

**ANALYSES OF SOIL CHEMICAL PROPERTIES ON MINERAL SOIL AND
PEAT SOIL TOWARD GROWTH PERFORMANCE OF PINEAPPLE (MD2)**

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TABLE OF CONTENTS

	Page
DECLARATION	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF ABBREVIATIONS	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1 INTRODUCTION	1
1.1 Research Background	1
1.2 Problem Statement	3
1.3 Significant of Study	4
1.4 Objectives	5
1.5 Hypotheses	5
1.6 Scope of Study	6
CHAPTER 2 LITERATURE REVIEW	7
2.1 Pineapple	7
2.1.1 Physiology of Pineapple	7
2.1.2 Cultivation of Pineapple	8
2.2 Soil Types	9
2.2.1 Mineral Soil	9
2.2.2 Peat Soil	10
2.3 Soil Chemical Properties	11
2.3.1 Soil pH	11
2.3.2 Nutrient Contents	13
2.3.3 Cation Exchange Capacity (CEC)	15
2.3.4 Soil Salinity	16

CHAPTER 3 RESEARCH METHODOLOGY	17
3.1 Location of Soil Sampling	17
3.2 Laboratory Analysis	18
3.3 Sampling Method	18
3.4 Sample Preparation	20
3.5 Determination of Soil pH for Mineral and Peat Soil	21
3.6 Determination of Nutrients (P, K, Ca, Mg)	21
3.7 Determination of Cation Exchange Capacity (CEC)	22
3.8 Determination of Soil Salinity for Mineral and Peat Soil	22
3.9 Data Collection	22
3.9.1 Growth Performance of Pineapple	22
3.9.2 Chemical Properties of the Soil	23
3.10 Data Analysis	23
CHAPTER 4 RESULTS	24
4.1 Growth Performance of Pineapple	24
4.1.1 Leaf Length	24
4.1.2 Leaf Number	25
4.1.3 Leaf Width	26
4.1.4 Plant Height	28
4.2 Soil Chemical Properties	29
4.2.1 Soil pH	29
4.2.2 Phosphorus (P) Content	30
4.2.3 Potassium (K) Content	31
4.2.4 Calcium (Ca) Content	33
4.2.5 Magnesium (Mg) Content	34
4.2.6 Cation Exchange Capacity (CEC)	35
4.2.7 Soil Salinity	37
4.3 Relationship of Soil Chemical Properties toward Growth Performance of Pineapple	39
CHAPTER 5 DISCUSSION	41
5.1 Growth Performance of Pineapple	41
5.2 Soil Chemical Properties	42

ABSTRACT

ANALYSES OF SOIL CHEMICAL PROPERTIES ON MINERAL SOIL AND PEAT SOIL TOWARD GROWTH PERFORMANCE OF PINEAPPLE (MD2)

There are confusing facts that the mineral soil is high in nutrient compared to the peat soil but most of pineapple in Malaysia were cultivated on the peat soil. Thus, a set of experiment was conducted to evaluate the relationship of chemical properties on mineral soil and peat soil toward growth performance of pineapple and to compare the early growth performance of MD2 pineapple that were cultivated on mineral soil and peat soil. The chemical properties such as soil pH, cation exchange capacity (CEC), soil salinity and nutrient contents which are phosphorus (P), potassium (K), calcium (Ca) and Magnesium (Mg) from both soil were analyzed. The growth performance (plant height, leaf length, leaf number and leaf width) of pineapple cultivated on different type of soil also were measured. Results showed peat soil significantly ($p = 0.00$) more acidic (3.49) compared to mineral soil (5.38). The pH of soil was influenced cation exchange capacity (CEC) of the soil which the CEC of mineral and peat soil was $18.85 \text{ cmol}_c\text{kg}^{-1}$ and $2.82 \text{ cmol}_c\text{kg}^{-1}$ respectively. Salinity of both soil indicate it was suitable for pineapple growth which between 1-2 dS/m. Mineral soil content high nutrient compared to peat soil especially for Ca (626.81 mg/L) and Mg (45.55 mg/L) content which contribute to high pH. While peat soil significantly high in P and K content compared to mineral soil. However, the growth performance of pineapple cultivated on both type of soil shows no significant difference ($p \geq 0.05$) except for leaf width. Furthermore, there were no relationship between chemical properties of soil toward growth performance of pineapple.

Keywords: soil, peat, mineral, chemical properties, growth performance