Title : The Study on the quality of different types of bamboo flakes mixed with vermicompost

student : Mr. Phuwadol Chamnithukarn
Mr. Kritsana thongkamngam
Miss Wanatikan sonnarai

School : WichienMatu School Trang

Teacher: Miss Kwanjai Kanjanasrimek Miss Suthira Thachin

Abstract or summary

Research on soil quality study of different types of bamboo flaky soil mixed with vermicompost Determine the 3 types of soil to be studied: bamboo flaky soil from Kimsun bamboo tree; The study of the physical characteristics of the soil, moisture, temperature, acidity base and nutrients of the soil is an indicator of soil quality in each soil type. According to the study, the physical characteristics of flaky soil from Kimsun bamboo. Wild bamboo Moisture, temperature, acidity base and soil nutrients Different types of bamboo flaky soil are different. The soil from wild bamboo is the most fertile, with nitrogen equal to 2, phosphorus equal to 4, potassium equal to 3. The soil from wild bamboo has a moisture content of 0.80. The soil from Kinsun bamboo has a moisture content of 100 (0.58) and the temperature of the soil from bamboo tan (29.00). Kimsun bamboo soil has an average temperature (26.00) and tan bamboo soil has an average temperature (26.3). The acidity-base of the average ton bamboo is 8. The acidity-base of wild bamboo averages 7. The acidity-base of Kimsun bamboo averages 6.

Keywords: soil quality, bamboo flaky soil, vermicompost

lntroduction

The use of organic matter such as manure, compost, green manure and biofertilizer to improve the fertility of the soil so that the plants are strong and able to resist diseases and insects on their own. One of the best performance compared to conventional organic fertilizers (Anat Tancho, 2007) Bamboo flaky soil is a soil that is widely used for agricultural purposes, especially in ornamental flower cultivation and vegetable growing. This organic matter makes the soil high in nutrients and makes the soil airy, loamy. Such organic matter is produced by the decomposition of plant remains, animal remains by various microorganisms and fungi in the soil, especially fungi of the genus Trichoderma, which are useful in controlling microorganisms and fungi that cause certain plant diseases, such as fungi that cause root rot and root rot. Bamboo flaky soil originally refers to the soil obtained from the area of the bamboo clump that has died or died. When bamboo blooms, it is often called flaky or okkhi (Isaan means fruit) because bamboo is a plant in the grass family in which most of the plants in that grass family once flowered will die. Bamboo in Thailand is a bamboo that grows in clumps or 1 bamboo tree that can break into several boats. Some bamboos may bloom one by one until the entire clump is gone. Therefore, the phenomenon of the death of bamboo plants after fruiting is often called dead flaky or dead. After the bamboo blooms and dies, a large number of flower and seed components and leaves will fall. Bamboo clumps have a lot of plant residues, especially bamboo seeds, accumulated around the bamboo clumps, which the bamboo seeds themselves, if compared to a simple picture, may be compared to paddy that contains nutrients necessary for the growth of seedlings that will grow from the seed .Currently, bamboo flaky soil Most of them are soils formed by mixing ground textures. Manure and plant residues, especially partially decomposed bamboo leaves or soil obtained from bamboo cones (that have not yet flowered, dead flaky) (Atchara Tirawattananond)

Therefore, the researcher is interested in studying the physical characteristics of the soil. Soil moisture values, soil temperature Acidity To bring knowledge about the relationship between types of bamboo flakes mixed with vermicompost.

The purpose of the research project

The research was to compare soil epic, soil moisture, soil temperature. Acidity, nutrient bases in different types of bamboo flaky soil.

Research Questions

Are there differences in soil physical characteristics, soil moisture, soil temperature, acidity base and soil, and soil nutrients?

Hypothesis of the research

soil erotic characteristics, soil moisture value, soil temperature. The acidity, nutrient base in different types of bamboo flaky soil are different.

Materials and methods

1. Clay flaky from
2. Soil thermometer
3. Universal Indicator Paper
4. N P K test kit in soil
5. Pedospher Soil
6. Distilled water
7. Funnel and paper filters
8. Glass rod
9. Beaker
10. Test Tube

How to conduct research

1. Pre-research stage

    1) Set study points, choose the topic you want to study.

    2) Study, research, gather knowledge and theories related to the research.

    3) Determine the purpose of the study.

    4) Determine the type of bamboo flaky soil.

2. Implementation stage

    1) Conduct research planning.

    2) Conduct a survey of the entire bamboo flaky soil around the bamboo plant.

    3) Collect samples for measurement by relevant factors that need to be studied.

Measure Soil sampling

1. Collect soil samples at a depth of 10 cm Each of the 3 areas

2. Write a label showing the details of the soil sample.

3. Measure the soil temperature using a room temperature soil thermometer. Approximately 250 milliliters into the beaker (keep the water level in the beaker higher than a centimeter so that the sensor of the soil thermometer is immersed in water while calibrating) Dip the standard thermometer and earth thermometer into the water. Wait 2 minutes, take readings of the temperature obtained from the standard termometer and soil thermometer. If the temperature reading The difference is less than 2 degrees Celsius. This indicates that the thermometer is calibrated. If the temperature reading difference is more than 2 degrees Celsius, wait another 2 minutes. If the temperature reading is still more than 2 degrees Celsius, adjust the nut. The lower stage of the earth thermometer dial with a wrench until the temperature readings of the two thermometers are approximately the same.

4.. Measure soil moisture by weighing the soil before baking and after baking, then use a formula to calculate the moisture. Soil moisture(g/g)=(mass of soil before baking-mass of soil after drying)/mass of soil before baking

5. Measure the pH of the soil by taking 1 tablespoon of collected soil dissolved with 20 ml of distilled water, leaving it to settle, then dipping the Universal Indicator paper into the solution and soaking it for about 30 seconds.

6. Measure the nitrogen, phosphorus and potassium content in the soil by taking the collected soil and dissolving it with distilled water with a ratio of soil:water is 1:5, then the dissolved soil is filtered with filter paper and then checked with a nitrogen, phosphorus and potassium monitoring kit.

Analysis and conclusion of findings

1) The obtained data are analyzed and compared by statistics used to analyze the data, such as soil temperature, mean soil pH. Average soil moisture content. Average nitrogen, phosphorus and potassium in soil

2) Make a graph showing the comparative data average.

3) Conclusions

Results and data

Soil nutrients

1. nitrogen

Determination of nitrogen in bamboo flaky soil from Kimsun bamboo Bamboo flaky soil from wild bamboo trees and bamboo flaky soil from ton bamboo trees. It was found that the bamboo flaky soil from Kimsun bamboo is worth 1, the bamboo flaky soil from wild bamboo is worth 2, and the bamboo from the ton bamboo tree is worth 0, showing the values as shown in Table 1.

2. Phosphorus

Measurement of soil phosphorus in bamboo flaky soil from Kimsun bamboo Bamboo flaky soil from wild bamboo trees and bamboo flaky soil from ton bamboo trees. It was found that the bamboo flaky soil from Kim Sun bamboo tree is 2, the bamboo flaky soil from wild bamboo is 3, and the bamboo from the ton bamboo tree is 2, showing the values as shown in Table 1.

3 Potassium

Determination of soil potassium in bamboo flaky soil from Kimsun bamboo Bamboo flaky soil from wild bamboo trees and bamboo flaky soil from ton bamboo trees. It was found that the bamboo flaky soil from Kimsun bamboo is 1, the bamboo flaky soil from wild bamboo is 3, and the bamboo from ton bamboo is worth 1, showing the values as shown in Table 1.

Table 1 Soil nutrients in each district

Types of bamboo flaky soil	Value of N P K		
	nitrogen	phosphorus	potassium
Kimsun bamboo	1	2	1
Wild bamboo	2	3	3
Ton bamboo	0	2	1

note High = 3, Medium = 2, Low = 1, Trace = 0

Soil moisture

Based on the results of the study of soil moisture values. It was found that the soil was flaky from Kimsun bamboo. The soil has a moisture value of 0.58%, the bamboo flaky soil from wild bamboo has a moisture value of 0.80%, and the bamboo flaky soil from ton bamboo has a moisture value of 0.98%. The values are shown in Table 2.

Table 2 Soil moisture value

Types of bamboo flaky soil	Initial depth – final (cm)				
		point	point	point	average
Kimsun bamboo	10	0.58	0.57	0.59	0.58
Wild bamboo	10	0.80	0.80	0.80	0.80
Ton bamboo	10	0.98	0.96	0.97	0.98

temperature in each depth of soil;

Based on the results of the study of soil moisture values. It was found that the soil was flaky from Kimsun bamboo. The soil temperature is 26.00 The soil of bamboo flakes from wild bamboo has a soil temperature of 26.3 degrees. The soil of bamboo flakes from Ton bamboo has a soil temperature of 29.00 degrees. Shows the values as shown in Table 3.

Table 3 Soil temperature

Types of bamboo flaky soil	Depth: Start-Final (cm)	Soil temperature (degrees Celsius)			
		Point 1	Point 2	Point 3	average
Kimsun bamboo	10	26.00	26.00	26.00	26.00
Wild bamboo	10	26.00	27.00	26.00	26.3
Ton bamboo	10	29.00	29.00	29.00	29.00

Soil pH

Based on the results of the study of soil moisture values. It was found that the soil was flaky from Kimsun bamboo. The soil has a pH-Base value of 6. Bamboo flaky soil from wild bamboo has a pH-base value of 7. Bamboo flaky soil from Ton bamboo has a pH-Base value of 8, shown in Table 4.

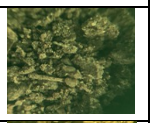
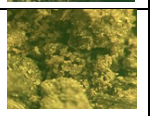
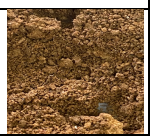
Table 4 Acid-Base Values In the soil

Types of bamboo flaky soil	Acid-Base			
	Point 1	Point 2	Point 3	average
Kimsun bamboo	6	6	6	6
Wild bamboo	7	7	7	7
Ton bamboo	8	8	8	8

Soil structure Adhesion of soil, soil color and texture

Soil structure study It was found that the structure of the bamboo flakes soil from Kimsun bamboo has a monogranular soil structure, and the structure of bamboo flakes soil from wild bamboo and ton bamboo has a nodular structure, and the soil color of the bamboo flaky soil from Kimsun bamboo is light brown and the bamboo flaky soil from wild bamboo is dark brown, the bamboo flaky soil from the ton bamboo tree is reddish-brown, and the adhesion of bamboo flakes from all types of bamboo is all loamy, and the texture of the bamboo flaky soil from Kimsun bamboo is sandy loam. Bamboo flaky soil from wild bamboo is sandy and powdery soil. The bamboo flaky soil from the bamboo tree is a sandy sticky loam. The values are shown in Table

Table 5 Soil structure Adhesion of soil, soil color and texture

Types of bamboo flaky soil	Depth: Start-Final (cm)	Soil structure	Earth color	Soil fixation	Ground beef	soil samples
Kimsun bamboo	10	Single pellet	Light brown	Ruansui	Sandy loam soil.	
Wild bamboo	10	ball	Dark brown	Ruansui	Sandy powdery soil	
Ton bamboo	10	ball	Reddish brown	Ruansui	Sandy loam	

Discussion

1. Soil fertility

1. Nitrogen Studies have shown that bamboo flaky soil from wild bamboo trees contains the most nitrogen and bamboo flaky soil from Kimsun and Tan bamboo trees, respectively.

2. Phosphorus: Studies have shown that bamboo flaky soil from wild bamboo trees contains the most phosphorus, and bamboo flaky soil from Kimsun bamboo and bambootan have the same amount of phosphorus.

3. Potassium Studies have shown that bamboo flaky soil soil from wild bamboo trees contains the most phosphorus, and bamboo flaky soil from Kimsun bamboo and bambootan have the same phosphorus.

2. Soil moisture

Studies have shown that bamboo flaky soil from ton bamboo trees has the highest moisture value. and bamboo flaky soil from wild bamboo and kimsun bamboo, respectively.

3. Soil pH

Studies have shown that the soil, bamboo flaky soil from ton bamboo tree has the highest average PH, and bamboo flaky soil from wild bamboo and Kimsun bamboo, respectively.

4. Soil temperature

Studies have shown that the bamboo flaky soil soil from wild bamboo has the lowest temperature, and the bamboo flaky soil from Kimsun bamboo and bambootan have the same and maximum temperature.

5. Soil structure Adhesion of soil, soil color and texture

Soil structure study It was found that the structure of the bamboo flakes soil from Kimsun bamboo has a monogranular soil structure, and the structure of bamboo flakes soil from wild bamboo and ton bamboo has a nodular structure, and the soil color of the bamboo flaky soil from Kimsun bamboo is light brown and the bamboo flaky soil from wild bamboo is dark brown, the bamboo flaky soil from the ton bamboo tree is reddish-brown, and the adhesion of bamboo flakes from all types of bamboo is all loamy, and the texture of the bamboo flaky soil from Kimsun bamboo is sandy loam. Bamboo flaky soil from wild bamboo is sandy and powdery soil. The bamboo flaky soil from the bamboo tree is a sandy sticky loam. The values are shown in Table 5.

Conclusions

From the study, the results of the study were concluded that the bamboo flaky soil from wild bamboo trees is the most fertile, and the bamboo flaky soil from the ton bamboo tree has the highest pH and the highest moisture value, and the temperature of the ton bamboo and kimsun bamboo is the same and the highest, and the structure of the bamboo flaky soil from the kimsun bamboo tree has a monogranular soil structure, and the structure of the bamboo flakes soil from wild bamboo and ton bamboo has a nodular structure, and the soil color of the bamboo flaky soil from the kimsun bamboo tree is light brown, and the bamboo flaky soil from the wild bamboo tree is dark brown, the bamboo flaky soil from the ton bamboo tree is reddish-brown, and the adhesion of the bamboo flakes soil from all types of bamboo is all loamy, and the texture of the bamboo flakes from the kimsun bamboo tree is sandy loam. Bamboo flaky soil from wild bamboo is sandy and powdery soil. The bamboo flaky soil from the bamboo tree is a sandy sticky loam.

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citation

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