

Citrus rootstocks evaluation - update



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**Seed
Introduction
1993/94**

China & Vietnam



Australian Government
Australian Centre for
International Agricultural Research



Trees produced for trials



Rootstock seedlings



Mother trees

Experimental program (Dareton)

46 rootstocks - China

8 rootstocks - Vietnam

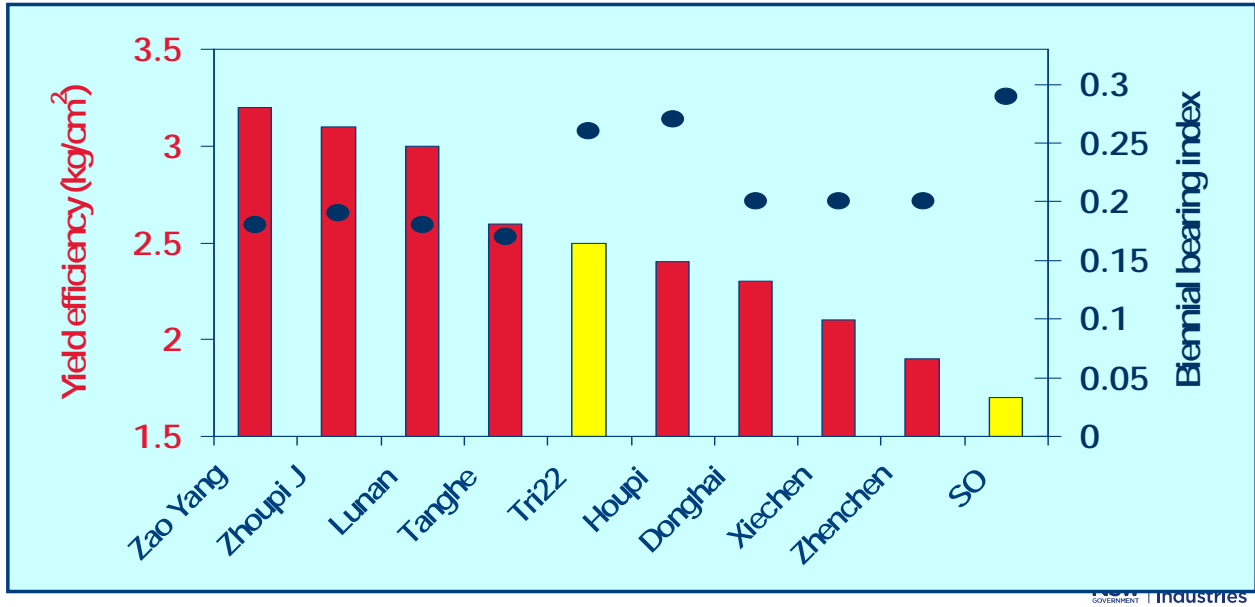
Trifoliata
Mandarin
Yuzu
Erythrosa
Ichangensis
Sour Orange

Navelina, Lane Late, Imperial, Eureka

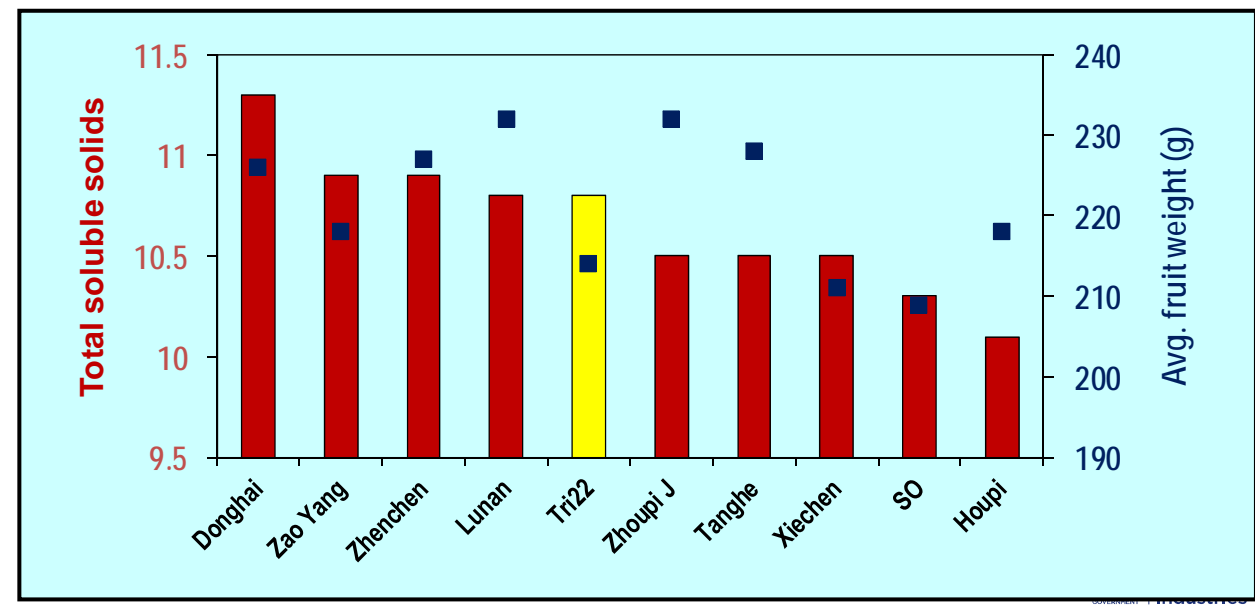


Results:
from trials at Dareton

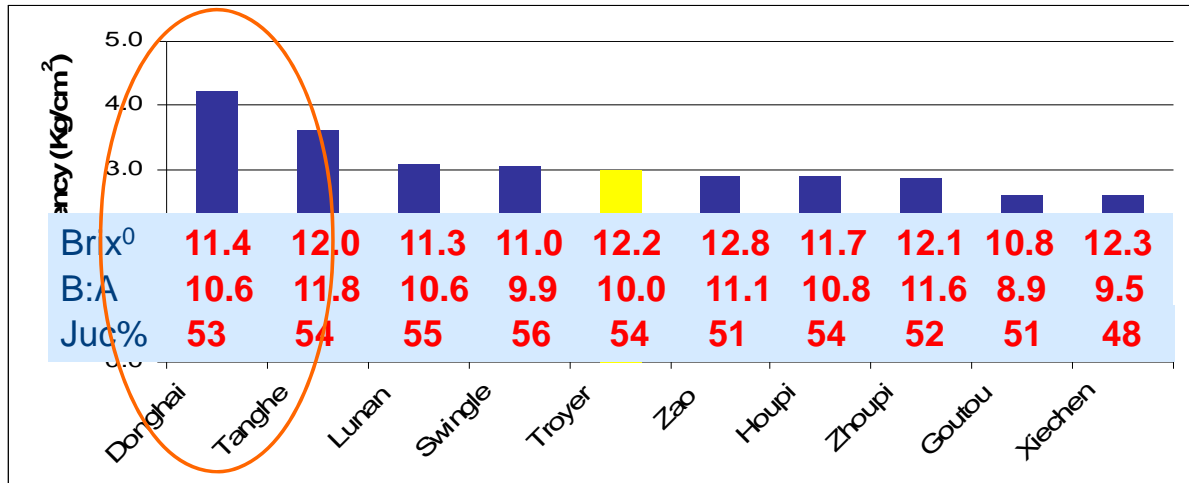
YE & biennial bearing index in Lane Late



Fruit quality in Lane Late

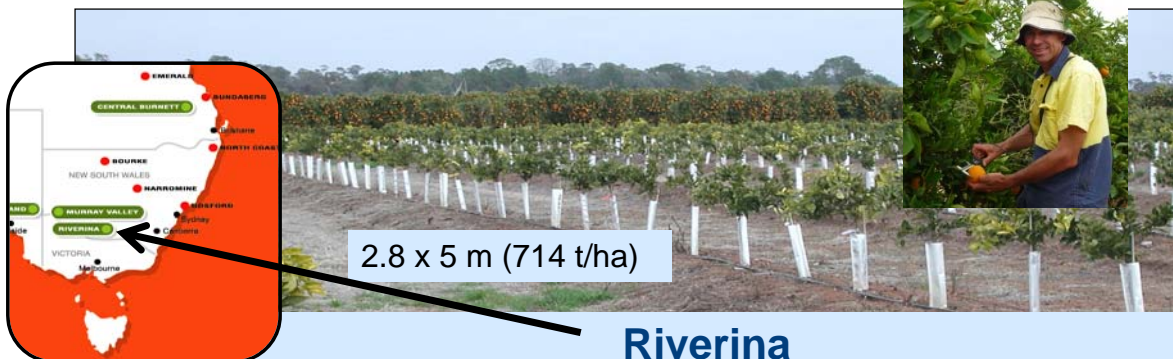


Valencia



Semi-commercial trial in Clay soil

Rootstocks: Zao Yang, Tanghe, Donghai, **Tri22 (Control)**
 Scions: Val 1, Val 2, Val 3, Val 4, Val 5, Val 6, **Keenan (Control)**
 Blocks: 6 (3 tree plot)



2.8 x 5 m (714 t/ha)

Riverina
Planted, Oct 2010 – 700 trees



Yield/tree (kg)

	Donghai	Tanghe	Tri22	Zao Yang	Mean
Keenan	37	38	31	41	37
Val 1	31	32	28	36	32
Val 2	34	37	36	38	36
Val 3	37	38	34	42	38
Val 4	29	33	31	40	33
Val 5	39	44	40	46	42
Val 6	35	36	31	45	37
Mean	35	37	33	41	

Total soluble solids (⁰Brix)

Val 5/ZaoYang **12.3**
 Val 5/Tri22 **11.4**

- DV Valencia



Economic returns, 5-6 year old (714 t/ha)

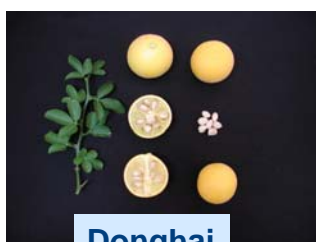
Variety/ Roostock	2015		2016		2015-16 (Average)
	t/ha	\$/ha	t/ha	\$/ha	\$ returns
Keenan/ Tri22 (Cont.)	22	\$6160	13	\$3640	\$4900
Val5/ Zao Yang	32	\$8960	16	\$4480	\$6720
Difference >>		\$2800		\$840	\$1820
					37%



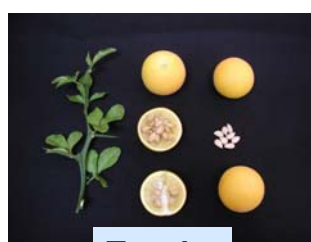
Release of new Rootstocks

10 May 2017, Parliament House, Sydney

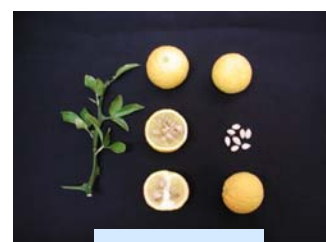
Release of new rootstock ...



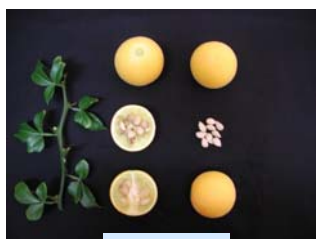
Donghai



Tanghe



Zao Yang



Ghana



Cao shixiangju



Anjiang hongju

Release of new rootstocks...

Trifoliata types:

Zao Yang & Tanghe: Lane Late, Valencia

Donghai: Navelina, Valencia

Ghana: Navel, Imperial

Mandarin types:

Anjiang Hongju: Imperial, Lane Late

Caoshi xiangju: Valencia



NSW DPI citrus website – rootstock section



New Components

- Establish 18 national trials in 5 states of Australia (Oct 2017)



Salt tolerance trial – Houghton

- NSW DPI Breeding Program (5)
- Californian Citrus Breeding Program (4)
- ACIAR Chinese Rootstocks (4)
- Rangpur lime, Troyer, Swingle, Sunki mandarin (**Control**)

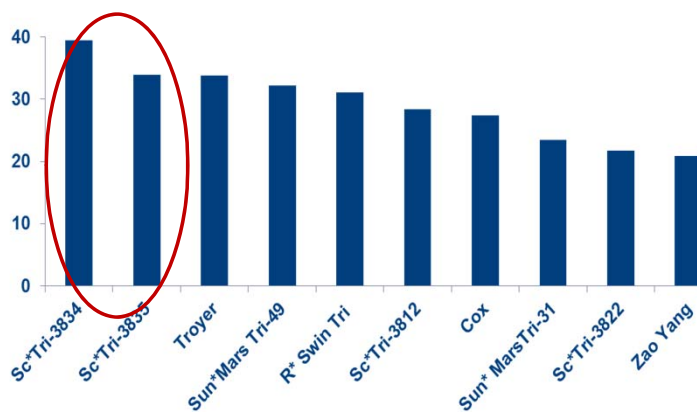


Bindoon, WA

Planted 2013



Accumulative yield (Kg/tree) 2016-17



3834
(Scarlett mandarin x Tri22)



Dwarfing effect trials at Dareton

- Scions: **Tang Gold, M7, Atwood**
- 10 – Rootstocks
Chinese &
US (C22, C54, C57, C146)

Plantation: Next week



NSW
GOVERNMENT
Primary
Industries

Import of HLB tolerant rootstock

- Dr Kim Bowman (USDA)
- US-942, US-802
- Testing for yield and quality



NSW
GOVERNMENT
Primary
Industries

Summary:

- **6 Chinese rootstocks released**
- **Zao Yang/Val 5 - (DV Valencia)**
- **New grower trials underway (Oct, 17)**
- **2 Gosford hybrids are showing promise**
- **Dwarfing rootstock trials underway (Oct, 17)**
- **Import of HLB rootstocks underway**

Acknowledgements:

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