KEMENTERIAN PERUSAHAAN PERLADANGAN DAN KOMODITI

MPOB

27th MPOB TOT 2021

TRANSFER OF TECHNOLOGY

SEMINAR & EXHIBITION



MECHANISATION AND AUTOMATION

Knowledge for Smart Palm Mechanisation

PROGRAM | MECHANISATION SUPPORT CENTRE

MPOB TT408 Automatic Weighing System for Oil Palm Plantation

DESCRIPTION

An automatic weighing system enables FFB yield recorded in a particular area or at an individual palm. Currently, there is no technology available on the plantation to carry out the task. The OTOWEY electronic weighing system uses four strain gauges. When bunches are loaded in the hopper, their weights compress the strain gauges. It causes an electrical signal to be generated, captured, converted to a weight reading, and subsequently enable the internet of things capability.



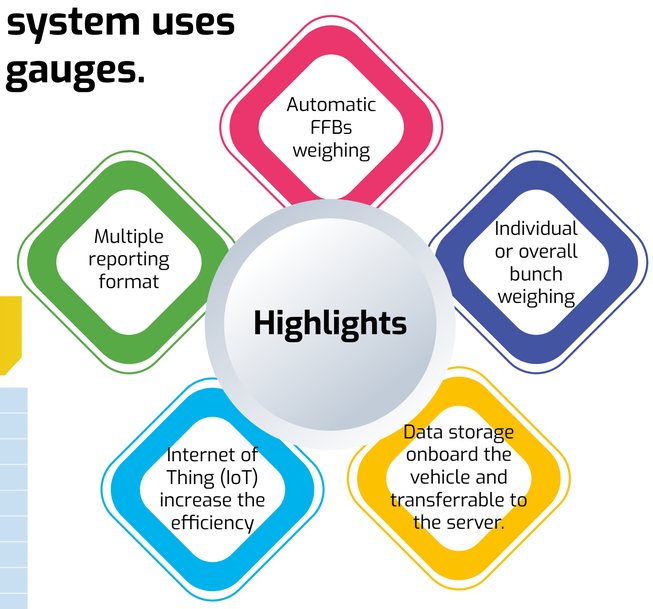
✓ Panel display showing the accrued weight of bunches.

✓ Control box (heart of the weighing system)

✓ Load cells in the four corners of the chassis

Simple Economic Analysis

1. Capital cost (RM)	**50,000**
2. Area covered (ha)	**100**
3. Repair & Maintenance (yearly)(%)	**10%**
4. Operational Cost (RM/day)	**250**
5. FFB Evacuation Productivity (ha/day)	**15**
Economic Analysis:	
Internal Rate of Return	**20%**
Payback Period	**3 years**
Net Present Value	**RM30,000**



Advantages

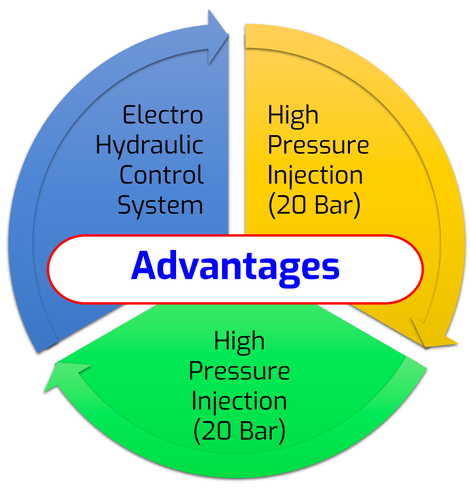
✓ **Reduce the number of workers for yield recording.**
✓ **Can be embedded in other prime movers.**

MPOB TT546 Mechanised Trunk Injector for Basal Stem Rot Disease (BSR) Control

DESCRIPTION

The invention is an apparatus specifically designed for injecting chemical (fungicide) into the oil palm tissues to control the spread of *Ganoderma* which can cause the Basal Stem Rot Disease (BSR). The apparatus comprises of a drilling and injecting mechanism that are mounted onto a mini-tractor.





Highlights



- Faster method to control spread of Ganoderma
- One worker's operation
- Ease of operation

PERFORMANCE

Capable of injecting 10-litre in only 2.5 minutes per palm / 100 – 120 palms per day

Operational Cost Analysis

The calculated cost per palm comes to about RM1.43/day (excluding fungicide cost). It can be reduced if a smaller prime mover is used such as 3-wheeler transporters.

Sawit Anugerah Tuhan

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