



Research Report

Compare different soil quality of vermicompost affecting
Growth of the aglaonema Tree.

Research team

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**Title: Compare different soil qualities of vermicompost that affect growth.
of the Aglaonema tree.**

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Abstract or summary

The objective of the research on comparing soil quality of vermicompost that affects the growth of aglaonema trees aims to compare different soil qualities of vermicompost that affect the growth of aglaonema trees, namely moisture, temperature, acidity and acidity. Soil nutrients that are indicators of soil quality in each study source Growth from the study showed that normal soil has different adhesions and soil characteristics. It does not stick together and has a nodular appearance. It is very porous and can drain water and air well. Both soils have an average temperature of about 31.83 degrees Celsius, which is the ideal temperature for plant growth, but the soil mixed with vermicompost will have a high abundance of macronutrients that plants need in all 3 types. As a result, the growth of the aglaonema tree is accelerated. While normal soils have medium and low macronutrient richness. As a result, the acceleration of the growth of the aglaonema tree comes more slowly.

Importance: Soil quality aglaonema vermicompost

Introduction

Kaewkanchana or Ten Thousand Years Green or Aglaonema is a shrub-leaved plant with countless branching subspecies. Each of them is an auspicious plant with a beautiful name. It enhances the prosperity of the cultivator in different aspects. In terms of beauty, it stands out as worthy of the nickname "King of Leafy Trees", which comes with air-purifying properties, helps absorb toxins, and contains ingredients that are used to prepare medicinal recipes according to ancient recipes. This is therefore an ornamental species worth collecting for every home. In terms of beauty or auspiciousness. Therefore, domestic marketing is in great demand. Much of the production and trading is smallholder production, and vermicomposting is a sustainable technology for the disposal of agricultural waste and organic matter, a natural process of rapidly recycling organic matter to convert it into nutrient-rich fermentation. Vermicompost is an environmentally friendly non-toxic product. It is low-cost, requires less machinery. It is easy to use, and uses low power during the process. This process is used to improve the structure of waste soil. Therefore, this technique is a good and easy alternative technology. Vermicompost from agricultural waste materials is put to the test to find the best agricultural material for producing vermicompost.

Therefore, the researcher is interested in studying the physical characteristics of the soil. Humidity value Soil temperature Acidity Soil base and soil nutrients growth of aglaonema plants in different soil types of vermicompost Different types of vermicompost Soils that affect the growth of aglaonema to apply knowledge about relationships to develop the careers of farmers who grow aglaonema

Research Questions

Physical characteristics of the soil Soil moisture values, soil temperature Acidity Soil bases and soil nutrients The growth of aglaonema trees comes in different soils of vermicompost. Is there a difference?

Research hypothesis

Physical characteristics of the soil, temperature, soil moisture value, acidity. Soil bases and soil nutrients of common soil and vermicompost mixed soils are different.

Research Objectives

- 1.) To compare the quality of the soil that affects the growth of the aglaonema tree.
- 2.) To compare Growth and nutrients in the soil

Research Results

1) Gain knowledge of Physical characteristics of the soil, temperature, soil moisture value, acidity. Soil bases and soil nutrients and soil quality vary.

Methods and materials

1. Equipment material

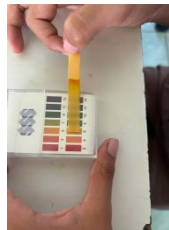
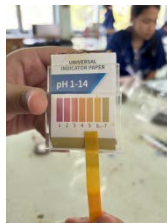
1. Equipment for preparing soil samples
2. Thermometer
3. Soil N P K Test Kit
4. Indicator Paper
5. Ground Beef Classification Guide
6. Soil moisture meter
7. Tape measure

2. How to proceed

- 1) Bring both types of soil to plant the aglaonema plant by dividing it into 2 pots of 1 pot each, Pot 1 fertilizes earthworms and Pot 2 does not fertilize earthworms.
- 2) Water once a day, set aside with sufficient light for a period of 1 month.
- 3) Study the physical characteristics of the soil by studying the soil structure using CU Smart Len.
- 4) Measure soil moisture at 3 points per type. By bringing a multi-purpose meter at a depth of 5 centimeters to read the word soil moisture.
- 5) Measure the temperature of the soil at all points. By bringing a thermometer to measure the soil temperature at a depth of 10 centimeters.
- 6) Measure N P K with N P K test kit in soil



- 7) Take both soils to measure the acidity of the base, test it with indicator paper and discuss the results.



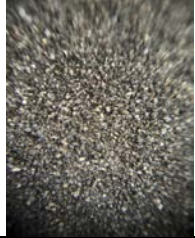

- 8) Comparison of growth using a tape measure to measure the height and circumference of both pots of aglaonema.
- 9) Conclusions

Results and data

Soil characteristics

Based on the study of soil structure. Soil color Adhesion of soil and soil texture Display as shown in Table 1.

Table 1 shows the structure of the soil.

Soil characteristics	Soil structure	Earth color	Soil fixation	The image shows the appearance of the expanding soil.10x		
Common soil	Single pellet	Gray-brown	Does not stick together.			
Soil mixed with vermicompost.	ball	Yellowish-brown	Loam			

Soil moisture values

From the study of soil moisture of both types, it was found that the average moisture value was 7.66 millivolts. Display as shown in Table 2.

Table 2 shows the temperature of both types of soil.

Soil characteristics	Moisture value (millivolts)			average
	1st time	2nd time	3rd time	
Common soil	8	8	8	8
Soil mixed with vermicompost.	7	7	8	7.33

Soil temperature

According to the study, the temperature of both types of soil has an average temperature of 31.83 degrees Celsius.

Display as shown in Table 3.

Table 3 shows the temperature of both types of soil.

Soil characteristics	Temperature (degrees Celsius)			Average (degrees Celsius)
	1st time	2nd time	3rd time	
Common soil	32	33	32	32.33
Soil mixed with vermicompost.	32	31	31	31.33

Soil fertility

1.Nitrogen

Nitrogen measurements in general soils showed moderate nitrogen values and mixed soils with high nitrogen values. The values are shown in Table 4.

2.Phosphorus

Measurements of phosphorus in general and mixed soils showed moderate phosphorus values. The values are shown in Table 4.

3. Potassium

Measurements of potassium in general soils showed low potassium values, and mixed soil with high potassium values. Values are shown in Table 4.

Table 4 shows the fertility of both types of soil.

Survey Area	Soil fertility		
	nitrogen	phosphorus	potassium
Common soil	low	low	high
Soil mixed with vermicompost.	high	moderate	low

Soil pH

The experiment showed that the average pH of general soil and mixed soil was 5.5, as shown in Table 5.

Table 5 shows the pH of both types of soil.



Soil characteristics	pH			Average pH
	1st time	2nd time	3rd time	
Common soil	6	6	6	6
Soil mixed with vermicompost.	5	5	5	5

Comparison of the growth of aglaonema trees that use both types of soil for planting.

By measuring the growth of the aglaonema tree of both types of soil. Display as shown in

Table 6.

Table 6 shows the growth values of the aglaonema tree.

Soil characteristics	Dimensions, height of the plant aglaonema	Measurement of the circumference of the aglaonema tree	The photo shows the growth of the aglaonema tree.
Common soil	32cm	41cm	
Soil mixed with vermicompost.	40cm	43cm	

Discussion and conclusion

Based on the study of general soil and soil mixtures of earthworm fertilizers. It was found that general soils have different adhesions and soil characteristics. It does not stick together and has a nodular appearance. It is very porous and can drain water and air well. Both soils have an average temperature of about 31.83 degrees Celsius, which is the ideal temperature for plant growth, but the soil mixed with vermicompost will have a high abundance of macronutrients that plants need in all 3 types. As a result, the growth of the aglaonema tree is accelerated. While the general soil has medium and low macronutrient fertility. As a result, the acceleration of the growth of the aglaonema tree comes more slowly.

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Citations

(2008). Institute for the Promotion of Teaching Science and Technology (IPST) GLOBE Project. ACCESSIBLE FROM : [GLOBE THAILAND \(ipst.ac.th\)](#)

The Meaning and Importance of
http://osl101.ldd.go.th/easysoils/s_meaning.htm Soil

Benefits of vermicompost <https://www.sgethai.com/article>

The meaning of the aglaonema tree comes <https://kaset.today>