A Study of Soil Quality Before and After Peanut Cultivation

Wicheinmatu School

Abtract

This research studied and compared soil quality in peanut growing areas before and after planting. Soil samples were collected three times at each sampling point to compare the soil quality of the peanut growing areas.

Research Question

Does the soil in the area before and after planting peanuts differ in soil quality

Introduction
content knowledg

Soil quality is the ability of soil to support plant growth. Agricultural products and maintain ecological balance. Nutrient sufficiency (N-P-K), moisture-holding and breathable (pH 6.5-7.5).

Peanuts (Arachis hypogeae) are classified as plants in the Leguminoseae family, and can be commonly grown in both tropical and subtropical regions of the world. For peanut cultivation in Thailand, it is an economically important field crop and is classified as a good soil improvement crop because it has root knots that can fix nitrogen from the air. As a result, the soil will be more fertile. This study therefore wanted to compare soil quality before and after cultivation to confirm the soil-enhancing properties of peanuts. In addition to helping to increase income for farmers. It also increases soil fertility and has a positive effect on plants planted in the next season.
Comparative study of soil quality in the area before and after planting peanuts.

The research team studied and compared the soil quality in the peanut growing area. Ban Pho Subdistrict, Mueang District, Trang Province Thailand Therefore, it is important to know the differences in the soil in the area and the suitability of the soil for growing peanuts. The results of the study can be used as information for soil improvement and management.

Research Methods Planning Investigations
Describes the planning process

Part 1: Principles of Soil Measurement
Soil Sampling
1.1 Soil samples are collected from two areas: before planting and after planting. Three samples are taken from each area. The soil characteristics are examined, such as soil texture, color, and soil aggregation.
Study of Soil Acidity and Alkalinity (pH)
2.1 Soil from each sampling point is mixed with water and allowed to settle. Then, the clear water is mixed with the testing kit and the color is compared.
Testing Nutrient Content (N, P, K) in Soil
The soil samples are shaken and compared with the color obtained from the testing kit. The results are observed and recorded. Soil moisture is measured using a soil moisture meter placed in the study area.
Measurement of Relative Humidity
1.1 A digital thermometer is placed in the area to be studied.
Temperature Measurement
2.1 A digital temperature and humidity meter is placed in the study area.

The investigation revealed the geographical coordinates.

Longitude	Length
7.6269480 °N	99.6460350 °E

Globe Badges

I am a participant in an interdisciplinary project that integrates collaborative planning, fieldwork, and rigorous data analysis to produce high-quality research ready for publication.As a data scientist, I evaluated the effectiveness of the study by comparing soil quality in areas before peanut cultivation and after peanut cultivation.

Results
Analizing data

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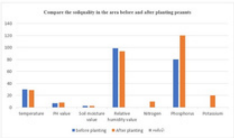
Table 1:Compare the soil quality in the area before and after planting peanuts.

Factors	Average	
	Before	After
pH	7.0	8.0
Temperature	30.2°C	28.73°C
Soil moisture	2.5%	2.46%
Relative humidity	99%	93.66%
Nitrogen content	0mg/kg	10mg/kg
Phosphorus content	80mg/kg	120mg/kg
Potassium Content	0mg/kg	20mg/kg
Clay color	10YR4/2	10YR5/4
Ground beef	loamy soils	loamy soils
Soil anchorage.	Messy	Messy



Discussion
interpreting data

The research team would like to express our sincere gratitude to everyone who contributed to the completion of this study. We would like to thank Ban Pho Subdistrict, Mueang District, Trang Province, for providing knowledge and for allowing this area to be used as the research site and for data collection.
We would also like to express our appreciation to the Director of Wichiamat School for the support and assistance in various aspects throughout the research.
Soil samples were collected from areas before planting and after planting peanuts. The soil characteristics, including soil texture, color, and soil aggregation, were examined. In addition, the soil pH and soil moisture were studied, and the soil fertility of peanut cultivation areas in Ban Pho Subdistrict, Mueang District, Trang Province, Thailand, was compared.
We would like to extend our sincere thanks to Mr. Sakda Paisomboon, the Director of Wichiamat School, and to Ms. Suteera Thachin and Ms. Sawitree Duangsuk for serving as advisors and for providing valuable guidance and useful information.
Finally, we would like to thank all team members for their cooperation and assistance in completing this research.

Conclusion Drawing
conclusions &Nextstep

Study and compare soil quality in peanut growing areas before and after planting peanuts. Ban Pho Subdistrict, Mueang District, Trang Province Thailand The results of the study are as follows: It was found that the soil in the area before planting the beans. And after planting, the soil is crumbly. and the seizure of loamy soil. Compare the temperature in the soil before and after planting. The temperature of the area before planting was about 1.47 °C higher than that of the area after planting, and the temperature was stable. The pH value of the area before planting is neutral with the area after planting, there is a base and moisture value in the soil before planting. The moisture value is less than the area after planting, the abundance of (N,P,K) in the area before and after planting. Nitrogen value (N) after planting is 10 mg/kg higher than before planting, phosphorus value (P) The potassium (K) value after planting was 40 mg/kg higher than before planting , and the potassium (K) value after planting was 120 mg/kg higher than before planting.

Biologytrap referance

GLOBE methodological measurements, soil studies
https://globefamily.ipst.ac.th/globe-protocols/pedosphere-soil
Study how to use a thermometer and relative humidity to measure the temperature and relative humidity of the soil.
https://www.tools.in.th/temperature-monitoring-device/how use-hygrometers/
Learn how to use pH and NPK tests.
https://www.bsmartsci.com/product/345
Agricultural Extension Information 2018/19
http://www.agriinfo.doae.go.th/year62/plant/rortor/agronomy/20.pdf