

UNIVERSITI TEKNOLOGI MARA



Dedicated Planters in The Making. D'Planters' Guild

LEMBAGA GETAH MALAYSIA

FACULTY OF PLANTATION AND AGROTECHNOLOGY
DILPOMA IN PLANTING INDUSTRY MANAGEMENT
INDUSTRIAL TRAINING REPORT

LOCATION: MALAYSIAN RUBBER BOARD, RRIM RESEARCH STATION, LOT 11, BLOCK 1, LAVANG LAND DISTRICT KM 68, JALAN BINTULU-MIRI, 97000 SIMILAJAU, BINTULU, SARAWAK

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CONTENT	PAGE
1.0 ACKNOWLEDGEMENT	3
1.2 ORGANISATION BACKGROUND	4
1.3 OBJECTIVE OF LEMBAGA GETAH MALAYSIA(LGM)	5-6
1.3 ORGANISATION STRUCTURE OF RRIM RESEARCH STATION, SIMILAJAU, BINTULU	7-8
2.0 INTRODUCTION	9-10
3.0 FERTILISER APPLICATION 3.1 DEFINITION 3.2 FERTILISER AND ITS FUNCTION 3.3 THE MAJOR FUNCTIONS OF NUTRIENTS IN FERTILISER 3.4 FERTILISER APPLICATION PROCEDURE 3.5 FERTILIZING TECHNIQUE 3.6 THE ADVANTAGES OF FERTILISER APPLICATION 3.7 FACTORS TO BE CONSIDERED BEFORE FERTILISING 3.8 EXAMPLES OF FERTILISER USED IN RRIM, SIMILAJAU 3.9 COST OF FERTILISER 3.10 SIGNS OF NUTRIENT DEFICIENCIES IN LEAVES	11-19
4.0 WEEDS AND THEIR CONTROL 4.1 DEFINITION 4.2 ADVANTAGES OF WEEDS 4.3 DISADVANTAGED OF WEEDS 4.4 PREVENTION OF WEED INFESTATION 4.5 METHOD OF WEED CONTROL 4.6 TYPES OF HERBICIDES 4.7 TYPES OF SPRAYING METHOD 4.8 PRECAUTIONS IN HANDLING HERBICIDES 4.9 COSTS OF HERBICIDES	20-29
5.0 PEST AND DISEASE 5.1 PEST 5.1.1 DEFINITION 5.1.2 TERMITES 5.1.3 METHOD TO CONTROL 5.2 DISEASE 5.2.1 TYPES OF ROOT DISEASES 5.2.2 METHODS TO PREVENT ROOT DISEASE 5.2.3 METHOD OF TREATMENT 5.2.4 ISOLATION TRENCH	30-35
6.0 LATEX HARVESTING 6.1 TAPPING TASK 6.1.1 DEFINITION 6.1.2 OBJECTIVE OF SETTING UP A TAPPING TASK 6.2 TASK SIZE 6.2.1 DEFINITION 6.3 DIRECTION AND SLOPE OF TAPPING 6.4 HEIGHT OF TAPPING CUT	36-48

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2.0 INTRODUCTION

Natural rubber (NR) is a major industrial raw material harvested from the rubber tree. Among the twenty odd plant species that are known to produce rubber, no less than twelve belong to the *Hevea brasiliensis* from the *Euphorbiaceae* family is economically exploited. The tree is a native of the Amazonion rain forest of South America. Hevea is tropical crop that can survive within 1,000km north and south of the equator, except for the arid regions. It requires 180-250cm of rainfall per year and a temperature of 25-35 degree Celcius. Rubber can be planted to a maximum elevation of 500m above the sea level. It acquires a deep firm soil of the loamy texture with free drainage and tolerates a water table of 100cm from the surface and below. The rubber tree is a perennial crop with an economic life-span of approximately thirty years. When fully matured, it can reach a height of 18-20 metres. Originally identified as a forest vegetation, *Hevea* wood is a valuable tropical timber which comes under the semi-hard category and most suitable for the furniture industry. Its latex, harvested from the tree, has been major contributor to the NR industry towards the development of various rubber and rubber-based products.

Brief History

The existence of the rubber tree and its early crude products was internationally revealed as early as the Fifteenth Century, when Columbus discovered the Americas. Since then, raw rubber was taken to Europe from time to time. About 400 years later, several discoveries were made for its uses. Some of these earliest achievement were:

- 1768 - Discovery of rubber boots
- 1770 – The name "rubber" given by Priestly
- 1823 – Waterproof fabric by McIntosh
- 1839 – Vulcanisation process by Goodyear
- 1846 – Solid tyres by Hancock
- 1888 – Pneumatic tyres by Dunlop

3.0 FERTILISER APPLICATION

3.1 Definition

Fertilizer is defined as any materials or substances that provide nutrients to the rubber trees and it is applied to the soil or plant tissues to supply one or more plant nutrients that are essential for the growth of plants and to make sure the plants give high yield. Rubber trees respond favourably in terms of growth and yield to adequate and proper fertilizer application. Among the major one are Nitrogen(N), Phosphorus(P), Potassium(K), and magnesium(Mg).

3.2 Fertiliser and Its Function

Rubbers trees need necessities such as water, light, carbon dioxide and nutrients for growth to their maximum potential. Some of the elements cannot be excess by the trees as they compete with other plants or extreme climate condition. Therefore, fertilizer applications are needed. A shortage of one or more of the elements can cause reduction in growth, yield and quality of the crop produce.

3.3 The Major Functions of Nutrients in Fertiliser

ELEMENT	FUNCTION
N	Formation of plant tissues, plant protein and chlorophyll
P	Necessary for nucleic acid structure, phospholipids, assimilation and respiration of plants
K	Required for assimilation of protein
Mg	Chlorophyll development

The nitrogen nutrient absorption period of rubber trees is high between time leaf renewals until five next month. The suitable matured rubber trees fertilization carried out once juvenile leaf started going out after leaf season fall.