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Fertility Evaluation for Agricultural Uses In Potting Soil Mix

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Introduction

Potting soil mix is a pre-made soil used for general planting. However, some plants that are grown in these soil have shown signs of nutrient deficiency.

Nowadays, soil tests and evaluation can be done outside of a laboratory, so it is possible to evaluate how fertile potting soil mix actually is. This study can be beneficial in creating agricultural plans or making improvements to soil, so plants can grow as efficiently and healthy as possible.

Question and Objective

Question

How suitable for plant potting soil mix is?

Objective

To examine and evaluate the agricultural fertility of general potting soil mix.

Tools and Samples

Criteria for evaluation

- Soil pH value
- Soil Organic Matter Content
- Lime requirement of Soil
- NPK or Main nutrient value of Soil

Soil Samples

Three different Potting soil mix samples that are generally distributed in tree markets.

Tools

NPK and pH testing kit

Lime requirement testing kit

Organic Matter testing kit

Methods

1. Prepare soil samples

Grind and sift soil into fine particles

2. Test soil samples

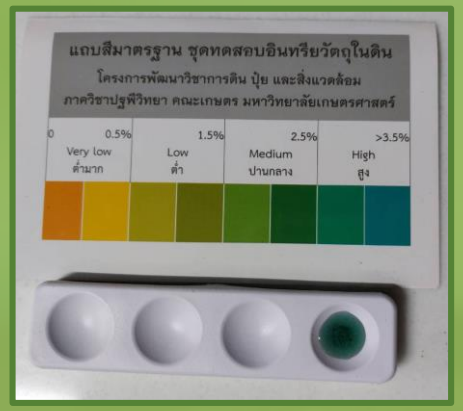
NPK and pH testing kit

Organic Matter testing kit

Lime requirement testing kit

Follow the instruction of each kit to test different properties of the soil samples

3. Record the results



Evaluate the soil samples by comparing test results to standard color charts.

Results

Soil Samples	pH	LR (kg $CaCO_3$/Rai)	Main nutrient value			Organic Matter (%)
			N	P	K	
No. 1	7.0	-	Very low	Very high	Medium	High (>3.5%)
No. 2	7.0	-	Very low	High	Low	High (>3.5%)
No. 3	6.5-7.0	83	Low	Very high	Low	High (>3.5%)

Summary and Suggestions

Summary

Potting soil mix is suitable for plants in terms of pH value and organic matter content, but Nitrogen (N) and Potassium (K) need to be added for optimal plant growth.

Suggestions

- Physical properties of soil should also be tested.
- Soil samples should be more vary.
- Solution or suggestion for soil improvement should be included.

SDGs


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS


11 SUSTAINABLE CITIES AND COMMUNITIES


15 LIFE ON LAND

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