FEATURES

Tissue cultured plantlets produced by United Plantations Bhd. have the following characteristics:

☐ Broad and proven genetic base
☐ Produced under stringent quality control
☐ Very low somaclonal abnormalities (0% - 5%)
☐ Vigorous and uniform growth
☐ High precocity and high sustained yields
☐ High oil extraction rate
☐ Proven performance in large scale commercial plantings on coastal, inland and peat soils
Tissue Culture in the Laboratory

Transfer operators in the laboratory

Sectioning of shoot for explants

Leaf callus

Leaf explants

Leaf embryoids

Leaf embryoids

Cultures room full of proliferating oil palm cultures

Polyembryoid culture

Harvesting embryoids & plantlets

Small plantlets

Rooted plantlet
Tissue Culture Ramets in the Nursery

General view of prenursery

Acclimatisation in high humidity chamber
Ramets at 2 months in prenursery

Ramets at 4 months in prenursery

Ramets in main nursery
Tissue Culture Ramets in the Field

1.5 years after planting

6 years after planting

Young elite clonal palms

Clone UP - C1
Oil to Bunch 32.5%

Clone UP - C24
Oil to Bunch 32.4%

Clone UP - B10
Oil to Bunch 30.2%
Clonal Oil Palm Performance

FFB Yield of UPB Clones in Trials

![Graph showing FFB yield over years of harvest for top 5 clones and mean of 13 clones.](image)

Oil Yield of UPB Clones in Trials

![Graph showing oil yield over years of harvest for top 5 clones and mean of 13 clones.](image)

Commercial Oil Extraction Rate (OER) of UPB Clonal Plantings

<table>
<thead>
<tr>
<th>Extraction Test</th>
<th>Age Profile</th>
<th>FFB Processed (Tonnes)</th>
<th>OER (%)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean Age from Planting (Years)</td>
<td>Range (Years)</td>
<td></td>
</tr>
<tr>
<td>Test No. 1</td>
<td>5.5</td>
<td>4.0 – 8.0</td>
<td>80.4</td>
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<tr>
<td>Test No. 2</td>
<td>6.5</td>
<td>4.5 – 8.5</td>
<td>172.9</td>
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<tr>
<td>Test No. 3</td>
<td>7.5</td>
<td>5.5 – 9.5</td>
<td>174.1</td>
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Our Company

United Plantations Berhad is one of the major Plantation Groups in Malaysia listed on the Main Board of the Bursa Malaysia Securities Berhad and the NASDAQ OMX Copenhagen A/S. The Company’s core business is in the cultivation and processing of oil palms and coconuts. The group comprises of 12 estates located in and around the lower Perak District.

Our Research Department

United Plantations Berhad’s Research Department (U.P.R.D.), located in Jendarata Estate, is an integral component of the group with a fully equipped commercial Tissue Culture laboratory. The Department’s activities are applied research, advisory services and the production of quality planting materials of oil palms, coconuts and bananas.

Other Tissue Culture Activities in Our Laboratory

Bananas (Berangan, Rastali, Mas & Cavendish)  Pineapples  Melaleuca alternifolia (Tea tree)  Herbs (Kaempferia, Eurycoma etc)  Landscape & agroforest trees  Roses  African Violet & Gloxinia  Musa coccinea  Syngonium  Canna

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