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## LaMotte 5679-01

# LaMotte Model EL Turf and Garden Soil Test Kit (5679-01)

Instruction Manual

## 1. INTRODUCTION

The LaMotte Model EL Turf and Garden Soil Test Kit (Model 5679-01) provides a straightforward method for analyzing key soil parameters essential for healthy plant growth. This kit is designed for both educational purposes in soil science and practical garden analysis. It includes rapid test procedures, diagrammed instructions, and laminated color charts to measure concentrations of nitrogen, phosphorus, potassium, and soil pH. The accompanying Garden Guide Manual and LaMotte Soil Handbook offer guidance on interpreting test results and provide recommendations for lime and fertilizer application.



Figure 1: Contents of the LaMotte Model EL Turf and Garden Soil Test Kit.

## 2. SAFETY INFORMATION

Always read all instructions thoroughly before beginning any test. Handle all reagents with care. Avoid contact with skin and eyes. In case of contact, rinse immediately with plenty of water. Keep the kit out of reach of children and pets. Do not ingest any components of the kit. Store the kit in a cool, dry place away from direct sunlight.

### 3. KIT CONTENTS

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The LaMotte Model EL kit typically includes the following components:

- Test tubes (various sizes for different tests)
- Reagent solutions for pH, Nitrogen, Phosphorus, and Potassium tests
- Laminated color charts for result interpretation
- Garden Guide Manual
- LaMotte Soil Handbook
- Soil sampling tools (e.g., spoon, spatula)
- Carrying case

### 4. SOIL SAMPLING

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Accurate soil sampling is crucial for reliable test results. Follow these general guidelines:

1. **Select Representative Areas:** Choose several locations within the area you wish to test. Avoid unusual spots like compost piles, wet areas, or near fences.
2. **Depth:** For gardens and lawns, collect samples from a depth of 4-6 inches. For trees and shrubs, collect from 6-12 inches.
3. **Collect Multiple Sub-samples:** Take 5-10 sub-samples from each selected area. Mix these thoroughly in a clean, non-metallic bucket to create a composite sample.
4. **Prepare Sample:** Remove any large debris, stones, roots, or organic matter. Break up any large soil clumps. Allow the soil to air dry if it is excessively wet.

### 5. OPERATING INSTRUCTIONS

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Perform tests in a well-lit area. Refer to the specific instructions provided in your LaMotte manual for exact reagent quantities and waiting times, as these may vary slightly.

#### 5.1. pH Test

1. Fill a clean test tube to the designated mark with your prepared soil sample.
2. Add the specified amount of pH Indicator Solution.
3. Cap the tube and shake thoroughly for 1 minute.
4. Allow the soil to settle for 5-10 minutes until the liquid above the soil is clear.
5. Compare the color of the liquid to the pH color chart provided in your kit.

#### 5.2. Nitrogen (N) Test

1. Prepare a filtered soil extract as per your manual's instructions (this usually involves mixing soil with a specific extracting solution and filtering).
2. Fill a clean test tube to the designated mark with the filtered soil extract.
3. Add the specified Nitrogen Reagent.
4. Cap the tube and shake thoroughly for 1 minute.
5. Allow the solution to stand for the recommended time (e.g., 10 minutes) for color development.
6. Compare the color of the solution to the Nitrogen color chart.

#### 5.3. Phosphorus (P) Test

1. Using the same filtered soil extract from the Nitrogen test, fill a clean test tube to the designated mark.

2. Add the specified Phosphorus Reagent.
3. Cap the tube and shake thoroughly for 1 minute.
4. Allow the solution to stand for the recommended time (e.g., 5 minutes) for color development.
5. Compare the color of the solution to the Phosphorus color chart.

#### 5.4. Potassium (K) Test

1. Using the same filtered soil extract, fill a clean test tube to the designated mark.
2. Add the specified Potassium Reagent.
3. Cap the tube and shake thoroughly for 1 minute.
4. Allow the solution to stand for the recommended time (e.g., 5 minutes) for turbidity development.
5. Compare the turbidity (cloudiness) of the solution to the Potassium color chart.

### 6. INTERPRETING RESULTS AND RECOMMENDATIONS

After completing the tests, use the laminated color charts to determine the nutrient levels and pH of your soil. The kit includes a Garden Guide Manual and LaMotte Soil Handbook. These resources provide detailed information on how to interpret your specific results and offer tailored recommendations for lime and fertilizer applications to optimize your soil for various plants and crops.

### 7. MAINTENANCE

- Cleaning:** After each use, thoroughly clean all test tubes, spoons, and other reusable equipment with distilled water. Allow them to air dry completely before storing.
- Storage:** Store the kit in its original carrying case in a cool, dry place, away from direct sunlight and extreme temperatures. Ensure all reagent bottles are tightly capped.
- Reagent Expiration:** Check the expiration dates on reagents. Replace expired reagents to ensure accurate results.

### 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Inaccurate or inconsistent results	Improper sampling, expired reagents, contaminated equipment, incorrect procedure.	Review soil sampling and testing procedures. Check reagent expiration dates. Ensure all equipment is clean.
Color does not develop	Expired or incorrect reagent, insufficient mixing, incorrect waiting time.	Verify reagent type and expiration. Ensure thorough mixing and correct waiting period.
Difficulty reading color chart	Poor lighting, color blindness.	Perform tests in bright, natural light. Seek assistance from another individual if needed.

### 9. SPECIFICATIONS

- Model Number:** 5679-01
- Brand:** LaMotte
- Tests Included:** Nitrogen (15 tests), Phosphorus (15 tests), Potassium (15 tests), pH (30 tests)

- **Product Dimensions:** 9.5 x 6.5 x 6.5 inches
- **Item Weight:** 2.85 pounds
- **Manufacturer:** LaMotte