



**Ministry of Agriculture, Livestock
and Irrigation
Department of Agriculture**



**Effect of Different Rates of Compost Growing Media on
the Growth of Rubber Seedling in Nursery**

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Introduction

Rubber (*Hevea brasiliensis*)

- Rubber *Hevea brasiliensis* was domesticated as plantation crop
- Rubber is grown on highly weathered soils characterized by very low organic C content due to intensive cultivation
- Maintaining an appropriate level of soil organic matter and biological cycling of nutrients is crucial to the success of any soil management in the humid tropics
- Application of compost, plant residues as mulching materials or growing cover crops have been adopted successfully to enhance nutrient cycling and use efficiency

Objectives

- (1) To evaluate the effect of different rate of compost on the growth performance of rubber seedlings and
- (2) To study the effect of composts on soil physicochemical properties changes

Materials and Methods

- Experimental site - Perennial Crops Research and Development Center (PCRDC) Mawlamyaing Township, Mon State
- Experimental design - Randomized Complete Block Design (RCB)
- Replication - 4
- Plot size - (4.5 m × 5.1 m)
- No. of experimental plot - 20
- Experimental area - 8000 sq.ft

Treatments

- T₁ – Control (without fertilizer and compost)
- T₂ – Chemical fertilizer
- T₃ – 5% by weight of potting media (80g compost plt⁻¹)
- T₄ – 10% by weight potting media (160g compost plt⁻¹)
- T₅ – 15% by weight potting media (240g compost plt⁻¹)

Lay Out Of Experiment

R_1

T_1

T_3

T_2

T_4

T_5

R_2

T_2

T_1

T_5

T_3

T_4

R_3

T_3

T_2

T_4

T_5

T_1

R_4

T_4

T_5

T_3

T_1

T_2

Data Collection

Stock Growth Parameter

- Plant height (cm)
- Stem diameter (cm)
- No. of leaves
- Leaf area
- Fresh weight of biomass (g)
- Dry weight of biomass (g)

Scion Growth Parameter

- Plant height(cm)
- Stem diameter (cm)
- No. of leaves
- Leaf area
- Fresh weight of biomass(g)
- Dry weight of biomass(g)

Properties of Compost

- Bulk density (cm^3)
- Moisture (%)
- pH
- Organic carbon (%)
- N (%)
- P (%)
- K (%)
- C:N
- EC

Soil physicochemical(Before and After experiment)

- Bulk density (cm^3)
- Moisture (%)
- pH
- EC
- Organic carbon (%)
- Total N (%)
- Avail. P (ppm)
- Exch. K (ppm)
- Exch. Ca, Mg (meq 100 g¹)

Team

- Daw Khaing Hninn Soe - Staff Officer
- Daw Ei Ei Pyone - Deputy Staff Officer
- Daw Thida Moe - Assistance Staff Officer
- Daw Tin Htwe Thi - Deputy Assistance Staff Officer
- Daw Nu Nu Nge - Deputy Assistance Staff Officer
- Daw Ni Ni Win Shwe - Deputy Assistance Staff Officer

Expected Outcome

- The effectiveness of compost in growing media for the development of rubber seedlings could be assessed
- The soil properties could be improved by incorporation of compost to growing media
- According to the resulting data , it could be suggested that the suitable amount of compost could be used for the growth performance of rubber seedling

Estimate Costs

No.	Activities	Charge	Cost	Total
1	Composting	134400	154000	288400
2	Preparation of germinated seedling	10000	252600	262600
3	Preparation of seedling	138000	250200	388200
4	Care and Management	427800	–	427800
5	Budding	136000	27200	163200
6	Analysis of soil and fertilizer	65700	814100	879800
7	Harvesting	38400	–	38400
	Total	950300	1498100	2448400

Analysis of raw materials



Composting



THANK YOU