

Breeding with Australian finger limes: more than just a novelty

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23rd March 2022

Today's talk:

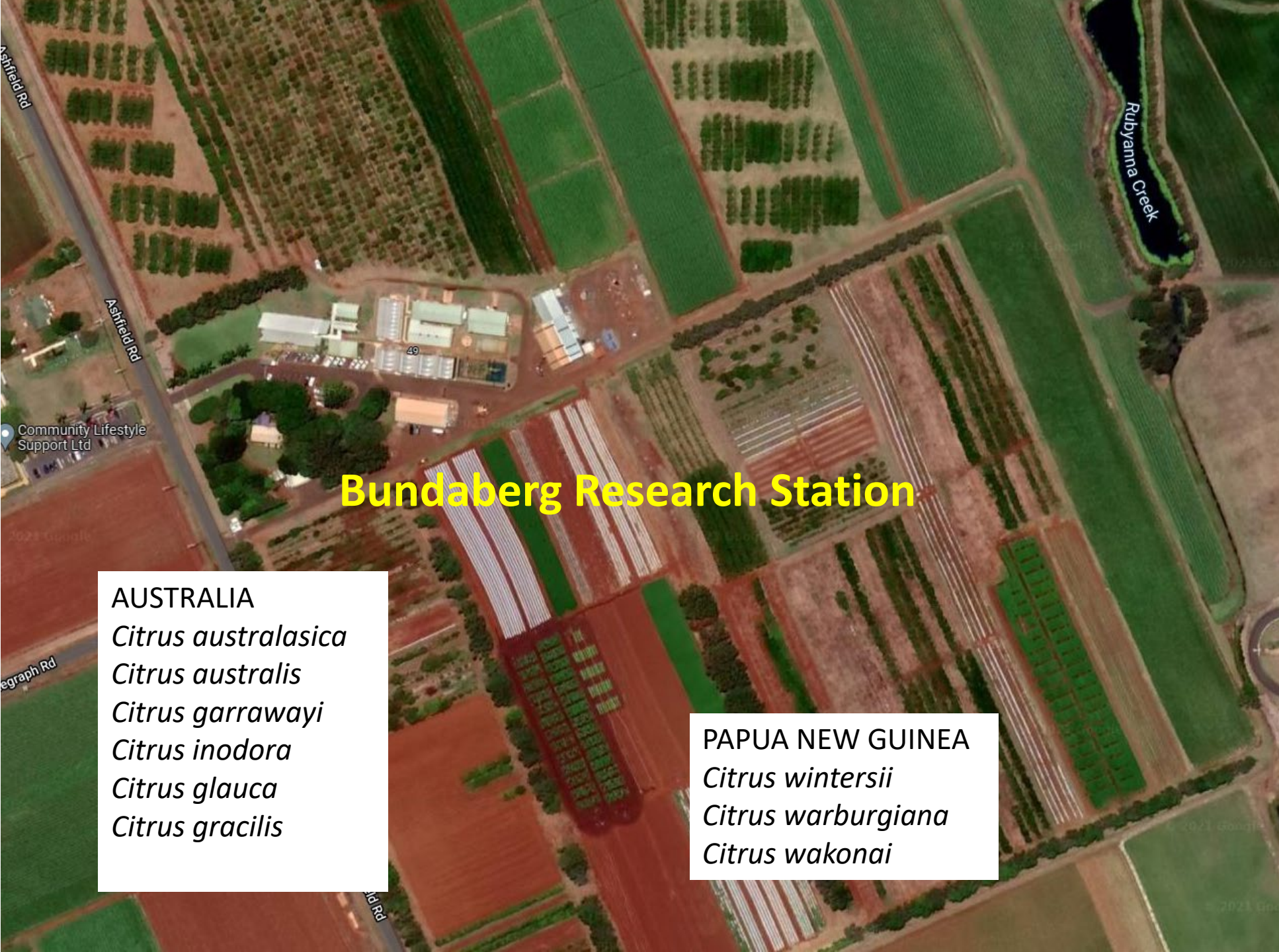
- History of finger lime research in Australia
- Recent activities and objectives
- Outcomes
- Some words of caution:
 - Post harvest
 - Costs of production
 - Pest challenges
 - Marketing



Australian horticulturist have been working with native finger limes since the 1800s.

Drawing on the left is from an article published in 1891 where Navel orange was successfully grafted onto *Citrus australasica*.

Despite more than 130 years of sporadic experimentation, none of the species native to Australia and PNG have every contributed anything useful to commercial citriculture.



Bundaberg Research Station

AUSTRALIA
Citrus australasica
Citrus australis
Citrus garrawayi
Citrus inodora
Citrus glauca
Citrus gracilis

PAPUA NEW GUINEA
Citrus wintersii
Citrus warburgiana
Citrus wakonai

Natural variation in *C. australasica* that occurs within wild populations.



Acknowledgement: Judy Viola

Horticulturists have been sampling wild stands for well over 100 years and much of the natural variation has already been captured.

Open-pollinated seedling populations and controlled crosses will likely provide the best future gains.



Acknowledgement: Judy Viola



10Q014

10Q015

10Q016

10Q017

Using finger limes as parents to breed new scion and rootstocks for conventional citriculture.



Native citrus are extremely sensitive to *Citrus tristeza virus* when used as rootstocks.

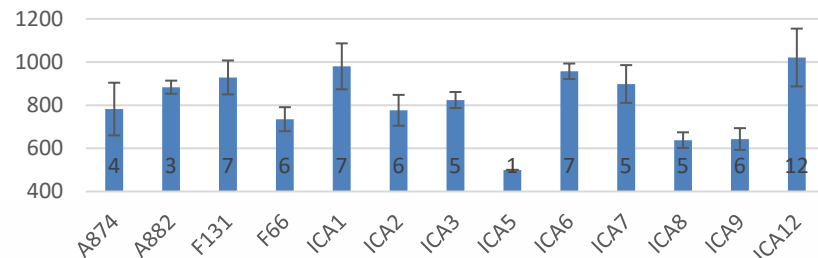


'Extreme Hybrids' as rootstocks...a commercial reality?

4-year-old Imperial
on a new rootstock hybrid containing
Australian and PNG native citrus
parentage, bred with Trifoliata to
overcome virus sensitivity.



Tree Height of Imperial trees on 13 different
rootstocks with *C.australasica* parentage



Using finger lime
as a source of
blood flesh
colour.



20Q111



18Q061



20Q110



09Q001



07C004



20Q109



20Q112

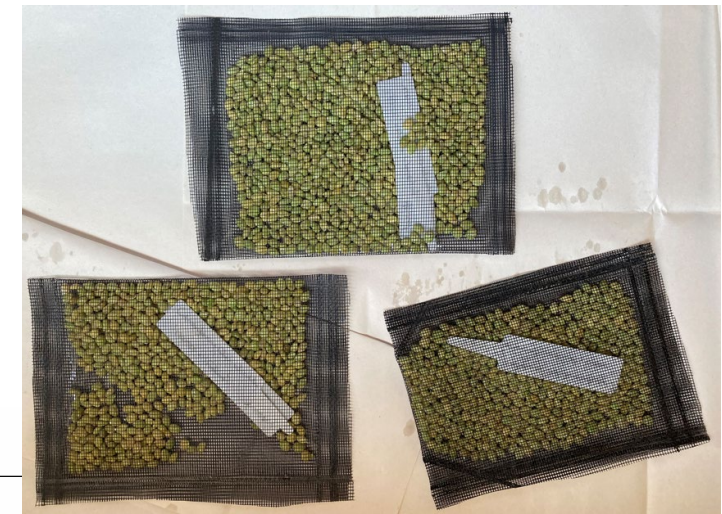


Daisy

HLB resistance breeding



The Australian Desert Lime is reported to be resistant to HLB. Our backcrossing program with this species hopes to capture this resistance in a conventional citrus background.



Finger limes are a favourite host for longicorns!
Symptoms are easily confused with phytophthora.
Act fast...this insect completely destroyed our collection of *Citrus australasica*.





Thank You

Staff: Deb Gultzow, Michael Reid

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