Abstract

Research title: Soil quality study of white shrimp pond, Hat Samran District, Trang Province before and after shrimp farming.

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From the study Study of the quality of white shrimp pond soil before and after shrimp farming, Hat Samran Subdistrict, Hat Samran District, Trang Province, the objective is to study the quality of white shrimp pond soil before and after shrimp farming, Hat Samran Subdistrict, Hat Samran District Trang Province by conducting soil inspection before and after shrimp farming, Hat Samran Subdistrict, Hat Samran District, Trang Province by checking the pH of the soil, temperature, soil fertility. According to the study, the pH value of the soil before shrimp farming is 7 (neutral soil) and the soil after shrimp farming is 7 (neutral soil). And the soil temperature before raising shrimp is in the range of 30-32 degrees Celsius. The soil after shrimp farming is in the range of 30-31 degrees Celsius and the main nutrients of the soil before raising shrimp is high nitrogen. Medium phosphorus, high potassium Resulting in the soil before raising shrimp is more suitable and effective than the soil after shrimp farming.

Keywords: macronutrients, moisture, pH

Introduction

The white shrimp farming career is a career that causes job creation. And rural occupation Both is the main income and extra income for people in society Which the main component of white shrimp farming is soil, soil is an important resource for agriculture. Is a source that provides nutrients and water to aquatic animals Need to have nutrients that are necessary for the growth of aquatic animals The problem of shrimp farming is to measure the main nutrients in the soil (N P K), pH, moisture and temperature because the soil before shrimp farming is better than the soil after shrimp farming. Because the soil after shrimp farming, there will be lane poop, also known as shrimp waste, when we finish raising shrimp. And if we are going to raise shrimp a new round, we have to suck the lane or waste before raising shrimp every new round every time.

Objective

To study the quality of white shrimp pond soil before and after shrimp farming, Hat Samran Subdistrict, Hat Samran District, Trang Province**.**

Research question

Is the quality of soil in the area before shrimp farming and after shrimp farming, Hat Samran Subdistrict, Hat Samran District different?

Research hypothesis

The soil in the area before shrimp farming will have a more fertile soil quality than the soil after shrimp farming.

Materials, equipment and methods for conducting research

1.) pH paper

2.) Thermometer

3.) Clay spoon

4.) Beaker

5.) Chompoo shaped bottle

6.) Test tube

7.)Filter paper

8.)Glass cone

9.)Substance Makers

10.)Measuring cylinder

11.)Distilled water

12.)Substance spoon

13.)Nitrogen, phosphorus, potassium inspection kit

14.)Dropper Tubes

Determination of study points

Making a project on comparing soil quality before raising with soil after shrimp farming of house number 7/1 Moo 7, Hat Samran Subdistrict, Hat Samran District, Trang province Thailand.

Research method

1) Set up study issues and choose the desired topic

2) Study research, collect knowledge and theories related to research

3) Determine the objectives of the study

4) Determine sampling points in the study area

2. Step

1) Prepare a research action plan

2) Conduct a survey of the area to be researched

3) Measure the soil quality according to the GLOBE method by measuring the temperature, pH and soil fertility as follows

-Collect soil samples in the specified area. Along the plane size 10 * 10 square meters, 6 study points in each study area Use a spade to dig at the center.

Acid-base value of the soil

Weigh 20 grams of dry and sifted soil samples, pour them into the beaker and add 20 or 100 milliliters of distilled water to get the soil ratio: water is 1:1 and use a glass stick to stir the soil for 30 seconds and let it rest for 3 minutes. Do this 5 times.

Leave it until the soil in the beaker. When stirring the soil 5 times, leave it until it settles. You will see clear water at the top. Dip the pH paper or pH pen that adjusts the standard value into the clear water area. Do not dip it into the soil below. Wait until the value stops. Then read the pH.

Soil fertility (Nitrogen (N), Phosphorus (P) Potassium (K))

- Soil fertility measurement With the soil test kit (nitrogen, phosphorus, potassium), use a pipette to suck 2.5 ml of soil solution into the test tube and add 1 sachet of HI 3895-N reagent to the high soil solution. Then close the test tube lid and shake for about 30 seconds. Let the chemical dissolve. Then compare the pink color that occurs with the nitrate color comparison sheet. And then compare the blue that occurs with the phosphorus color comparison sheet Then compare the turbidity that occurs with the potassium content comparison sheet.

Analysis and conclusion of research results

1) Use the data obtained to analyze and compare the relationship. Statistics used in data analysis include. soil temperature, soil pH average, soil moisture average, nitrogen, phosphorus and potassium in the soil.
2) Graph shows the average comparison data.

3) Summary of experiments.

Research results

From the study of soil quality comparison of white shrimp ponds Before and after shrimp farming In this project The organizer has compared the soil quality and summarized the results of the results of the experiment as follows.

Table 1 shows the pH in the soil around the news shrimp pond (degrees Celsius).

White shrimp pond area	Final Depth (cm)	Average pH of the soil
Soil before raising shrimp	1	7±0.00
	15	6.66±0.00
Soil after raising shrimp	1	7±0.00
	15	7±0.00

From Table 1, The pH value of the soil around the white shrimp pond In conclusion, the soil before raising shrimp at the soil The average pH value is 7 and 15 centimeters deep. The average is 6.66 and the soil after raising shrimp at the soil and 15 centimeters deep. The average pH value is 7.

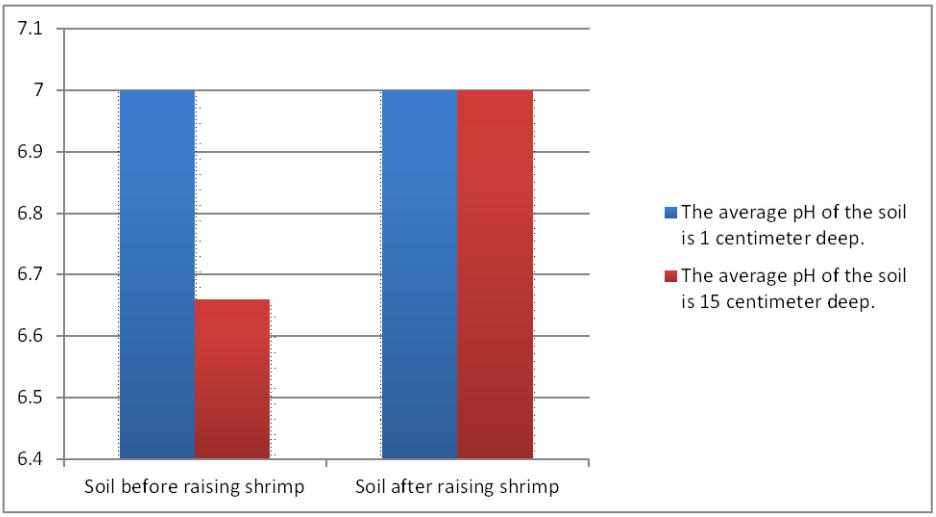
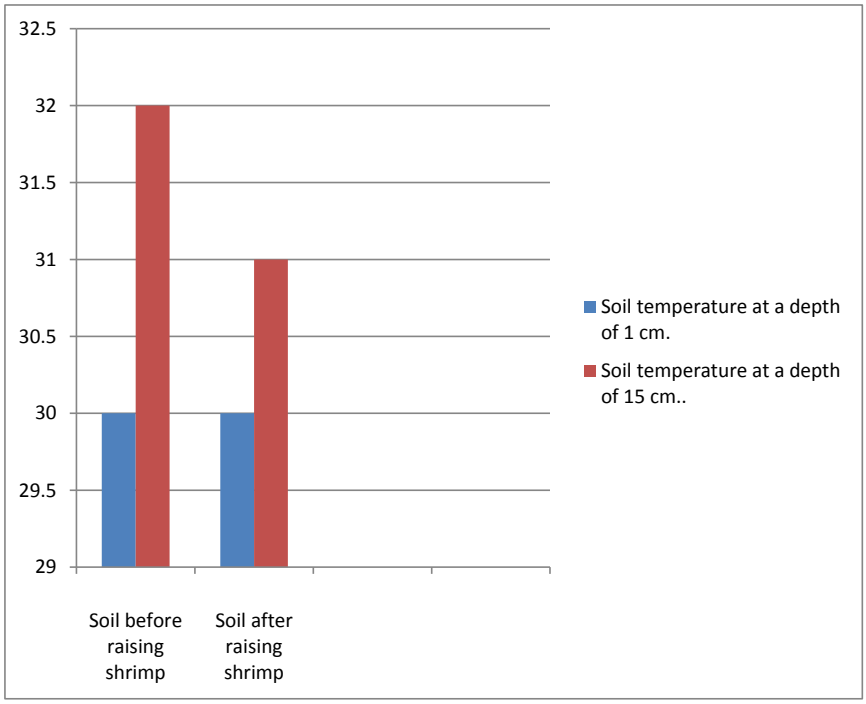


Table 2. Soil temperature in each soil depth.

White shrimp pond area	Final Depth (cm)	Soil temperature(degrees Celsius)
		Average value
Soil before raising shrimp	1	30±0.00
	15	32±0.00
Soil after raising shrimp	5	30±0.00
	15	31±0.00

From Table 2, The soil temperature around the white shrimp pond It can be concluded that the soil temperature before raising shrimp in the soil area is about 30-32 degrees Celsius. The soil temperature after raising shrimp at the soil area is about 30-31 degrees Celsius.



Soil fertility

Table 3. Soil fertility in each N P K

White shrimp pond area	Final Depth (cm)	Soil fertility		
		Nitrogen	phosphorus	Potassium
Soil before raising shrimp	1	Medium	Medium	high
	15	high	Medium	high
Soil after raising shrimp	1	low	Medium	low
	15	low	Medium	Medium

From Table 3 Soil Fertility The main nutrients of the soil consist of nitrogen, phosphorus, potassium. Found that the soil before raising shrimp There is a medium nitrogen value. Medium phosphorus, high potassium and the soil depth of 15 centimeters High nitrogen, medium phosphorus, high potassium and soil after shrimp farming in the soil. Low nitrogen Medium phosphorus, medium potassium In conclusion, the main nutrients in the soil area before Shrimp farming has better soil quality because it has a high nitrogen value. Moderate phosphorus And high potassium Therefore resulting in more fertility than the soil before raising shrimp.

Discussion

Research on the study of the quality of white shrimp pond soil before and after shrimp farming, Hat Samran Subdistrict, Hat Samran District, Trang Province The objective is to study the relationship between the quality of the soil that affects white shrimp farming. It was found that the soil before and after shrimp farming has a neutral pH. The temperature before shrimp farming will be 30-32 degrees Celsius and the soil The main nutrients of the soil before raising shrimp have high nitrogen. Medium phosphorus and high potassium Which has higher nutrients after shrimp farming Shows that before raising shrimp The soil quality is better after shrimp farming. Therefore, if we don't suck the lane or waste before raising new shrimp Will cause waste Accumulate in the shrimp pond And have a bad effect on shrimp Which shrimp will use calcium along with phosphorus in the ratio of 1:1 to be the most effective Calcium will be absorbed into the tissue better than phosphorus. Calcium will be absorbed into the tissue better than phosphorus. Calcium absorption will be better and more. When there is vitamin D The effect of sodium and potassium deficiency results in shrimp boredom, slow growth, loss of body weight, acidic blood, and can take advantage of less protein. Because sodium is a stimulant of the protease enzyme, which is a gastric juice used to digest protein. If lack of sodium, it will cause protein digestion to be lower.

Conclutions

According to the study of the quality of white shrimp pond soil before and after shrimp farming, Hat Samran Subdistrict, Hat Samran District, Trang Province. According to the study of the pH of the soil around the white shrimp pond, it was found that the average pH is similar and only the soil before raising shrimp, 15 centimeters deep, with an average of 6.66. Which the above soil will have properties as the middle temperature in the white shrimp pond From the study of the temperature of the soil in the white shrimp pond, it was found that the soil before raising white shrimp The area is 15 centimeters deep with the highest temperature. Because the soil in that area has accumulated the most heat, the fertility of the soil in each area of the shrimp pond (N PK) from the study of soil fertility, the main nutrients of the soil consists of nitrogen, phosphorus, potassium. It was found that the soil before shrimp farming contains nutrients. The main nutrients are more fertile than the soil after shrimp farming. From the discussion, it was found that the soil before raising and the soil after shrimp has a pH with neutral soil properties. And the soil before raising shrimp Will have a temperature that is in the range of 30-32 degrees Celsius And the soil after shrimp farming is in the range of 30-31 degrees Celsius. The soil before shrimp farming has a higher temperature than the soil after shrimp farming. The soil before shrimp farming has the main nutrients. High nitrogen value Medium phosphorus High potassium As a result, the soil in the area before shrimp farming is more suitable and effective than the soil after shrimp farming.

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Janice VanCleave (Janice VanCleaf) 35 Science Project Grade A+ Secondary Level : Nanmeebooks, Co., Ltd. 2022

OPTIONAL BADGES

I AM A COLLABORATOR

Our group has a total of 3 members, we work in groups every step of the way, planning, exploring, collecting information, analyzing, making reports under the following topics: Abstracts, introductions, objectives, hypotheses, materials, equipment, study methods, results, summarize research results and discuss the findings until successful in this research.

I MAKE AN IMPACT

In Thailand, there are more white shrimp farmers. Therefore, we think that this comparison experiment Can benefit farmers In the community in shrimp farming As a result, white shrimp farming is more effective.

I AM A DATA SCIENTIST

According to studies of the relationship between temperature, soil fertility, soil pH. Relative humidity, type, scientifically, the value obtained from the survey has an average in the table. When taken from the table to create a bar chart.