Research Title: Study on Soil Quality with the Addition of Bio-Pellet Fertilizer on the Growth of Klong Kheng at Wichienmatu School, Trang Province.

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abstract

Study on soil quality with bio-pellet fertilizer on the growth of stagger The objective was to study the quality of soil filled with biocompost for the growth of staggered plants . Soil pH, soil moisture and swaying growth The study found that Soil structure around the rocking tree Fixation of nodular soil and soil texture. The soil adhesion is loamy and the soil texture is loamy. Soil pH, soil moisture After adding bio-fertilizer, the soil temperature decreases, and the nutrients in the soil before and after adding bio-pellet fertilizer There are differences in nitrogen content, phosphorus content, Potassium content, elevation The growth of the swaying tree before and after adding bio-pellet fertilizer. It was found that the Sanglong Klong tree was growing more.

Keywords: Types of calendula trees, soil quality, bio-pellet fertilizer

Introduction

Wichian Matu School is a school in the Plant Genetic Conservation Project due to the Royal Decree of the Royal Government, which has carried out the "Botanical Garden" as a medium to raise awareness of plant genetic conservation by allowing the youth to get close to the plant and appreciate the benefits and beauty, which will give rise to the idea of plant conservation. The bark of the stem is thin and smooth, the leaves are single, flowering in short clusters, each bouquet has about 3-6 small flowers. The result is fresh. The appearance of the fruit is oval, the flesh in the fruit is red-purple, the fruit when old will break off transversely, the ripe fruit has a sweet taste when eaten in the mouth, it is dark purple. It has the properties of being a folk medicine and an ornamental plant in decorating the house. Therefore, maintenance by adding fertilizer is necessary. The research team has developed a bio-pellet fertilizer from leaves. Therefore, there is an interest in studying the soil quality study with the addition of bio-granular fertilizer on the growth of calendula. Wichian Matu School, Trang Province

Research Question

1. Does the addition of bio-pellet fertilizer from red duckweed chicken manure affect the soil quality of the growth of the Klong Kheng? What is it?

2. Does the addition of bio-pellet fertilizer from red duckweed chicken manure affect the growth of the? how

Research Hypothesis

1. The addition of bio-pellet fertilizer from red duckweed chicken manure affects the soil quality of the growth of the sorghum tree.

2. The addition of bio-granular fertilizer from red duckweed chicken manure affects the growth of the swaying plant.

Related Variables

Hypothesis: The addition of bio-pellet fertilizer from red duckweed chicken manure affects the soil quality of the growth of the sorghum tree.

Independent Variable: Biofertilizer

Dependent Variable soil quality

Control Variable, Inspection Instruments, Measurement Methods

Hypothesis: The addition of bio-pellet fertilizer from red duckweed chicken manure affects the growth of the sorghum plant.

Independent Variable: Biofertilizer

Dependent Variable: the growth of the Stagger Tree

Control Variable: Inspection Instruments, Measurement Methods

Materials and Methods

Materials

1. Tape measure
2. Mile Line
3. Vernier Caliper
4. Siem Reap
5. Soil Supervision
6. Notebooks and stationery
7. Geographic Coordinate Measuring Machine
8. Equipment for Photography
9. Container for soil storage
10. pH Meter
11. Soil moisture meter
12. Spectrophotometer
13. Beaker
14. Soil N P K Test Kit

Part 1: Study of soil properties

Soil quality was measured according to the GLOBE methodology by measuring pH and soil moisture. Soil texture, soil color, and N P K in the soil are as follows:

1. Determine the quarantine point in the area where the lymph node is planted in Wichian Matu School.

2. Measure the acid-base content of the soil by using a multi-purpose meter to measure the pH of the soil. Collect data 3 times

3. Measure the temperature of the soil using a thermometer. In the ground Collect data 3 times, record the results.

4. Collect soil at all collection points to study soil properties according to the index. In the operating room, N, P and K Finding N, P, and K By using the N P K test kit in the soil.

5. Measure their growth before adding bio-fertilizer.

6. Adopt bio-pellet fertilizer. Add it to the soil at the base of the rocking tree. After adding fertilizer for 1 month, check the soil quality. Temperature Base acidity according to the GLOBE measurement method.

Research Results

Table 1 shows the geographical coordinates of the Kolkelin tree in the Botanical Garden, Wichian Matu School.

Study Sources	Geographic coordinates	
	Latitude (N)	Longitude (E)
Source 3 Dwarf Lyrics in the Botanical Garden of Wichian Matu School	7.5091135	99.637238

Part 1: Study on soil quality before and after adding bio-compacted fertilizer.

Table 2 shows the soil structure. Soil adhesion and soil texture before and after the biofertilizer is added to the rocking tree.

Study Sources	Soil structure	Soil fixation	Clay
Before adding bio-pellet fertilizer	ball	Ruan Sui	Loamy
After adding bio-pellet fertilizer.	ball	Ruan Sui	Loamy

From Table 2 It was found that the soil structure Fixation of nodular soil and soil texture. The soil adhesion is loamy and the soil texture is loamy.

Table 3 shows the soil moisture bio-fertilizer and temperature.

Study Sources	Starting Depth – Final (cm)	Soil moisture (percentage)	Average pH of the soil	Tempeha Midin (degrees Celsius)
Before adding bio-pellet fertilizer	15	38	5.93 ± 0.00	29
After adding bio-pellet fertilizer.	15	65	6.62 ± 0.29	28

From Figure 2, it is found that the pH value in the soil, soil moisture, After adding bio-fertilizer, the soil temperature decreases.

Table 4 shows the nutrients in the soil before and after the addition of biocompost to the growth of the sorghum tree.

Study Sources	Soil nutrients		
	Nitrogen Content	Phosphorus content	Potassium content
Before adding bio-pellet fertilizer	low	high	high
After adding bio-compacted fertilizer.	high	Very high	Very high

From Table 4, it was found that the nutrients in the soil before and after adding bio-granular fertilizer There are differences in nitrogen content, phosphorus content, Potassium content, elevation

Table 5 shows the growth of the Milky Way plant before and after adding biocompost.

Study Sources	growth		
	height	**Trunk circumference**	**size Canopy**
Before adding bio-pellet fertilizer	138.70±0.54	2.20±0.37	66.90±0.79
After adding bio-compacted fertilizer.	168.00±0.32	2.80±0.67	88.70±0.23

From Table 5 it was found that the growth of the swaying tree before and after adding bio-pellet fertilizer. It was found that the Sanglong Klong tree was growing more.

Conclusion

According to the study, the soil structure around the swaying tree Fixation of nodular soil and soil texture. The soil adhesion is loamy and the soil texture is loamy. Soil pH, soil moisture After adding bio-fertilizer, the soil temperature decreases, and the nutrients in the soil before and after adding bio-pellet fertilizer There are differences in nitrogen content, phosphorus content, Potassium content, elevation The growth of the swaying tree before and after adding bio-pellet fertilizer. It was found that the Sanglong Klong tree was growing more.

Discuss the research results

The growth of the swaying tree before and after adding bio-pellet fertilizer. It was found that the Sanglong Klong tree was growing more. This corresponds to the quality of the soil, which is characterized by loose soil and loamy soil. Soil pH, soil moisture After adding bio-fertilizer, the soil temperature decreases, and the nutrients in the soil before and after adding bio-pellet fertilizer There are differences in nitrogen content, phosphorus content, Potassium content Height Up

Recommendations

1. Further study of soil quality in terms of soil fertility should be used as information for further propagation of Lom Khe

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