



RESEARCH POTENTIAL AREAS AT UPSTREAM SECTORS

Global Funding For Rubber Innovation

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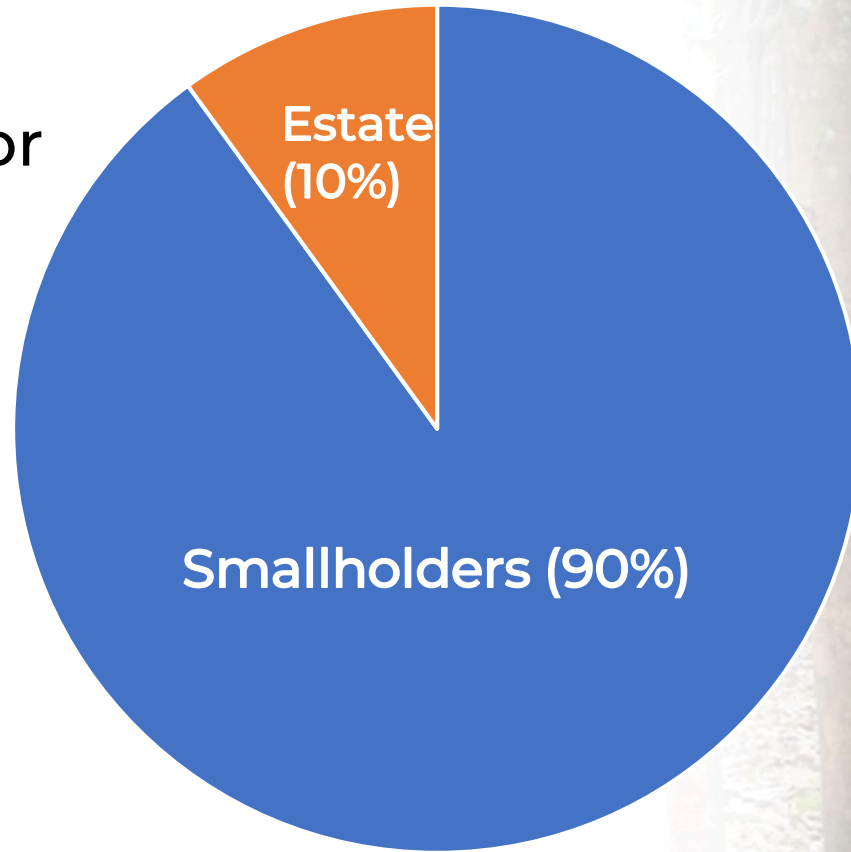
National Association of Smallholders Malaysia (NASH)



PKPKM

2.0 RUBBER AREAS IN MALAYSIA

Upstream Sector



- Total Rubber areas :

1:46 million hectares

BREED (HEVEA BRASILIENSIS)

3.0 6 POTENTIAL AREAS CAN BE ENHANCED NEW IDEAS / TECHNOLOGIES



1. Before Planting



2. Planting



3. Young stage



4. Matured stage



5. Harvesting



6. Marketing

4.0 BEFORE PLANTING

4.1 Land Preparation

1 Bulldozer

2 Chain Saw

Chain Saw

- Stump residue.
- Must be removed.
- Normal practice using chemical such as Garlon 250 (trichlopyr).







The old stump will contribute to several disease

1. White root disease
(*Rigidoporous lignosus*)
2. Red Root Disease -
(*Ganoderma pseudoferreum*)
3. Pink Root Disease -
(*Phallinus noxious*)



4.2 Planting Of Cover Crops

	Species	Treatment
i.	Calopogonium Mucunoides	Rhizobium Compost
ii.	Centrosema Pubescans	+
iii.	Peuraria Phaseloides	Phospate
iv.	Calopogonium Caeraleum	+
v.	Mucuna Cochichinensis	Nitrophoska Yellow



5.0 YOUNG STAGE

A critical stage to assure a vigorous growth

5.1 Weeds control

- Grass
- Woody
- Ferns

Chemical control

Gliphosate, Fherocsiphyr, gluphosinate, Metsulfuron methyl, etcc

5.2 Disease Control

- i. White root disease
- ii. Red root / pink root disease

Propyconozole
@Tridimafron, Bayleton
Tridemorph, callixin collar
protectant



5.3 Manuring

- Content & Nutrients Required :
Ammonium Sulphate, Ammonium nitrate,
Urea, CIRP MOP, Kieserite Nitrophoska Yellow



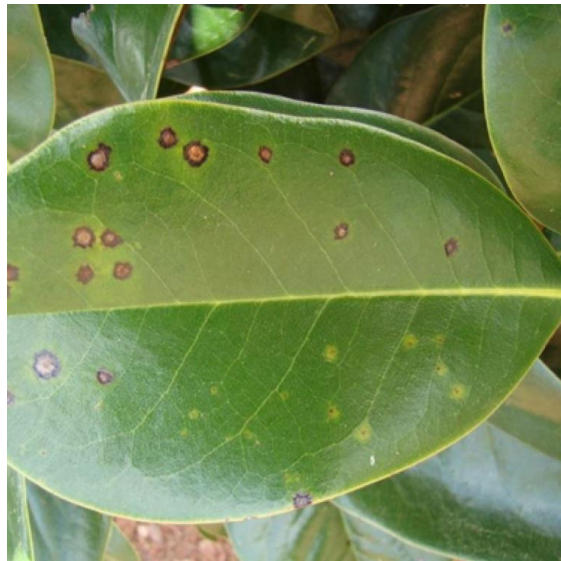
Compound Fertilizers

No	Stage	N	P	K	Mg
1.	Young	10.7	16.6	9.5	2.4
2.	Matured	13.0	7.8	27.3	-

5.4 Matured Stage

5.4.1 - Disease During Matured Stage

Leaf Disease	Chemical Treatment
<i>Collectotrichum gloeosporioides</i>	Daconil Antracol.
<i>Phytophthora Botryosa</i>	Copper Oxide
<i>Corynespora asiicola</i>	Benlate, Dithane, Captan, Antracol
<i>Pestalotiopsis microspora</i>	?



5.4.2 Manuring Program at Matured Stage

Substance	N	P	k
Compound Fertilizer	13.0	7.8	27.3



6.0 Harvesting

6.1 Types of Tapping Knives (Traditional)

- Jebung
- Gauge
- Upward
- Jebung / Gauge



- Mechanised
 - Robotic
- } Affordable & Effective





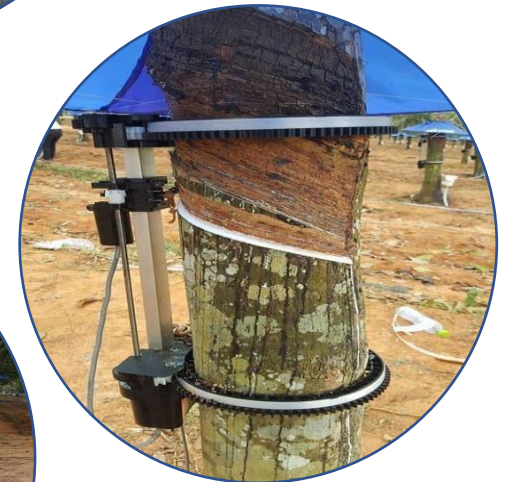
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6.2 Latex Preservation

6.2.1 To control VFA (Volatile Fatty Acid)
eg : LA concentrate (Type of Rubber Product)

Chemical used : NH_3 , TMTD (Tetra Methyl Thiuron Disulphide), ZnO .

6.2.2 Apparatus to measure DRC in Latex :

- Metrolax
- Chee method



7.0 By-Product from rubber for commercial used

- Pharmaceutical;
- Cosmetics;
- Animal food, etc.

This factors may also lead to boost high farm gate price for the smallholders.



8.0 Objectives

- 8.1 To Shorten maturity period (7 years ->4 ½ years).
- 8.2 Maximise potential output (1,500 kg -> 2,500 kg/Ha/Yr)
- 8.3 Mechanisation in tapping activity / Collection / Preservation of latex (anti-coagulant).
- 8.4 Produce high-end by product for commercialization.



KINEMASTER

**Do you know in
1970, Queen Elizabeth
tapped a rubber tree
at Rubber
Research Institute(RRI)
Sg.Buloh Estate.**







**THANK
YOU!**

