

abstract

Research Title : Study of water quality in ponds near palm plantations and ponds near rubber plantations against the diversity of aquatic organisms.

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The study of water quality in the pond near palm plantations and near rubber plantations against the diversity of aquatic organisms in Khok Lo School District, Mueang District, Trang Province is intended for 1) Study the water quality in the pond near palm plantations and near the rubber plantations in Khok Lo Subdistrict, Mueang Trang District, Trang Province 2) Study the diversity of pond organisms near palm plantations and near rubber plantations by studying temperature, acidity, base, transparency, oxygen content of water and water. Many drags of aquatic animals that are indicators of the diversity of organisms in different school districts. The results showed that the study of water quality in ponds near palm plantations and near rubber plantations in Khok Lo Subdistrict, Mueang Trang District, Trang Province. It was found that the acidity base value of the pool water near the palm plantation and near the rubber plantation. There is no significant difference that the statistic 0.1 may be due to both areas being covered with plants, resulting in the leaves of moldy plants dropping, degrading in the water. The transparency, temperature and amount of oxygen dissolved in pool water near palm plantations and near rubber plantations differed significantly at a record 0.1

Keywords Water Quality Pool near Palm Garden Pond near Rubber Garden

preamble

Pools or ponds are stagnant bodies of water that are normally smaller than lakes, which can be naturally or man-made, pools may occur naturally in flooded areas to be part of a river system, or they can be separate puddles. The types of pool organisms are generally judged by a combination of factors, including water level (especially depth and duration of waterlogging) and nutrient levels. Often, humans make pools. In the countryside, farmers and villagers dig pools in the backyard. There is a water source to hold water. Used in agriculture Many kinds of man-made species are classified as pools. Some pools are specifically built to restore animal habitats, including water treatment. Stagnant water bodies, such as pools and lakes, are often distinguished from flowing bodies such as creeks, streams and streams or rivers. Rubber plantations and palm plantations are economic plants that are important to the economy of the south and of Thailand. In addition to that, there are animals that live together in a similar environment, are natural sources favorable to livelihoods and are home to many living things.

The researchers studied the pool data, finding that the area in the pool had a different environment. The researchers then recognized the importance and differences in the species of organisms in both areas of water and the nature of the water in the zones studied in the pond area. The panel will study the types of aquatic organisms, water transparency. The amount of dissolved oxygen, water temperature and acidity base value in water are indicators of water quality.

The purpose of the research

1. Study the water quality in the pond near palm plantations and near the rubber plantations in Khok Lo Subdistrict, Mueang Trang District, Trang Province.
2. Study the diversity of living organisms in ponds near palm plantations and near rubber plantations.

Research questions: How does the quality of water in a pond near a palm plantation and near a rubber plantation affect the diversity of living things in the pond?

Research hypothesis If water quality in the pond near the palm grove and near the rubber plantation is different. So the creature traits may be different.

Materials and equipment and methods of conducting research

- | | |
|--------------------------|----------------------------------|
| 1. Measuring cable | 8. Notepad and stationery |
| 2. Geolocation Meter | 9. Water-soluble oxygen test kit |
| 3. Thermometer | 10. Cone |
| 4. Secchi Disk | 11. Colander |
| 5. Meter Cartridge | 12. Insect Endoscope |
| 6. Water check pH paper | 13. Rope |
| 7. Photography Equipment | |

GLOBE Protocols

Methodology (Hydrosphere)

1. Drawing a Map of your Site
2. Transparency
3. Water Temperature
4. Dissolved Oxygen
5. PH (pH)
6. Large invertebrate volume (Macroinvertebrates)

Defining study points

The area of Khok Lo Subdistrict, Mueang Trang District, Trang Province The experiments were conducted on the pond next to palm and rubber plantations.

How to conduct research

1. Research Preparation Stage

- 1) Set up a study point, choose the topic you want to study.
- 2) Study, gather knowledge and theories related to research.
- 3) Determine the purpose of the study.
- 4) Determine the sampling point in the school district.

2. Step-by-step

- 1) Make research planning
- 2) Conduct a survey of the areas where the research will be conducted.
- 3) Take samples for measurement by related factors that need to be studied.

Geolocation measurement Water temperature ,Water acidity, water transparency The amount of oxygen dissolved in water, living organisms in the water, with the study time being 1 p.m. 1 p.m. – 17.00 hrs.

Water sampling

1. Determine the water sampling point
2. Do water samples in designated areas
3. Measure the water temperature by dipping the term meter into the water by 10 cm. Lasts about 3-5 p.m.
4. Measure the acidity of the water using pH paper, gargle the container with sample water twice, dip the pH paper, measure the pH of the sample water, compare the color of the pH measuring paper with the color bar attached to the pH measuring paper used in the measurement.
5. Measure water transparency by applying a transparency measuring plate into the water, measuring the depth of light that can pass into the water in meters.

6. Measure the amount of dissolved oxygen, conduct experiments according to the use of the label by washing the sample bottle with sample water 3 times before collecting the sample, collecting water, dipping the sampling bottle underwater by filling it up and closing the lid underwater. If you try to turn the bottle upside down if there is a gas bubble, pour out the water, start collecting water samples again, and do all the checks. 3 Repeat The average should be in the process of being determined by the test kit.

3. Analysis and summary of findings

1) Analyze and compare correlations by the statistics used in the analysis of the data, including water temperature, acid base average of water, oxygen content in water, aquatic organisms.

2) Graph the average comparison data.

3) Analyze water quality differences using T-Test

Research results

geographic coordinates Conducted a study of the pool area located in Khok Lo Subdistrict, Mueang District, Trang Province.

There are coordinates like this table.

Geographic coordinates table

Study areas	Geographic coordinates	
	Latitude (N)	Longitude (E)
Pool near the palm plantation	7.52036 N	99.622799 E
Pool near rubber plantation	7.5206164 N	99.6227846 E

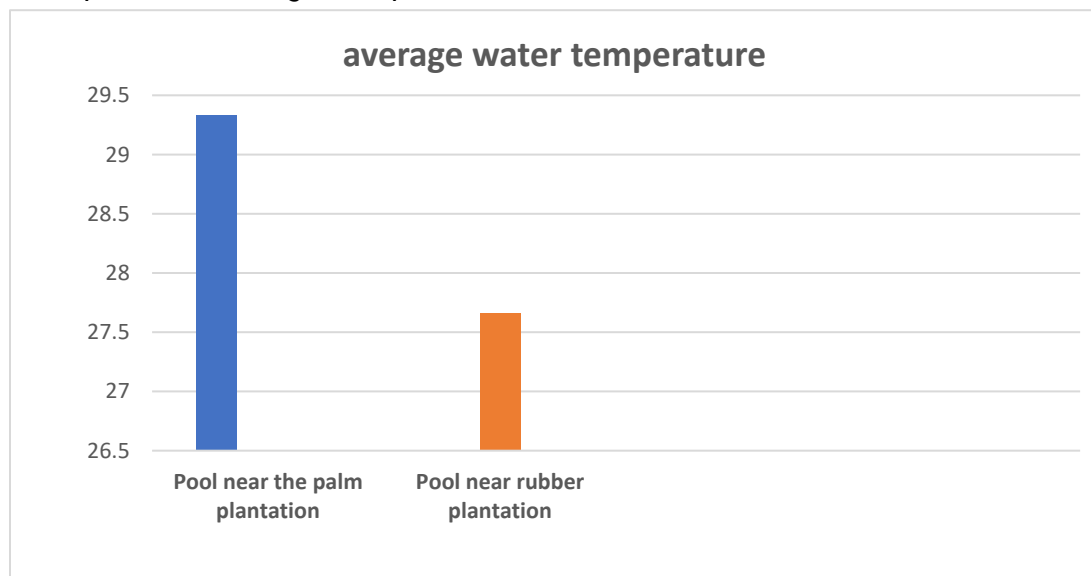
Part 1: Study the water quality in the pond near palm plantations and near the rubber plantations in Khok Lo Subdistrict, Mueang Trang District, Trang Province

The study of the temperature of the water in the pond near the palm plantation and near the rubber plantation worked as shown in Table 1.

Table 1 Water Temperature Values

Study areas	Water temperature (degrees Celsius)			
	1st	2nd	3rd	average
Pool near the palm plantation	29	29	30	29.33 ± 0.57
Pool near rubber plantation	27	28	28	27.66 ± 0.57

Water Temperature Average Comparison Chart



From the results of the average water temperature study at the pond near Palm Park. The average is 29.33 °C in the pond area near the rubber plantation. The statistical analysis showed that the temperature of the pool near palm plantation and near the rubber plantation differed significantly. 0.1

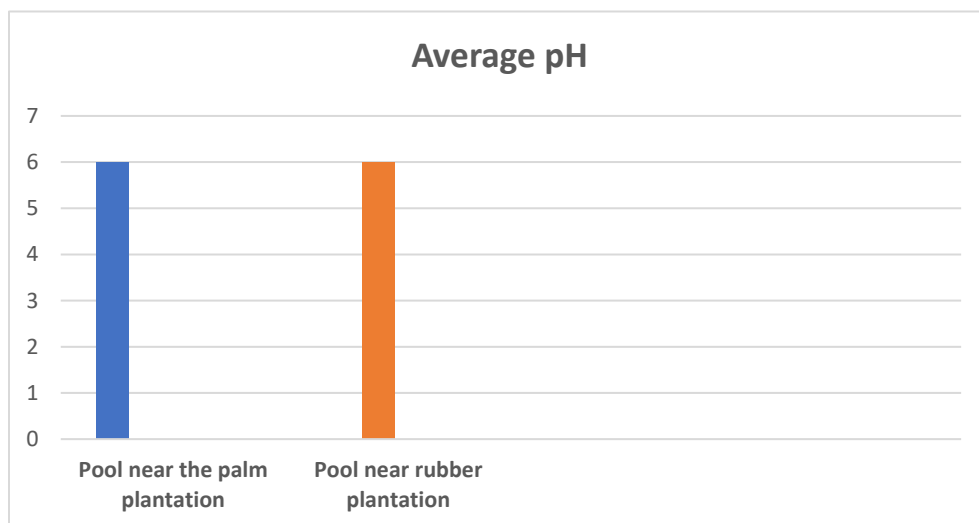
Acidity base of water

Based on the study of the acidity of the water in the pond near the palm plantation and near the rubber plantation. It works as shown in table 2.

Table 2 Acidity Base Values

Study areas	Average pH			
	1st	2nd	3rd	average
Pool near the palm plantation	6	6	6	6.00 ± 0.00
Pool near rubber plantation	6	6	6	6.00 ± 0.00

Chart comparing the average acidity base of water



The results of the study averaged acidity base of water. The pool area near Palme Park. Average pH 6.00 Pool area near Rubber Park An average pH of 6.00, according to statistical analysis, showed that the acidity of the pool water near the palm plantation and near the rubber plantation. There is no significant difference at the 0.1 record.

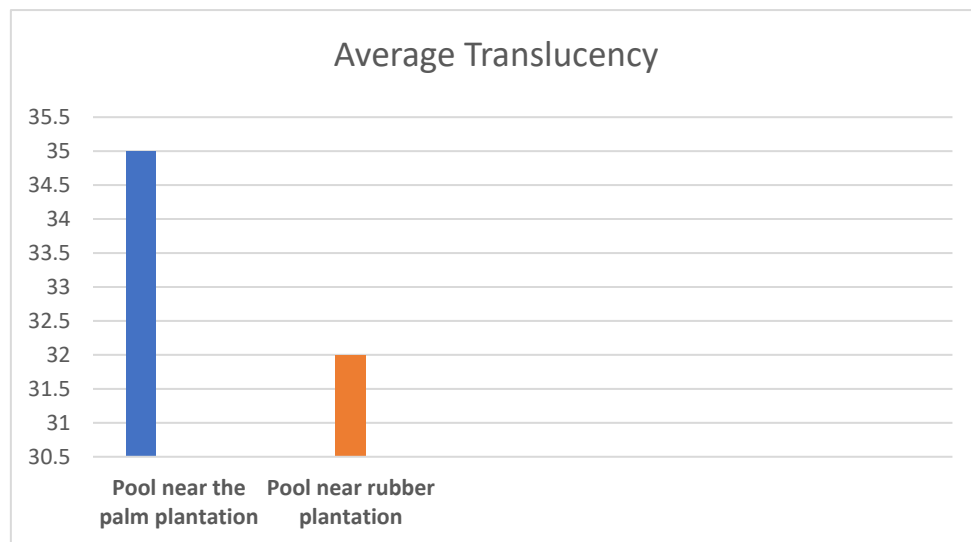
Transparency value

The study of the transparency of water in the pond near the palm plantation and near the rubber plantation worked as shown in Table 3.

Table 3 Transparency Values

Study areas	Water Transparency Values			
	1st	2nd	3rd	average
Pool near the palm plantation	35	34	35	35 ± 0.1
Pool near rubber plantation	32	33	31	32 ± 0.1

Translucency Average Comparison Chart



According to a study of the transparency of pool water near palm plantations and near rubber plantations. It was found that the transparency value of the pool water was found near the palm grove. It averages 35 ± 0.1 ponds near rubber plantations. An average of 32 ± 0.1 , according to statistical analysis, showed that the transparency of pool water near palm plantations and near rubber plantations differed significantly at a record 0.1

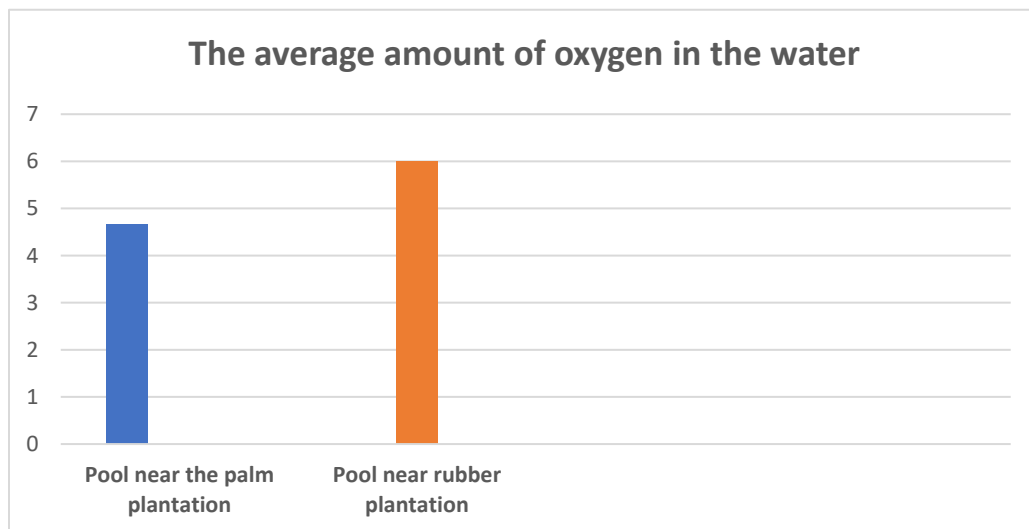
Dissolved oxygen content

The study of the amount of oxygen dissolved in the pool near the palm plantation and near the rubber plantation worked as shown in Table 4.

Table 4 Dissolved Oxygen Content Values

Study areas	Oxygen content			
	1st	2nd	3rd	average
Pool near the palm plantation	4.50	4.50	5.00	4.67± 0.29
Pool near rubber plantation	6.00	6.00	6.00	6.00 ± 0.00

Chart comparing average oxygen content in water



The study of the amount of oxygen dissolved in water in the pond near the palm plantation and near the rubber plantation. It was found that the average oxygen content of pool water was found near palm groves. It averaged 4.67 ± 0.29 ponds near rubber plantations. An average of 6.00 ± 0.1 , according to statistical analysis, showed the amount of oxygen dissolved in the pool near the palm plantation and near the rubber plantation. Significantly different at a statistic of 0.1

Shows the relationship between dissolved oxygen content and water temperature.

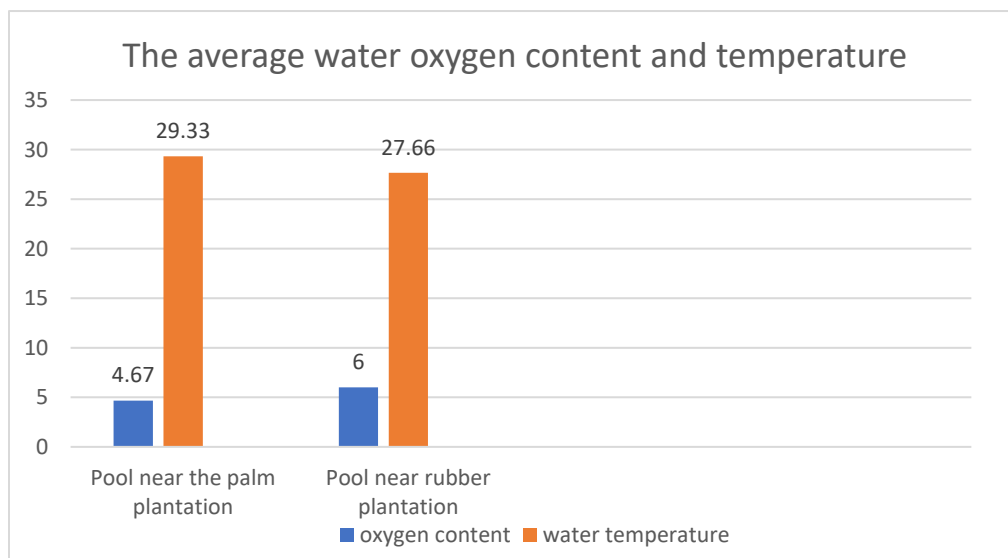
Studies of the relationship between dissolved oxygen content and water temperature

Dissolved in the pool near palm groves and near rubber plantations works as shown in Table 4.

Table 5 Dissolved Oxygen Content

Study areas	Oxygen content	Water temperature (degrees Celsius)
Pool near the palm plantation	4.67 ± 0.29	29.33 ± 0.57
Pool near rubber plantation	6.00 ± 0.00	27.66 ± 0.57





Chart comparing average dissolved oxygen content in water



According to studies, the amount of dissolved oxygen in water and water temperature is correlated: in palm plantations, the high temperature, the oxygen content is lower. In rubber plantations, the temperature is lower, the oxygen content is high.



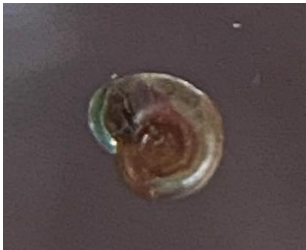
Part 2: Studying the diversity of aquatic organisms in ponds near palm plantations and near rubber plantations, results as shown in Table 6.

Table 6 Creatures Found in Ponds Near Palm Groves

Study areas	Creatures found		
	name	picture	Number
Pool water near palm groves	Periwinkle		6
	Single clam		10
	Water Kangaroo		13
	Zico worm larvae		5

Part 2: Studying the diversity of life in the pond near palm groves and near rubber plantations, it works as shown in Table 7.

Table 7 Creatures Found in Ponds Near Rubber Plantations

Study areas	Creatures found		
	name	picture	Number
Pool water near rubber groves	Water Moan		8
	Pagoda Clams		6
	Single clam		11

According to a study of the diversity of aquatic organisms in ponds near palm plantations and near rubber plantations, water organisms were found in ponds near palm plantations rather than ponds near rubber plantations.

Summary and discussion of the findings

Summary of findings

The study was based on the quality of water in the pond near palm plantations and near rubber plantations in Khok Lo Subdistrict, Mueang Trang District. **The** temperature, acidity base, transparency and dissolved oxygen content can be summarized as follows:

temperature

From the results of the average water temperature study at the pond near Palm Park. The average is 29.33 °C in the pond area near the rubber plantation. The statistical analysis showed that the temperature of the pool near palm plantation and near the rubber plantation differed significantly. 0.1

Base Acidity Value

The results of the study averaged acidity base of water. The pool area near Palme Park. An average pH of 6.00 in the pond area near the rubber plantation. An average pH of 6.00, according to statistical analysis, showed that the acidity of the pool water near the palm plantation and near the rubber plantation. There is no significant difference at the 0.1 record.

transparency

According to a study of the transparency of pool water near palm plantations and near rubber plantations. It was found that the transparency value of the pool water was found near the palm grove. It averages 35 ± 0.1 ponds near rubber plantations. An average of 32 ± 0.1 , according to statistical analysis, showed that the transparency of pool water near palm plantations and near rubber plantations differed significantly at a record 0.1.

.Dissolved oxygen content

The study of the amount of oxygen dissolved in water in the pond near the palm plantation and near the rubber plantation. It was found that the average oxygen content of pool water was found near palm groves. It averaged 4.67 ± 0.29 ponds near Rubber Park. An

average of 6.00 ± 0.1 , according to statistical analysis, showed that the amount of oxygen dissolved in the pool near the palm plantation and near the rubber plantation differed significantly at a record 0.1.

Part 2: Studying the diversity of life in the pond near palm plantations and near rubber plantations

5. Detected organisms

According to a study of the diversity of aquatic organisms in ponds near palm plantations and near rubber plantations, water organisms were found in ponds near palm plantations rather than ponds near rubber plantations.

Discuss the results of the study

The study of water quality in the pond near palm plantations and near rubber plantations in Khok Lo Subdistrict, Mueang Trang District, Trang Province. It was found that the acidity base value of the pool water near the palm plantation and near the rubber plantation. There is no significant difference that the statistic 0.1 may be due to both areas being covered with plants, resulting in the leaves of moldy plants dropping, degrading in the water. The transparency, temperature and amount of oxygen dissolved in the water in the pool near the palm plantation and near the rubber plantation differed significantly at a record 0.1, with both sources likely in the same way: in palm plantations, the oxygen content is lower. In rubber plantations, the temperature is lower than the oxygen content, so the oxygen content is higher, but both areas have a higher amount of oxygen inhabiting the threat of insect larvae and the large number of pastes, as well as temperature, acidity base values that can indicate which animals can live according to natural water quality.

Acknowledgments

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Optional Badges

1. I am a Collaborator.

In our team, there are a total of 3 people, dividing each party equally, whether storage space , data compilation and making presentations. Everyone has offered their opinions to make the work come out effective.

2. I make an Impact.

The water sources studied were only suitable for use in agricultural plantations and community sites. Not suitable for local consumption.

3. I am a data Scientist.

- The sample data was re-analyzed 3 times.
- The mean of each sample is calculated.
- The results are displayed in the form of tables and bar charts.