Farm practices to manage the impact of severe tropical cyclone damage on banana production

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Overview

Project background

Pre-cyclone practices

Post-cyclone practices

Acknowledgements
Innisfail & Tully (humid tropics)

Carnarvon (semi-arid subtropics)

Bundaberg – Coffs Harbour (humid subtropics)

Tropic of Capricorn
Recent Tropical Cyclone Impacts

TC Larry, March 2006
TC Larry, March 2006
Recent Tropical Cyclone Impacts

TC Yasi, Feb 2011
TC Yasi, Feb 2011
Cyclone Impacts on Supply

It's all Yasi's fault.

Very expensive bananas

Badly affected by the recent weather events.

$14.99/kg
SUDDENLY, BANANAS
...thousands of them!
Cyclone Impacts on Supply

Weekly production figures for north Queensland

TC Larry
Pre-cyclone canopy removal
Pre-cyclone canopy removal

Pros

– Prevents roll outs
– Avoids cyclone glut cycle

Cons

– Slow/difficult to implement
– Major productivity impacts
## Pre-cyclone canopy removal

### Assessing the effect of stage of plant development on fruit yield and quality

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Bunch wt (kg)</th>
<th>% Fruit &gt;260mm</th>
<th>% Fruit 220-260 mm</th>
<th>% Fruit 200-220 mm</th>
<th>% Fruit &lt;200mm</th>
<th>Days to bunch harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-bunch initiation</td>
<td>20.0 cd</td>
<td>4.7 a</td>
<td>61.5 ab</td>
<td>27.2 bc</td>
<td>6.6 c</td>
<td>370 a</td>
</tr>
<tr>
<td>Post-bunch initiation</td>
<td>25.3 bc</td>
<td>0 b</td>
<td>13.6 d</td>
<td>38.3 ab</td>
<td>48.1 a</td>
<td>323 c</td>
</tr>
<tr>
<td>Control</td>
<td>38.9 a</td>
<td>2.1 a</td>
<td>64.8 a</td>
<td>22.9 c</td>
<td>10.2 c</td>
<td>337 bc</td>
</tr>
</tbody>
</table>

P<0.001  P<0.05  P<0.001  P<0.05  P<0.001  P<0.001
Post-cyclone staggered cropping strategy
Post-cyclone staggered cropping strategy

The “nurse-suckering technique” can be used to schedule production after a cyclone.
# Post-cyclone staggered cropping strategy

## Cropping Calendar

<table>
<thead>
<tr>
<th>Crop Schedule</th>
<th>Options</th>
<th>Intended Harvest Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Summer – Autumn crop cycle</td>
<td>Mid May 2011 Nurse-sucker</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Early June 2011 Plant Tissue/Potted Suckers</td>
<td></td>
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<tr>
<td>Late Autumn-Winter crop cycle</td>
<td>Late Aug-early Sept 2011 Nurse-sucker</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Sept - Early October 2011 Plant bits/tissue</td>
<td></td>
</tr>
</tbody>
</table>
# Post-cyclone staggered cropping strategy

<table>
<thead>
<tr>
<th>Crop schedule</th>
<th>Harvest period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oct Nov Dec Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec</td>
</tr>
<tr>
<td>TC Yasi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1% 43% 25% 14% 4% 7% 4%</td>
</tr>
<tr>
<td></td>
<td>1% 2% 2% 3% 3% 10% 12% 10% 25% 9%</td>
</tr>
<tr>
<td>Late summer/autumn crop cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1% 8% 14% 25% 23% 13% 8% 1% 1%</td>
</tr>
<tr>
<td>Late autumn/winter crop cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11% 24% 34% 18% 6% 4% 3% 1%</td>
</tr>
<tr>
<td>Late winter/spring crop cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6% 17% 15% 19% 15% 15% 15% 13%</td>
</tr>
</tbody>
</table>
Post-cyclone staggered cropping strategy

Comparing harvest from staggered crop strategy & cyclone cycle

Week of Year
% of Population
Cyclone crop cycle
Staggered crop cycle
Post-cyclone staggered cropping strategy

Weekly transport figures for NQ (cartons)

Week of Year

TC Yasi 2011/12
TC Larry 2006/07
Acknowledgements

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– Qld DAFF
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– NDRA Rural Resilience Program

Cooperating banana producers

QDAFF R&D team members
Thankyou