Poplars and Willows

With a focus on East Coast Hill Country

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Why Poplars and Willows?
Easy to grow in the nursery
Easy to Handle and Store
Easy to grow in the Field from Poles

But plenty of hard winter work!
Uses of Poplars and willows
Especially on the east Coast

• Erosion Control/Soil Conservation
• Drought Fodder for Sheep and Cattle
• Shelter and Shade
• Aesthetics
• Possible Timber (Poplars)
• Bees (Willows)
Erosion Control/Soil Conservation
Livestock Fodder
Poplar Timber
SAWING PATTERN
The most useful Poplars (East Coast NI New Zealand):

- Kawa (deltoides x yunnanensis)
- Veronese (euramerica)
- Crows Nest (euramerica)
- P. yunnanensis
Kawa
Kawa Poplar attributes:

• Needs deep, moist soil
• Possum resistant
• Brittle on exposed sites
• Occasional wind-throw at ~ year 2
• Highest density poplar wood
• Attractive tree
Veronese Attributes:

• Fast growth – height and diameter
• Hardy
• May grow very large
• A good timber variety (site tolerance and growth rate)
Crows Nest
Crows Nest Attributes:

- The toughest of all poplars!
- Drought/wind tolerant
- Well suited to the east coast (sun/heat)
- Many branches
- Lombardy shape on hard sites
- Not a timber tree
Tree Willows:

- S. matsudana
- matsudana x alba hybrids
  - ‘Tangoio’
  - ‘Moutere’
  - ‘Hiwinui’
# Tree willow attributes:

<table>
<thead>
<tr>
<th>Clone</th>
<th>Attributes</th>
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</thead>
<tbody>
<tr>
<td>S. Matsudana</td>
<td>• Very rough bark</td>
</tr>
<tr>
<td></td>
<td>• Highest density (fire wood)</td>
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<tr>
<td>‘Hiwinui’</td>
<td>• Some rough bark</td>
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Tree Management

Old Conservation Trees:
• Become brittle
• Affect pasture growth
• Create bare ground
• Make livestock management difficult
Solutions

• Prune young trees for longevity
• Prune poplars for timber
• Pollard for drought fodder

• Old trees may be poisoned rather than felled
Old Trees

Procedure:
• Chainsaw – 2 rings, 1 spade width apart
• Peel the bark with the spade
• Paint on Glyphosate 360 (full strength)

Benefits:
• Quick return of good pasture
• Slow tree breakdown (less mess)
• Replacement trees can be planted soon after
Success rates

Normally very high (85%+) However, losses caused by:

• Pole quality (size, health) and handling
• Quality of planting and followup
• Environment – Drought, Wind, Flood (erosion)
• Cattle
• Pests – Goats, Possums, Insects
• Herbicide overspray
Effectiveness

• Poplar or willow trees with a DBH of >30cm will stabilise hill soils within 10m of the trunk (Douglas et al, 2011)

• Therefore to achieve this, trees should be planted at least 30 – 40sph

• Willows are almost 100% effective for gully erosion control
Four Landscapes – which is the most productive?