Objective 6

Determine the costs and benefits of using the residual cortex and soft, central cores for bio-char and other agricultural products.
Project Objectives

- Identify markets
- Forestry: stem harvesting
- Peeling in S. Pacific
- Assemble and test products

By-product utilisation

Advanced veneer and other product from coconut wood
Objective 6 – By-product utilisation

1. Identify markets
2. Forestry: stem harvesting
3. Peeling in S. Pacific
4. Peeling trials
5. Assemble and test products

By-product utilisation
Objective 6 – By-product utilisation

**Objective 6** - Determine the costs and benefits of using the residual cortex and soft, central cores for bio-char and other agricultural products

6.1 – Collaboration with agricultural projects

6.2 – Biochar trials
Objective 6 – By-product utilisation

6.1 – Collaboration with agricultural projects

- Residue use could include chip, mulch, bio-char, or growing medium
- The use of forestry residues and peeling residues in agriculture will be coordinated with existing agricultural research projects in the region
- Soft core material supplied for agricultural trials
6.1 Collaboration with Ag. Trials

• Richard Markham updated on developments on 9/8/13
• Discussion commenced with Dr Halavatau SPC
• Plan to meet with Poasa Nauluvula, Fiji Ministry of Agriculture on this trip
• Discussion commenced with Tei Tei Taveuni. Meeting planned on this trip
• Specification for soil conditioning material (mulch, biochar etc) to be developed
6.1 Collaboration with Ag. Trials

- Discussion commenced with EcoCarbons (ecocarbons.com/)
- EcoCarbons to comment on other possible residue uses based on their experience with plant based carbon products
- Details of collaboration to be develop but EcoCarbons have offered to provide comment in exchange for supply of resource
Objective 6 – By-product utilisation

6.2 – Biochar trials

- Residues obtained will be tested to determine calorific value
- Residues will be tested to assess viability of biochar production
6.2 – Biochar trials

• Biochar manufacturer contacted
• Biochar manufacture planned from trial 2 residues
• Peeling hollow stems leaves no core residue – TBC once trial commences
• Biochar production possible from material sourced in North QLD
• Biochar to be produced in Australia for use in TTT planting trials
• Initial investigation commenced in low-tech biochar production
6.2 – Biochar trials

• Preliminary biochar performance requirements developed through discussion with Geoff Dean
  – Probable crops Taro or Kava
  – Nutrient holding capacity; primed with other fertilizer
  – Possible inherent source of nutrient TBC
  – Pore size for water retention and soil habitat

• Detailed biochar specification to be developed to use trial 2 residue

• Material produced for pot trials on Taveuni
Summary

• Coordination commenced with ACIAR agricultural projects
• Project team to meet with Poasa Nauluvula and TTTaveuni during this trip to develop Action Plan for biochar trials
• Investigation commenced on possible residue uses and potential collaborators identified
### Objective 6 – By-product utilisation

#### Key completion dates –

<table>
<thead>
<tr>
<th>Activity</th>
<th>Planned</th>
<th>Actual</th>
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</thead>
<tbody>
<tr>
<td>Collaboration with agricultural projects</td>
<td>November 2014</td>
<td></td>
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<tr>
<td>Assessment of cocowood bio-char potential</td>
<td>November 2013</td>
<td></td>
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<tr>
<td>Biochar produced and trialled</td>
<td>November 2014</td>
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### Key activities next 12 months –

<table>
<thead>
<tr>
<th>Activity</th>
<th>Anticipated completion</th>
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</thead>
<tbody>
<tr>
<td>Develop specification for mulching trial with TTT and others</td>
<td>November 2013</td>
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<tr>
<td>Develop specification for biochar production</td>
<td>November 2013</td>
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