Seed Introduction 1993/94
China & Vietnam

Tree production
Mother blocks
Establishment
Compat. CTV Uniform. Salt

Australian Government
Australian Centre for International Agricultural Research

Horticulture Innovation Australia
## Experimental program (Dareton)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Planted</th>
<th>Rootstocks</th>
<th>Origin</th>
<th>Trials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1999</td>
<td>26 (mixed)</td>
<td>China</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>2001</td>
<td>22 (trifoliata)</td>
<td>China</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>2005</td>
<td>10 (mandarin)</td>
<td>Vietnam</td>
<td>4</td>
</tr>
</tbody>
</table>

Navelina, Lane Late, Imperial, Eureka

12 replicated trials > 1200 trees

single tree plots / 5 blocks (RCB Design)
Current project components

- Semi-commercial trial (Riverina) 1
- Establish grower trials (National) 20
- Establish dwarfing trial (Dareton) 3
- Establish salt tolerant trials (Perth) 1
- Evaluate Vietnamese r/s (Dareton) 4
Semi-commercial trials in clay soil

Rootstocks: Zao Yang, Tri22, Tanghe, Donghai
Scions: Val 1, Val 2, Val 3, Val 4, Val 5, Val 6 and Keenan
Blocks: 6 (3 tree plot)
## Production data

### Yield/tree (kg)

<table>
<thead>
<tr>
<th></th>
<th>Donghai</th>
<th>Tanghe</th>
<th>Tri22</th>
<th>Zao Yang</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keenan</td>
<td>37</td>
<td>38</td>
<td><strong>31</strong></td>
<td>41</td>
<td><strong>37</strong></td>
</tr>
<tr>
<td>Val 1</td>
<td>31</td>
<td>32</td>
<td>28</td>
<td>36</td>
<td><strong>32</strong></td>
</tr>
<tr>
<td>Val 2</td>
<td>34</td>
<td>37</td>
<td>36</td>
<td>38</td>
<td><strong>36</strong></td>
</tr>
<tr>
<td>Val 3</td>
<td>37</td>
<td>38</td>
<td>34</td>
<td>42</td>
<td><strong>38</strong></td>
</tr>
<tr>
<td>Val 4</td>
<td>29</td>
<td>33</td>
<td>31</td>
<td>40</td>
<td><strong>33</strong></td>
</tr>
<tr>
<td>Val 5</td>
<td>39</td>
<td>44</td>
<td>40</td>
<td><strong>46</strong></td>
<td><strong>42</strong></td>
</tr>
<tr>
<td>Val 6</td>
<td>35</td>
<td>36</td>
<td>31</td>
<td>45</td>
<td><strong>37</strong></td>
</tr>
<tr>
<td>Mean</td>
<td>35</td>
<td>37</td>
<td>33</td>
<td><strong>41</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Total soluble solids (°Brix)

- Val 5/ZaoYang: 12.3
- Val 5/Tri22: 11.4

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Harvest Dec 2015
### Economic returns

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th></th>
<th>2016</th>
<th></th>
<th>2015-16</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Yld/tree</td>
<td>T/ha</td>
<td>$ returns</td>
<td>Yld/tree</td>
<td>T/ha</td>
<td>$ returns</td>
</tr>
<tr>
<td>Keenan/Tri22 (Cont.)</td>
<td>31</td>
<td>22</td>
<td>6076</td>
<td>18</td>
<td>13</td>
<td>3528</td>
</tr>
<tr>
<td>Val5/Zao Yang</td>
<td>46</td>
<td>32</td>
<td>9016</td>
<td>23</td>
<td>16</td>
<td>4508</td>
</tr>
<tr>
<td></td>
<td>2940</td>
<td></td>
<td>980</td>
<td></td>
<td>1960</td>
<td></td>
</tr>
</tbody>
</table>

- Yld/tree: Yield per tree
- T/ha: Trees per hectare
- $ returns: Dollar returns

Note: The data represents the yields and returns for different crops over the years 2015 and 2016, with a comparison of 2015-16 returns.
National grower trials

Establish 20 national trials in 5 states of Australia (Apr 2017)
Salt tolerance trial of new rootstocks

- Anjiang hongju, Cao shixiangju (Erythrosa type)
- Zhoupi Jiangin (Mandarin type)
- Zao Yang (Trifoliata type)
Dwarfing trials

Establish 3 dwarfing trials Apr 2017 (Dareton)

Rootstocks: Chinese, US

Scions: M7, Tango and Atwood

Planting: April 2017
Overseas collaboration

Spain (Dr Maria Forner)
FA-5 (Yield & quality)
FA-418 (Dwarfing)
FA-13 (Salt tolerant)
FA-517 (Semi-dwarfing)

US rootstocks (Mikeal Roose)
C54, C57, C146, US 812, C22
Launch of new rootstocks to Australian citrus industry
New rootstocks

6 Selections > Auscitrus > Future seed source

Donghai

Tanghe

Anjiang hongju

Cao shixiangju

Zao Yang

Ghana
- Launch of rootstocks – Apr 2017
- Seed sale
- Contract completed
Future plans

- Continue evaluation of the recently established dwarfing trials at Dareton and on grower properties
- Evaluate salt tolerance trials at Bindoon (DAF WA)
- Establish trials at Dareton for
  - HLB tolerant rootstocks (US-1516, USDA, Florida)
  - Italian rootstocks F6 P13, F5 P12 (ANFIC)
- Concept proposal submitted (HIA)