Research Title : The relationship between soil quality in *cinnamomum porrectum (roxb.) kosterm.* Garden and the essential oil content of **fragrant** *cinnamomum porrectum (roxb.) kosterm.* scents,*Cymbopogon nardus Rendle.* **scents and** *Eucalyptus globules Labill.* scents

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Abstract

The purpose of this research was to study the two coster C. porrectum planting areas. Where the wood of *C. porrectum. C. porrectum* scents *,C. nardus* scents and *E. globulus* scents ,The author is interested in studying soil physical characteristics, moisture content, temperature, acidity and soil nutrients, which are indicators of soil quality, are related to the amount of essential oil glands of C. porrectum leaves,*C. porrectum* scents,*C. nardus* scents *and E. globulus* scents in 2 areas. The study found that the physical characteristics of the soil.Humidity, temperature, acidity, base and nutrients of the soil in the area. There is a *C. porrectum.C. porrectum* scents,*C. nardus* scents and *E. globulus scents* There are differences, and it has been found that the number of essential oil glands of the wood of the *C. porrectum.C. porrectum* scents is the largest, resulting in the largest extraction of essential oils. Followed by *C. nardus* scents and *E. globulus* scents is minimal.

Keywords: soil quality Taro Wood Oil glands essential oils

Introduction

The *C. porrectum* is an economically valuable fragrant plant. Up in a sufficiently moisturized place. Most common in the south. In Trang province,*C. porrectum* wood is used as a souvenir and oil extraction for various products. In Huai Yod District, Trang Province, *C. porrectum* Forest has been planted as a source of learning and various uses. It was found that when planted for a while, the leaf area of some *C. porrectum* , when the leaves and fruits were rubbed, smelled differently from the original deity *C. porrectum* ,*C. porrectum* scents . But it *C. nardus* scents and *E. globulus* scents. The group was interested in studying the relationship between soil quality in *C. porrectum* Garden and the essential oil content of fragrant *C. porrectum* leaves. *C. porrectum* scents ,*C. nardus.* scents and *E. globulus* scents.

Research Questions

1.Physical characteristics of the soil Soil moisture value, soil temperature Acidity The base of the soil and nutrients in the soil where the *C. porrectum* wood is planted,*C. porrectum* scents,*C. nardus* scent and *E. globulus* scent Is there a difference?

2.The quality of the soil in which the wood is planted, *C. porrectum. C. porrectum* scents Is there a difference between *C. nardus* scents and *E. globulus* scents?

3.The soil quality in *C. porrectum* Garden affects the number of essential oil production glands and the amount of essential oils of *C. porrectum* scents,*C. nardus* scents and *E. globulus* scents?

Research hypothesis

1. Physical characteristics of the soil Soil moisture value, soil temperature Acidity The base of the soil and nutrients in the soil where the *C. porrectum wood* is planted,*C. porrectum* scent,*C. nardus* scent and *E. globulus* scent are different.

2. The amount of essential oil in the *C. porrectum* leaves.*C. porrectum* scent,*C. nardus* scent and *E. globulus* scent.

3. The soil quality in *C. porrectum* Garden affects the number of essential oil production glands and the amount of essential oils of *C. porrectum* leaves.*C. porrectum* scent, *C. nardus* scent and *E. globulus* scent.

Materials, equipment, methods of conducting research

1. Equipment materials

1) Soil color book
2) Tape meter
3) Straw rope
4) Taro leaf
5) Base acidity test kit of substance
6) Globe Observer Application
7) Thermometer
8) pH meter
9) N P K test kit in soil
10) Vernier caliper
11) Soil Classification Guide
12) Digital soil meter
13) Soil thermometer
14) Multipurpose Meter
15) Microscope
16) Slide glass
17) Feather blade
18) slide cover glass
19) Soil
20) Essential Oil Distillation Kit

2. methob

2.1 Study area

Picture 1 shows the area of *C. porrectum* Park1. Picture 2 shows the area of *C. porrectum* Park2.

This research was conducted at *C. porrectum* Palace, Huai Yot District, Trang Province. It is located at latitude 7.8075836 degrees North. Longitude 99.5715665

2.2 Procedures for the operation and collection of soil quality data collection

To measure soil quality according to the globe methodology by studying the characteristics of soil texture. Soil structure, soil color Measure soil temperature Soil base acidity Soil moisture and soil fertility values from N P K values in soil are as follows:

1.) Set up 2 sampling points at *cinnamomum porrectum (roxb.) kosterm.* where there is a growth of *cinnamomum porrectum (roxb.) kosterm. cinnamomum porrectum (roxb.) kosterm*. scents,*Cymbopogon nardus Rendle.* scents and *Eucalyptus globules Labill*. scents Each area collects soil samples. 3 points, including 6 soil sampling points

2.) Study the physical characteristics of the soil by studying the structure of the soil using CU Smart Len.

3.) Measure the temperature of the soil at all points by using a thermometer for measuring the soil temperature at a depth of 10 centimeters. Data collected 3 times

4.) Measure soil moisture at all points by using a multi-purpose meter at a depth of 5 centimeters. Soil moisture readings Data collected 3 times

5.) Collect soil samples at all sampling points to study soil properties according to various indices in the laboratory, namely pH , N , P and K.

Information on the number of perfume glands

1.) Determine the storage point of *C. porrectum* leaves in the point where the soil quality is measured from 2 areas where there is growth of the *C.porrectum.C. porrectum* scents,*C. nardus* scents and *E. globules scents.*

2.) Take the leaves of the *C. porrectum.C. porrectum* scents,*C.nardus* scents and *E. globules* scents Cut the middle of the leaf in half and cut the leaves transversely, slide the middle of the leaf as thin as possible, watch with a microscope to count the number of oil glands, save it in the table.

3) Take the leaves of the *C. porrectum .C. porrectum* scents,*C. nardus* scents and *E. globules* scents 200 grams each The leaves distill the essential oils using a series of extracts. Measure approximately the resulting essential oil Save results.

2.3 Data analysis

1.) Analyze the soil, soil moisture value, soil temperature, acidity. Soil base and soil nutrients, using mean and standard deviation.

2.) Compare the soil quality with the planting and growth of the *C.porrectum .C. porrectum.* scents,*C. nardus.* scents and *E. globules* scents using average and standard deviation

3.) Analyze the relationship between soil quality in *C. porrectum* Garden and the essential oil content of *C. porrectum.C. porrectum* scents,*C. nardus* scents and *E. globules* scents using Use mean and standard deviation

findings

The results of the experiment studied the relationship between soil quality in Safrol laurel Garden and the essential oil content of fragrant Taro leaves. Citronella and eucalyptus scents as follows

1. **Study of the physical characteristics of the soil around** *C. porrectum* **Garden**
   Table 1 shows the physical characteristics of the soil at *C. porrectum* Park, Study Point 1, *C. porrectum* Palace.

C. porrectum **Park Area**		**Soil structure**	**Soil color**	**Soil fastening**	**Ground beef**	**photograph**
Area 1	*C. porrectum* scent.	Single tablets	10YR4/4 Dk.Yel.Brown	Not sticking together.	Loamy, sandy, flour.	
	C. nardus scent	Single tablets	7.5YR3/4 Dark Brown	Not sticking together.	Loamy, sandy, flour.	

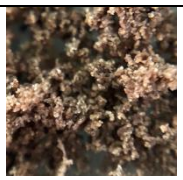
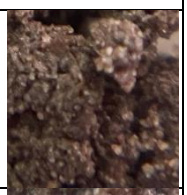
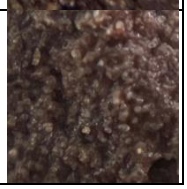
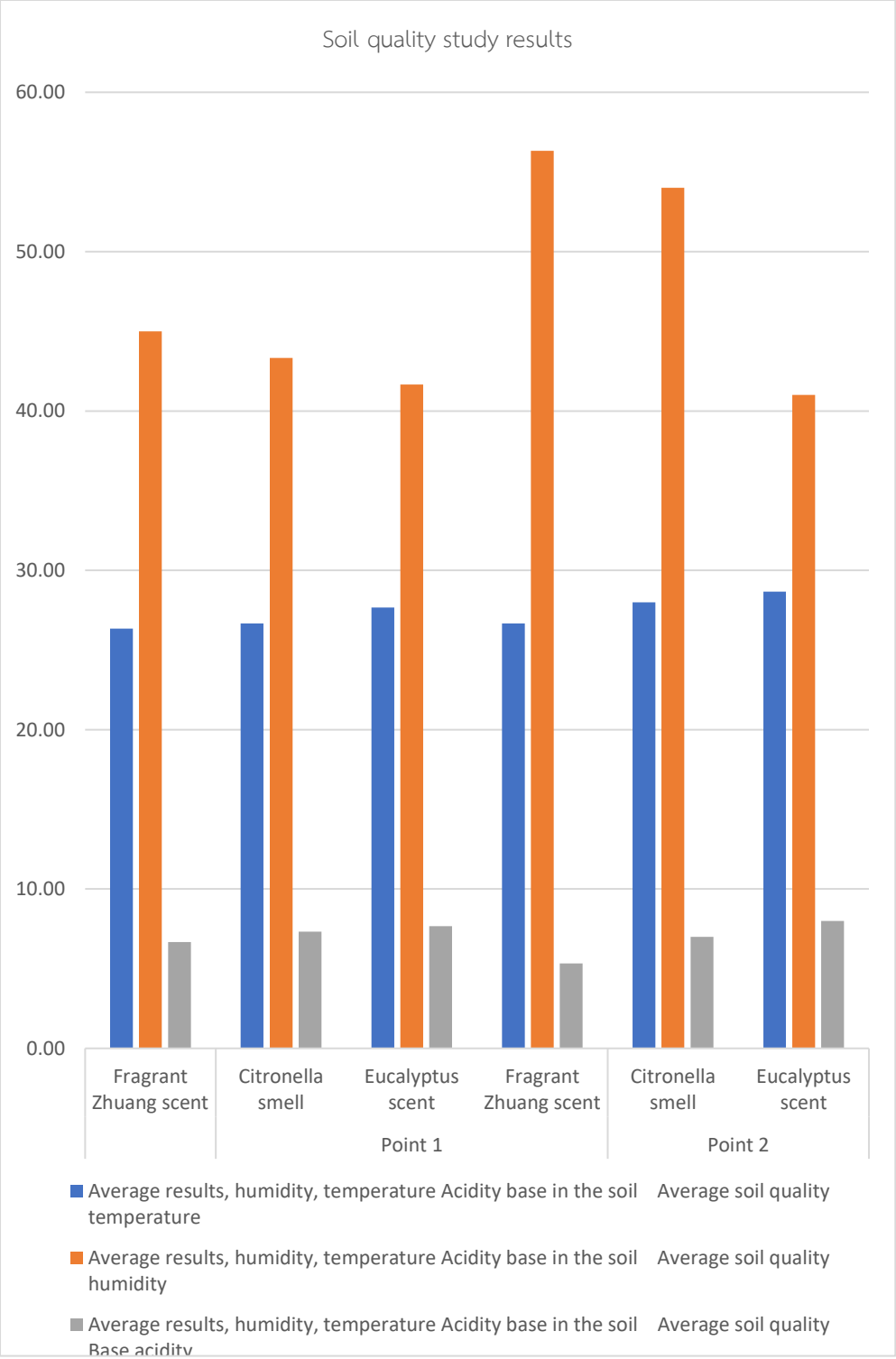
C. porrectum **Park Area**		**Soil structure**	**Soil color**	**Soil fastening**	**Ground beef**	**photograph**
	C. nardus scent	Single tablets	5Y4/3 Olive	Not sticking together.	Loamy, sandy, flour.	

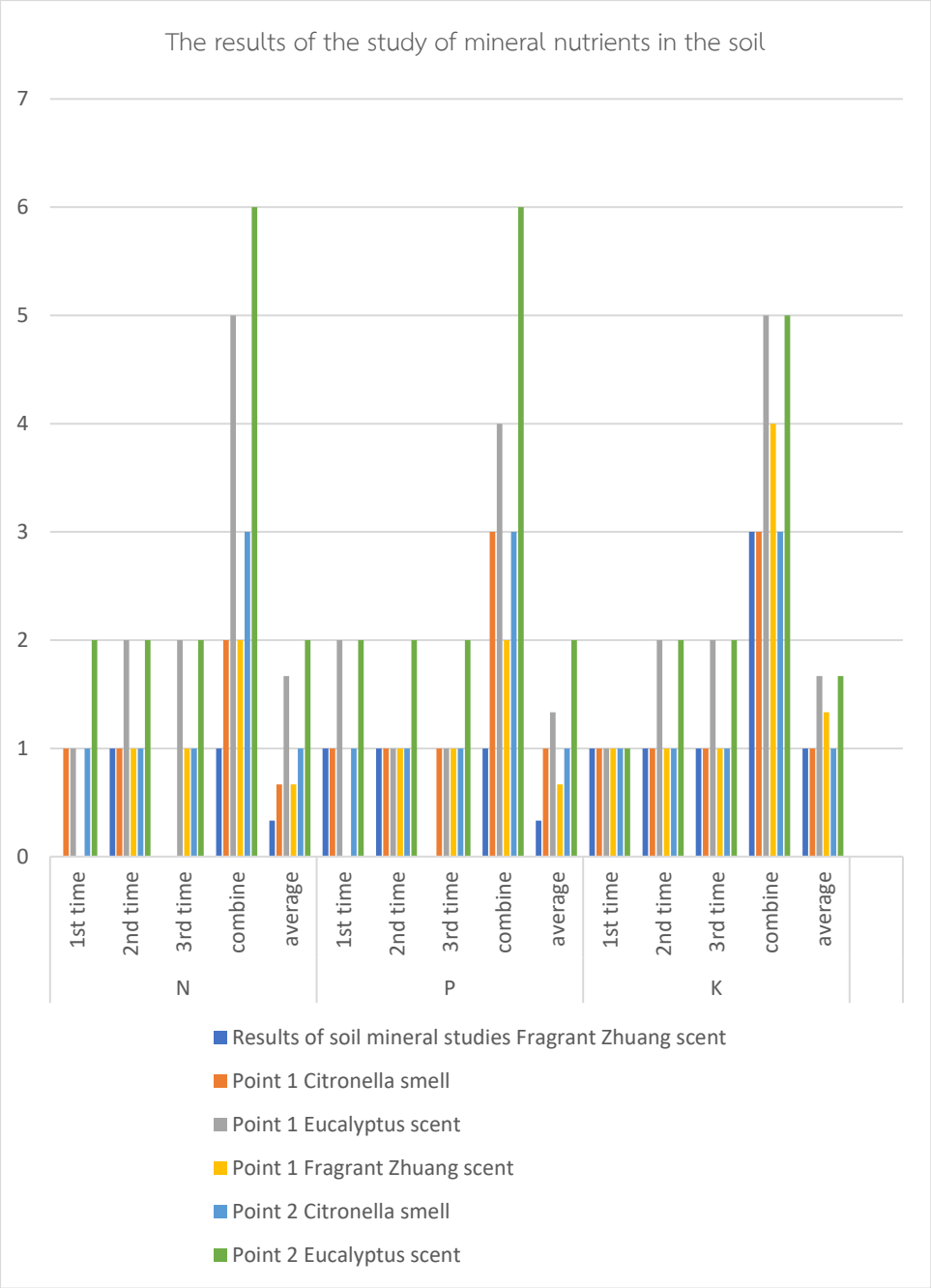
Table 2 shows the physical characteristics of the soil at *C. porrectum* Garden, Study Point 2, *C. porrectum* Palace**.**

Safrol laurel Park Area		**Soil structure**	**Soil color**	**Soil fastening**	**Ground beef**	**photograph**
Area 2	*C. porrectum* scent	Single tablets	5Y4/3 Olive	Not sticking together.	crumbly sand	
	C. nardus scent	Single tablets	5Y4/3 Olive	Not sticking together.	crumbly sand	
	C. nardus scent.	Single tablets	2.5Y4/4 Olive Brown	Not sticking together.	crumbly sand	

2. Results of temperature, humidity and acidity studies Bases of soil in *C. porrectum* Garden

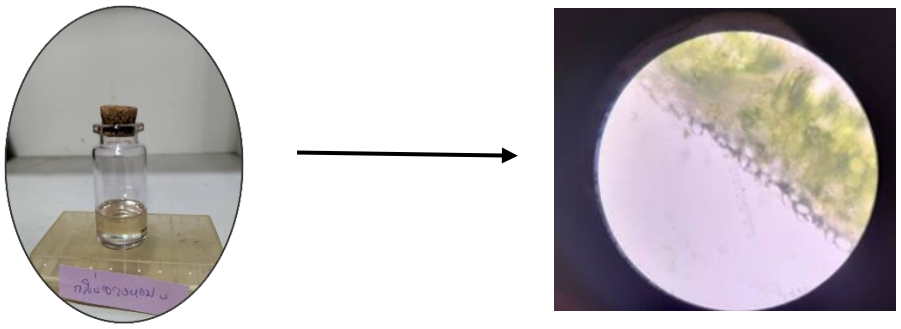


3. Results of soil nutrient studies in *C. porrectum* Garden

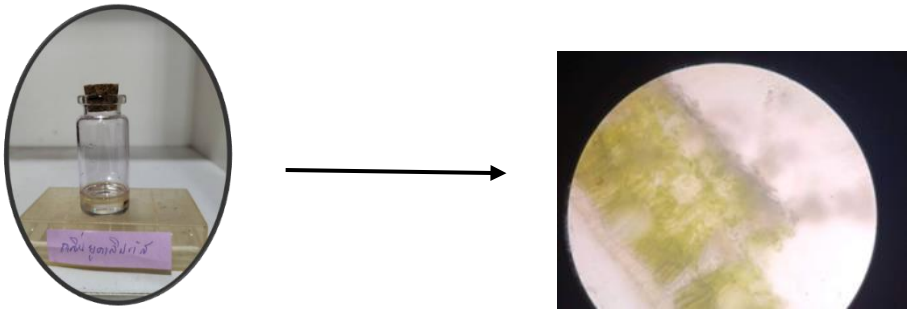


4. The results of the study of the number of oil glands and the amount of essential oils from the aromatic *C. porrectum* scent. *C. nardus.* scents and *E. globulus* scents

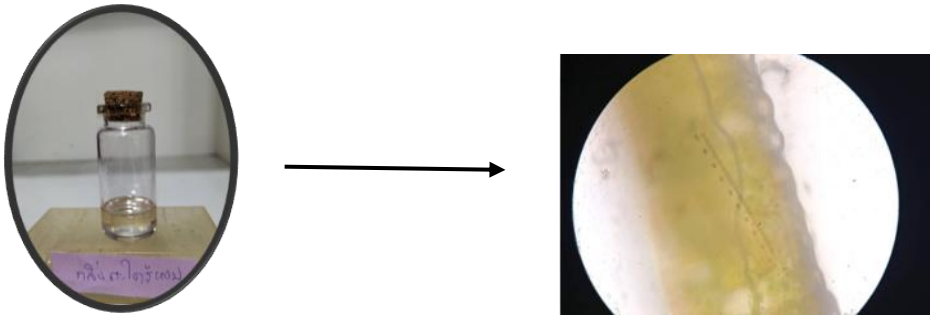
1. *C. porrectum* scent.



2. *E. globulus* scent



3. *C. nardus.* scent



Summary and discussion of study results

According to studies, the physical characteristics of the soil Humidity, temperature, acidity, base and nutrients of the soil in the area. There is a *C. porrectum. C. porrectum* scent, *C. nardus.* scents and *E. globulus* scents There are differences, and it has been found that the number of essential oil glands of the *C. porrectum* scent is the largest, resulting in the largest extraction of essential oils. This is followed by, *C. nardus.* scents and *E. globulus* scents with the least number of perfume glands and the amount of scented water.

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