560, H=560-700,VH= >700 |
| 3 | Available Phosphorus (kg/ha) | VL= <5, L=5-10, M= 10-25, H=25-40,VH= >40 |
| 4 | Available Potash (kg/ha) | VL= <60, L=60-120, M= 120-280, H=280-560,VH= >560 |
| 5 | Sulphur (ppm) | L=10, M= 10-20, H=>20 |
| 6 | Copper (ppm) | L=<0.2, M= 0.2-0.4, H=>0.4 |
| 7 | Boron (ppm) | L=<0.5, M= 0.5-0.75, H=>0.75 |
| 8 | Iron (ppm) | L=5, M= 5-10, H=>10 |
| 9 | Zinc (ppm) | L=<0.6, M= 0.6-1.0, H=>1 |
| 10 | Manganese (ppm) | L=<2, M= 2.0-4.0, H=>4 |

Aberration: VL= very Low, L= Low, M= Medium, H= High, VH= Very High.

Critical Limits Aberration (For Micro- nutrients): L= Low (Deficient), M= Medium (Moderate), H= High (Sufficient).

Analytical soil testing report is mentioned below:

| Sample No. | Organic Carbon (%) | | | | | | Remark |
|------------|--------------------|----------|-----------|------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 1.23 | 0.92 | 0.828 | 0.52 | 1.7 | VH | DKD Result lie on the same qualitative scale with the 3 external labs. |
| 2 | 0.59 | 0.51 | 0.402 | 0.13 | 0.95 | M | DKD Result lie on the same qualitative scale with the 2 external labs. |
| 3 | 0.75 | 0.71 | 0.575 | 0.2 | 1.42 | M | DKD Result lie on the same qualitative scale with the 3 external labs. |
| 4 | 0.71 | 0.69 | 0.655 | 0.24 | 1.42 | M | DKD Result lie on the same qualitative scale with the 3 external labs. |
| 5 | 0.69 | 0.48 | 0.414 | 0.39 | 0.81 | L | DKD Result lie on the same qualitative scale with the 3 external labs. |

VL= <0.25, L=0.25-0.50, M= 0.50-0.75, H=0.75-1.0,VH= >1.0

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CUSTOMER NAME: BHARUWA AGRI SCIENCE PRIVATE LIMITED.

CUSTOMER CITY: HARIDWAR

| Sample No. | Available Nitrogen (kg/ha) | | | | | | Remark |
|--|----------------------------|----------|-----------|-----|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 250.88 | Nil | Nil | Nil | Nil | L | DKD Result lie on the same qualitative scale with the 1 external labs. |
| 2 | 224 | Nil | Nil | Nil | Nil | L | DKD Result lie on the same qualitative scale with the 1 external labs. |
| 3 | 250.88 | Nil | Nil | Nil | Nil | L | DKD Result lie on the same qualitative scale with the 1 external labs. |
| 4 | 275.52 | Nil | Nil | Nil | Nil | L | DKD Result lie on the same qualitative scale with the 1 external labs. |
| 5 | 224 | Nil | Nil | Nil | Nil | L | DKD Result lie on the same qualitative scale with the 1 external labs. |
| VL= <140, L=140-280, M= 280-560, H=560-700,VH= >700 | | | | | | | |

| Sample No. | Available Phosphorous (kg/ha) | | | | | | Remark |
|--|-------------------------------|----------|-----------|-------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 17.92 | 22.4 | 33.71 | 21.6 | 10.35 | M | DKD Results are lies on the same Qualitative scale with the 4 external labs. |
| 2 | 18.94 | 22.4 | 41.9 | 22.05 | 4.95 | M | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 3 | 15.68 | 22.4 | 29.99 | 37.8 | 2.25 | M | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 4 | 11.96 | 22.4 | 20.38 | 19.8 | 2.25 | M | DKD Results are lies on the same Qualitative scale with the 4 external labs. |
| 5 | 18.82 | 31.36 | 18.69 | 20.7 | 2.25 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| VL= <5, L=5-10, M= 10-25, H=25-40,VH= >40 | | | | | | | |

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Ankit Gupta Asst. Manager

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CUSTOMER CITY: HARIDWAR

| Sample No. | Available Potassium (kg/ha) | | | | | | Remark |
|--|-----------------------------|----------|-----------|-------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 266.4 | 180.32 | 178.08 | 36.06 | 384 | M | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 2 | 577.2 | 91.95 | 87.36 | 36.73 | 231 | L | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 3 | 532.8 | 101.02 | 100.8 | 75.71 | 156 | L | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 4 | 421.8 | 269.13 | 273.08 | 48.72 | 334 | M | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 5 | 510.6 | 76.38 | 74.4 | 62.27 | 167 | L | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| VL= <60, L=60-120, M= 120-280, H=280-560,VH= >560 | | | | | | | |

| Sample No. | Sulphur (ppm) | | | | | | Remark |
|--|---------------|----------|-----------|-------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 3.813 | 16.6 | 10.862 | 7.7 | 20.28 | L | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 2 | 3.938 | 23.46 | 10.636 | 14.55 | 18.98 | H | DKD Results are lies on the same Qualitative scale with the 1 external labs. |
| 3 | 2.188 | 13.85 | 10.183 | 14.57 | 19.24 | H | DKD Results are not lies on the same Qualitative scale with the all external labs. |
| 4 | 4.375 | 22.38 | 9.051 | 20.54 | 19.11 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 5 | 3.188 | 15.13 | 10.852 | 10.27 | 19.37 | H | DKD Results are not lies on the same Qualitative scale with the all external labs. |
| L=<10, M= 10-20, H=>20 (L= Deficient, M= Moderate, H= Sufficient) | | | | | | | |

TESTED BY

Ankit Gupta Asst. Manager

AUTHORIZED SIGNATURE



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CUSTOMER CITY: HARIDWAR

| Sample No. | Manganese (ppm) | | | | | | Remark |
|--|-----------------|----------|-----------|-------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 5.04 | 15.03 | 15.25 | 0.684 | 6.37 | H | DKD Results are lies on the same Qualitative scale with the 4 external labs. |
| 2 | 1.44 | 8.56 | 3.962 | 0.982 | 6.04 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 3 | 2.12 | 9.21 | 3.932 | 1.446 | 3.81 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 4 | 1.82 | 12.37 | 8.534 | 0.552 | 4.03 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 5 | 3.36 | 7.63 | 3.016 | 0.45 | 4.3 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| L=<2, M= 2-4, H=>4 (L= Deficient, M= Moderate, H= Sufficient) | | | | | | | |

| Sample No. | Copper (ppm) | | | | | | Remark |
|--|--------------|----------|-----------|------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 2.1 | 3.93 | 2.148 | 0.37 | 0.27 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 2 | 1.49 | 1.7 | 0.664 | 0.43 | 0.61 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| 3 | 1.49 | 1.57 | 0.622 | 0.65 | 0.61 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| 4 | 1.52 | 2.38 | 1.104 | 0.51 | 1.02 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| 5 | 3.6 | 1.35 | 0.562 | 0.57 | 1.08 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| L=<0.2, M= 0.2-0.4, H=>0.4 (L= Deficient, M= Moderate, H= Sufficient) | | | | | | | |

TESTED BY

Ankit Gupta Asst. Manager

AUTHORIZED SIGNATURE



Ankit Kumar
Asst. General Manager

ISSUED BY

Ankit Kumar
Asst. General Manager



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TEST REPORT NO.: URS/LAB/02/RID/23-24/2036

DATE OF ISSUE: 04/07/2023

CUSTOMER NAME: BHARUWA AGRI SCIENCE PRIVATE LIMITED.

CUSTOMER CITY: HARIDWAR

| Sample No. | Iron (ppm) | | | | | | Remark |
|--|------------|----------|-----------|-------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 2.64 | 31.04 | 10.62 | 0.718 | 16.29 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 2 | 2.28 | 16.89 | 12.04 | 0.83 | 18.79 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 3 | 3.46 | 17.25 | 15.72 | 1.616 | 12.62 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 4 | 2.67 | 17.43 | 11.97 | 0.942 | 9.05 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 5 | 12.96 | 12.45 | 9.32 | 3.92 | 7.77 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| L=5, M= 5-10, H=>10 (L= Deficient, M= Moderate, H= Sufficient) | | | | | | | |

| Sample No. | Boron (ppm) | | | | | | Remark |
|--|-------------|----------|-----------|------|----------|-------|--|
| | FRI | Dehradun | Sri Nagar | RDR | Bheemtal | DKD M | |
| 1 | 3.476 | - | 0.229 | 0.77 | 0.85 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 2 | 3.0176 | - | 0.065 | 0.79 | 0.76 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 3 | 3.2144 | - | 0.163 | 0.63 | 0.85 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 4 | 3.116 | - | 0.196 | 0.61 | 0.76 | H | DKD Results are lies on the same Qualitative scale with the 2 external labs. |
| 5 | 3.2144 | - | 0.098 | 0.74 | 0.86 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| L=<0.5, M= 0.5-0.75, H=>0.75 (L= Deficient, M= Moderate, H= Sufficient) | | | | | | | |

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| Sample No. | Zinc (ppm) | | | | | | Remark |
|------------|------------|----------|-----------|-------|----------|-------|--|
| | FRI | Dchradun | Sri Nagar | RDR | Bhecmtal | DKD M | |
| 1 | 5.04 | 2.38 | 1.05 | 2.482 | 2.01 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| 2 | 5.04 | 1.51 | 0.91 | 1.912 | 3.81 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| 3 | 5.04 | 1.71 | 0.984 | 2.084 | 1.91 | H | DKD Results are lies on the same Qualitative scale with the 5 external labs. |
| 4 | 5.04 | 1 | 0.686 | 1.516 | 0.69 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |
| 5 | 5.04 | 1.08 | 0.212 | 1.176 | 0.84 | H | DKD Results are lies on the same Qualitative scale with the 3 external labs. |

L=<0.6, M= 0.6-1.0, H=>1.0 (L= Deficient, M= Moderate, H= Sufficient)

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Ankit Gupta Asst.
Manager

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CUSTOMER CITY: HARIDWAR

Soil Health Card for Scale Reference

Soil Health Card
Department of Agriculture

Year-2014

Adhar Card No /Soil Health Card No: ...

1. Farmer's name : Block No.....

2. Village: : Taluka

District: :

3. Khasara no : Area: (Ha) Type of soil:

4. Details of individual soil analysis : Normal/ Acidic/Alkaline/Sodic

4(a) Major nutrients

| Sr. No | Detail | Result | Range | Interpretation of result |
|--------|---------------------------------|--------|--|--------------------------|
| 1. | pH (Soil Reaction)# | 7.2 | Acidic <6.5 Normal 6.5-8.2 Alkaline >8.2 | Normal (Green) |
| 2. | EC (Total Dissolve salts dS/m)# | 0.49 | Normal <1 Medium 1-3 High >3 | Normal (Green) |
| 3. | Organic Carbon (%) | 0.26 | Low <0.5 Medium 0.5-0.75 High >0.75 | Low (Red) |
| 4. | Available Phosphorous(kg/ha) | 43 | Low < 20 Medium 20-50 High >50 | Medium (Yellow) |
| 5. | Available Potash (Kg/ha) | 254 | Low < 140 Medium 140-280 High >280 | Medium (Yellow) |

4(b) Secondary nutrients

| Sr. No | Detail | Result | range | Interpretation of result |
|--------|--------------|--------|--|--------------------------|
| 1. | Suiphur(PPM) | 34 | Low < 10 Medium 10-20 High >20 | High (Green) |
| 2. | Magnesium | 5 | Low < 1 Medium 1-2 High >2 | High (Green) |
| 3. | Calcium | 5 | Low < 1.5 Medium 1.5-3.0 High >3.0 | High (Green) |

4(c) Micronutrients

| Sr.No | Detail | Result | Range | Interpretation of result |
|-------|-----------|--------|---|--------------------------|
| 1. | Zinc | 0.4 | Low < 0.5 Medium 0.5-1.0 | Low (Red) |
| 2. | Ferrous | 44 | High >1.0 Low < 5 Medium 5-10 High >10 | High (Green) |
| 3. | Manganese | 11 | Low < 5 Medium 5-10 High >10 | High (Green) |
| 4. | Copper | 5 | Low < 0.2 Medium 0.2-0.4 High >0.4 | High (Green) |

11 February 2015

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Color Code: * Green = Sufficient (General Recommendation Dose (-) 30%)
Yellow = Moderate (General Recommendation Dose)
Red = deficient (General Recommendation Dose (+) 30%)

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CUSTOMER CITY: HARIDWAR

Detailed Photographs



Soil Samples



DKD Machine Front Panel Photograph-1

TESTED BY

Ankit Gupta Asst.
Manager

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