Research Title: The study of air quality affects the Growth of Tillandsia usneoides areas Ban Pho Subdistrict, Mueang Trang District, Trang Province.

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Abstract

The study of air quality affects the Growth of Tillandsia usneoides areas Ban Pho Subdistrict, Mueang Trang District, Trang Province.The objectives are 1) to study the air quality that affects the growth of Tillandsia usneoides In the area of Ban Pho Sub-district, Mueang Trang District, Trang Province 2) To compare the differences in the growth of Tillandsia usneoides under different care. It is carried out by: 1) Measuring air quality, including temperature, humidity and air.

2) Study the length of the Tillandsia usneoides with 2 different treatment methods: Method 1: Trim the hermit beard before the treatment.

Spray water method 2 Do not trim the Tillandsia usneoides before spraying water. It was found that the Tillandsia usneoides trimming before every water spraying. It is better to grow than not to trim the Tillandsia usneoides before spraying water.

Keywords: Tillandsia usneoides, air quality Treatment methods

Introduction

Tillandsia usneoides is a plant based on the (epiphyte) that does not have real roots for nutrient absorption. No soil is required for planting. The roots only need adhesion to the material or support. Factors necessary for the growth of a Tillandsia usneoides include water,sunlight at the right level and a well-ventilated environment. The stem of the Tillandsia usneoides is characterized by long slender lines. Silver-gray hanging from tree branches or clinging materials. The leaves are small, slender and long. and covered with fine hairs, which are called trichomes. The trichome performs an important role in absorbing water and nutrients directly from the air. In addition, the Tillandsia usneoides has small flowers, a delicate aroma, and often blooms during the winter months. In particular, the ability to absorb dust and nutrients from the air through the silver trichomes on the leaf surface. This contributes to reducing the amount of fine particulate matter such as PM 2.5 and helping to improve air quality to be purer. In addition, the Tillandsia usneoides can also be planted as a natural curtain to help block the sun and reduce wind loads effectively.

Based on the benefits and ease of cultivation of Tillandsia usneoides that help create a positive effect on the climate in the community, the research team studied the factors that affect the growth of Tillandsia usneoides. By studying the air quality and comparing the differences in the growth of the Tillandsia usneoides. Under different care By controlling environmental factors to be the same. All length of the Tillandsia usneoides are hung in the same area so that they receive the same level of light, temperature, and humidity from the environment as much as possible.

Research Questions

1. Does air quality affect the growth of the Tillandsia usneoides in the area of Ban Pho Subdistrict, Mueang Trang District, Trang Province?

2. Are Growth of the Tillandsia usneoides Under 2 different treatments,by 2 different methods: Method 1: Trimming the Tillandsia usneoides before spraying water. Method 2: Do not trim the Tillandsia usneoides before spraying water. By controlling environmental factors to be the same. Is there a difference in growth?

Research Hypothesis

1. Air quality affects the growth of the Tillandsia usneoides in the area of Ban Pho Subdistrict, Mueang Trang District, Trang Province.

2. Growth of the Tillandsia usneoides,there are 2 different methods of treatment : Method 1. Trim the Tillandsia usneoides before spraying water. Method 2: Do not trim the Tillandsia usneoides before spraying water. By controlling environmental factors to be the same. There are different growths.

Related Variables

Hypothesis 1: Air quality affects the growth of a Tillandsia usneoides in the area of Ban Pho Subdistrict, Mueang Trang District, Trang Province.

Early variable: Air quality in Ban Pho sub-district

Variable based on : Tillandsia usneoides growth

Control Variables: Place of study, date of survey Survey Tools

Hypothesis 2: The growth of the Tillandsia usneoides under 2 different methods of treatment : Method 1. Trim the Tillandsia usneoides before spraying water. Method 2: Do not trim the Tillandsia usneoides before spraying water. By controlling environmental factors to be the same. There are different growths.

Early variant : How to treat by trimming the Tillandsia usneoides and not doing the Tillandsia usneoides.

Variable based on : Tillandsia usneoides growth

Control Variables: Place studied, Survey date Survey Tools

Materials, equipment and methods of conducting research

Materials and equipment

1.) Wet bulb thermometer
2.) Dry bulbous thermometer
3.) Psychrometer
4.) Tape measure
5.) Hermit beard tree
6.) Water Spray
7.) Google Maps

How the research was conducted

Designate study points

Tillandsia usneoides are planted in the same area and have the same environmental factors.

Part 1 to study the air quality that affects the growth of Tillandsia usneoides. In the area of Ban Pho Subdistrict, Mueang Trang District, Trang Province

Relative humidity in air and climate are measured using dry mercury thermometers and wet mercury thermometers and the relative humidity values are determined.

Part 2 To compare the differences in the growth of a Tillandsia usneoides under 2 different treatments: Method 1: Trimming the Tillandsia usneoides before water injection. Method 2: Do not trim the Tillandsia usneoides before spraying water. By controlling environmental factors to be the same.

2.1 Selected 6 Tillandsia usneoides trees with complete characteristics and similar size .

2.2 Divide Tillandsia usneoides into 2 groups of 3 trees each, with different experimental conditions. As follows:

Group 1: Trim Tillandsia usneoides before spraying water to moisten the entire plant once a day in the morning.

Group 2: Do not trimTillandsia usneoides before spraying water to moisten the entire plant once a day in the morning.

They have done the same for 15 days.

2.3 Measuring the length of the Tillandsia usneoides in the morning hours Using a tape measure to measure and measure in the same position of the tree. To ensure that the information is accurate and consistent by continuous recording of measurement results for a period of 15 days

Findings

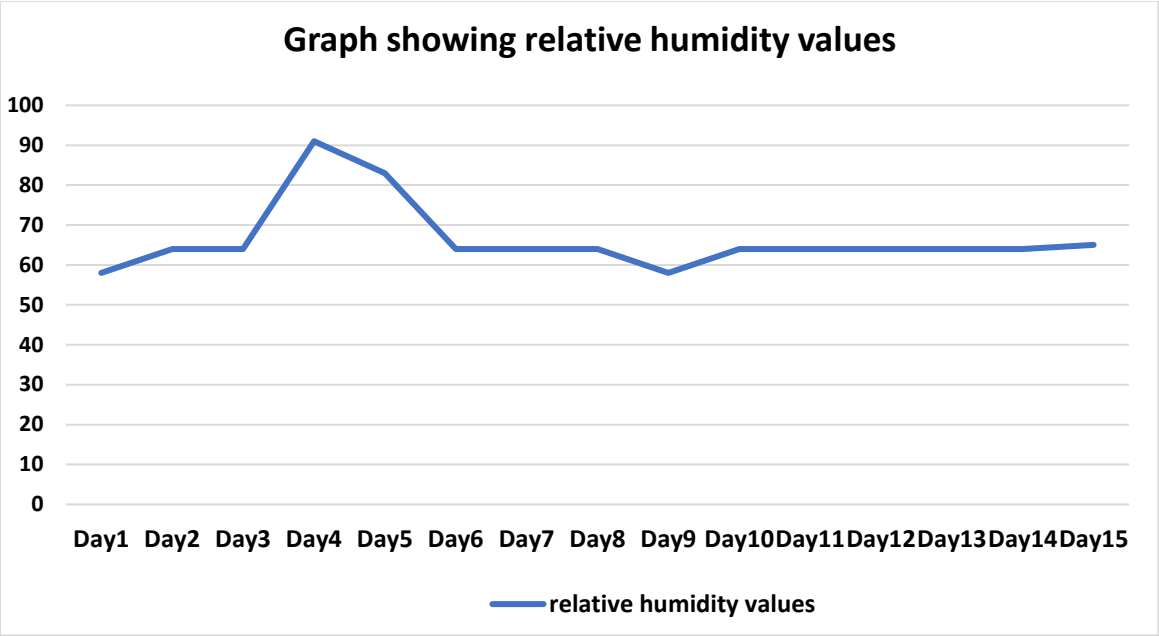
Air quality study and comparison of Tillandsia usneoides growth in the area of Ban Pho Subdistrict, Mueang Trang District, Trang Province The results are as follows:

Geographical coordinates

Table 1 Display geographical coordinates in Ban Pho sub-district Mueang Trang District, Trang Province

Area	Geographical coordinates	
	Latitude(N)	Longitude(E)
Ban Pho Subdistrict	7.588211	99.61991

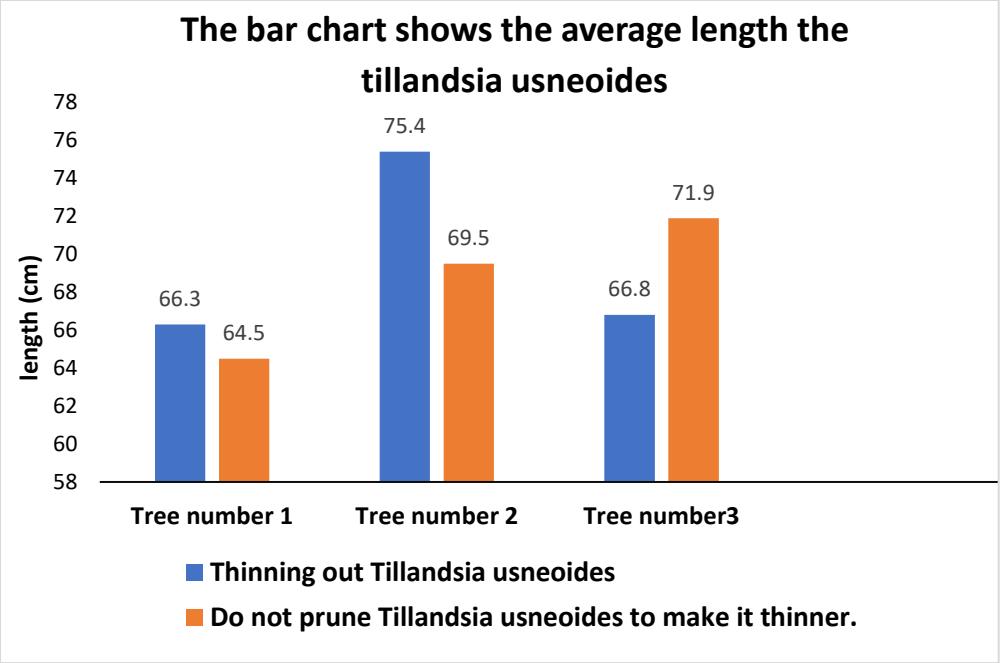
Part 1 To study the air quality that affects the growth of Tillandsia usneoides in the area of Ban Pho Subdistrict, Mueang Trang District, Trang Province



Picture 1 Graph showing relative humidity values

From the graph showing the relative humidity value, it was found that the relative humidity value was similar for all 15 days. This makes the weather hot, humid and humid, which is very suitable for the growth of the Tillandsia usneoides.

Part 2 To compare the differences in the growth of the Tillandsia usneoides. There are 2 different methods of treatment ：Method 1. Trim the Tillandsia usneoides before spraying water. Method 2: Do not trim the Tillandsia usneoides before spraying water. By controlling environmental factors to be the same.



Picture 2 The bar chart shows the average length of the Tillandsia usneoides.

From the bar chart showing the average length of the Tillandsia usneoides, it is found that combing the Tillandsia usneoides before spraying water is more likely to affect the length of Tillandsia usneoides than not striking it before spraying water. This reflects the biological variability of the plant or the influence of other factors that are not yet completely controlled.

Summary and discussion of research findings

According to studies of air quality that affects the growth of Tillandsia usneoides, it is based on the study of air quality that affects the growth of Tillandsia usneoides.Hypotheses that air quality affects the growth of Tillandsia usneoides, and the growth of Tillandsia usneoides under different plant maintenance treatments. 2 Methods include Method 1) Thinning out Tillandsia usneoides before spraying. Water. Method 2)Do not Thin out Tillandsia usneoides before spraying water. By controlling the environment. Environmental factors to be the same. The environment with suitable relative humidity results in Better growth of Tillandsia usneoides, and Tillandsia usneoides before water spraying has better growth. Tendency than not Thinning out Tillandsia usneoides before spraying

water. However, the effect of such Tillandsia usneoides is not uniformly displayed on all hermit mustache trees.

Suggestions

1. Increase the area of education.

2. Increase the time to study the growth of Tillandsia usneoides.

Acknowledgments

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