



Auscitrus

ANNUAL REPORT

2009

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Auscitrus Mission Statement

“The primary role of Auscitrus is to provide propagation material of the highest health status, of the best varieties available worldwide, to protect the health status of the Australian Citrus Industry.

Auscitrus will ensure adequate supplies of healthy, true to type, and independently evaluated propagation material are produced in a scientifically sound, efficient, and economically sustainable manner.

This will ensure nurseries have access to the best available propagation material, and in turn will provide the citrus industry with a greater opportunity of establishing healthy orchards.”

Chairman's Report



By the time of our AGM we will have officially opened our Auscitrus River Road property. A lot of thought and work has gone into the development and we should all be very proud of the results. It is on par with the best citrus improvement properties in the world. My thanks go to all who have been involved.

Once again the year has not been the best for citrus industries. Water allocations have been low in most areas, putting stress on trees and growers and supporting industries. The continuing drought, small fruit size, and rising Australian dollar have all contributed to lower returns. On the bright side it has been raining in the catchment area and seed sales have been some of the highest in recent years. Now we must hope that budwood sales will follow next year.

Earlier this year Auscitrus arranged for Thys duToit, Manager of the South African Citrus Improvement scheme, to visit Australia. Thys visited most citrus areas meeting and talking with growers on the importance of our scheme and the need for accreditation/certification of all citrus nurseries.

He attended and spoke to nurserymen at the accreditation/certification meeting held in Mildura. The meeting was well attended and we hope in the near future our industry will have an accreditation system to give growers the best trees available.

Thanks to the Management Committee for their help and support over the year. Their interest in Auscitrus is appreciated, a special thanks to Ben for the time and thought he gave to the landscaping task; it really is a great look to the whole area.

It has not been the easiest of years but thanks to Tim and his staff for all their efforts in the development of our property, and their continuing interest in the Australian citrus industry, and a special thanks to Theresa for her extra work in the planning for the opening of the property.

Mike Arnold AFSM
Chairman

Auscitrus representation

State	Component Organisations	Grower	Nursery
South Australia	South Australian Citrus Improvement Society (2)	M. Arnold	A. Pippas
	Citrus Growers of SA (1)	K. Andrew	
Victoria	Sunraysia Citrus Growers (2)	M. Keenan	G. Chislett
Queensland	Qld Ctrus Growers (1)	T. Emmerton	
	Qld Nursery Industry (1)		W. Parr
Western Australia	WA Fruit Growers Association Citrus Council (1)	G. Fawcett	
New South Wales	Nursery & Garden Industry NSW & ACT Limited (2)		G. Eyles B. Swane
	Riverina Citrus (1)	J. Valenzisi	
	NSW Farmers Association (1)	J. Cade	
National	Citrus Australia Ltd	K. Parr	
Totals		8	5

Auscitrus Management

Management Committee:

Mike Arnold	(Chairman)	Grower
Michael Keenan	(Treasurer)	Grower
Wayne Parr	(Vice Chairman)	Nursery
Ben Swane	(Secretary)	Nursery
Kent Andrew		Grower



Standing from left: Tim Herrmann, Michael Arnold, Wayne Parr, Ben Swane, Kent Andrew, and Michael Keenan

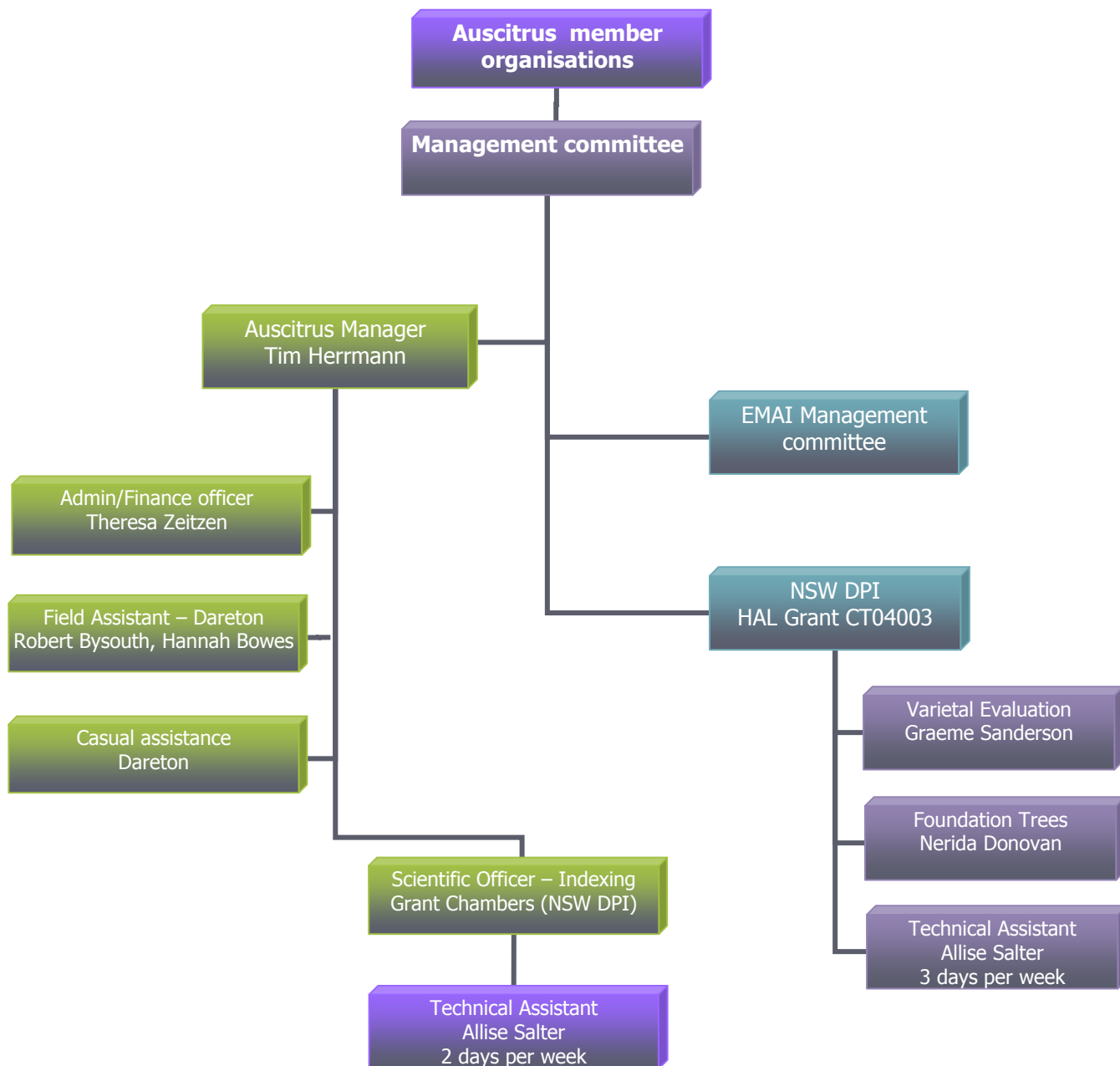
EMAI Management committee: Gary Eyles, Ben Swane, Tim Herrmann

Auscitrus Manager: Tim Herrmann

Public Officer: Gary Eyles

Auditor: WHK Thomsons Audit Services
Mildura VIC

Auscitrus structure



Manager's Report

2008/09 was a difficult trading year for Auscitrus, with sales of seed and budwood both well below average. Ongoing restrictions on irrigation allocations in the southern growing areas are mostly to blame for low demand for nursery trees, along with low returns and some uncertainty in the industry generally.

Labour requirements were still high however as work continued on establishing the new facility on River Road. As a result, Auscitrus made a significant operating loss for the 2008/09 season. This was compounded by poor returns from our investments, not surprising given the global financial crisis that has affected all investors in a similar fashion.

Largely as a result of this downturn, we have had to reduce our staff numbers. After 4 years with Auscitrus we had to make Stewart Curness redundant, and I would take this opportunity to thank Stewart for his time with us. Our core staff of Theresa, Hannah and Robert continue to function very efficiently, keeping up with the workload at present. Casual field staff may be needed if and when the budwood demand turns around.

A disappointment this year was the rejection of the application for funding for the virus free repository. An application to HAL for industry funds was rejected, and as such the maintenance of the repository is now funded by Auscitrus, with matching funds from the government through HAL. We will try to reverse this decision next year, however it appears our chances of securing long term funding for the repository are slim at best.

A highlight of the year was the visit by Thys duToit, the manager of the South African seed and budwood scheme, to Australia. Thys spent a solid couple of days looking over our systems, discussing our respective techniques and issues surrounding budwood production. Thys freely gave advice and opinion on our operations (very positive), as well as sharing his firsthand knowledge of their nursery accreditation system to aid in the development of ours.

A draft of the nursery accreditation system has been written up and circulated for discussion, and is awaiting the time to redraft it into a working manual for nurseries to use to attain accreditation. The goal of having a completely traceable path from Auscitrus to orchard is attainable, however the details to ensure the administrative and operational burden on nurseries is not too demanding still requires refinement.

So, looking forward to next year, signs are positive for a turnaround in Auscitrus operations. Seed sales/orders for 2009/10 are at record highs, and it is hoped that bud sales will follow, at least partially (although this may not show in bud sales until Spring 2010). The River Road facility still needs some minor development, but generally it is complete and we can make use of the improved efficiency of the facility (particularly the nursery).

There must be continued marketing of the scheme and education on the need to use clean propagation material. Increased irrigation allocations in the Murray/Darling system should flow on to increased confidence and resumed new plantings. This combined with demand for accredited trees by growers should see Auscitrus continue to operate successfully well into the future.

Tim Herrmann B App Sc Ag
Auscitrus Manager

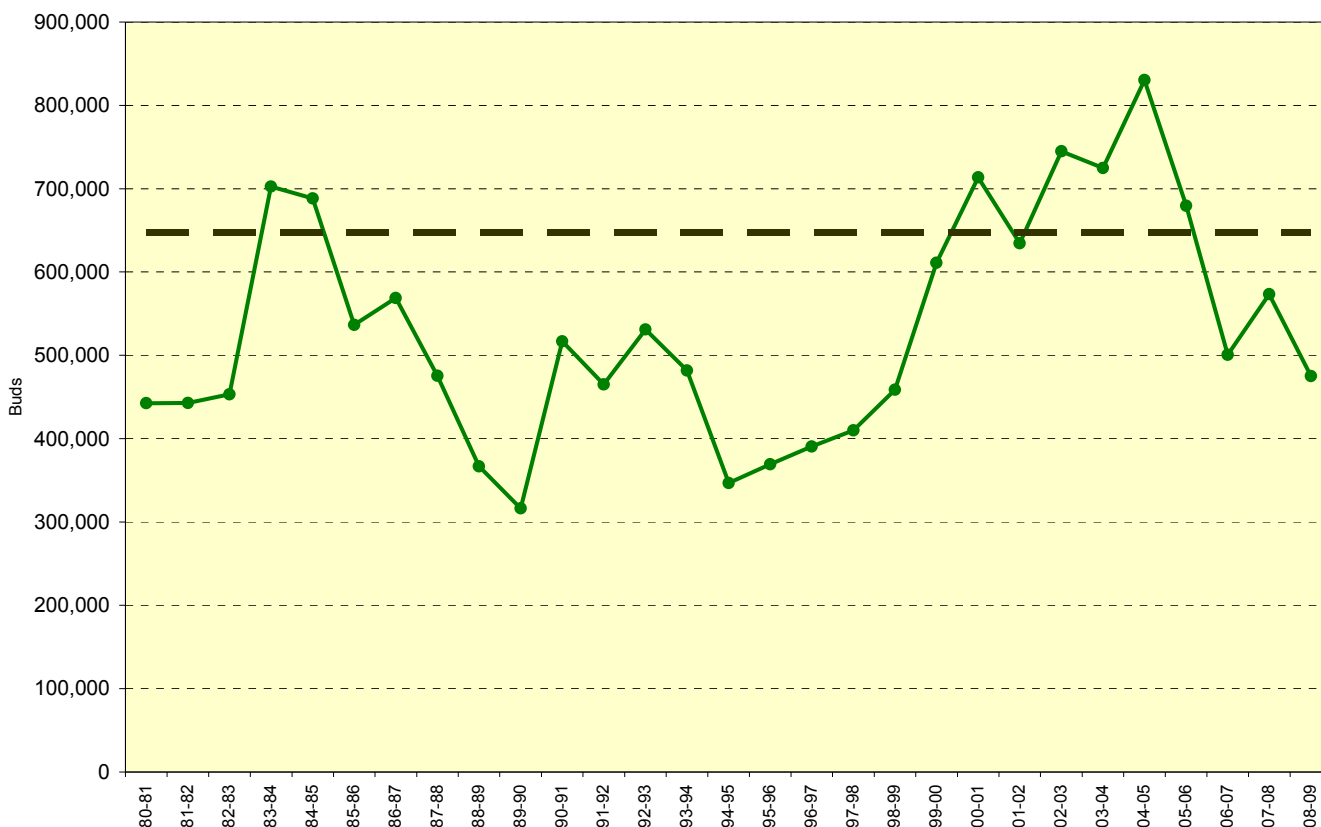
Commercial Operations

Tim Herrmann	Manager
Theresa Zeitzen	Administration-Finance officer
Hannah Bowes	Field Assistant (nursery)
Robert Bysouth	Field Assistant (general operations)

Budwood sales

Budwood sales were well down for 2008/09, which was to be expected given the poor seed sales of recent years and the ongoing drought in the Murray basin. Total bud sales ended up at 475,156 buds, which are the lowest sales since 1998/99, and only around 73% of the past 10 years average sales.

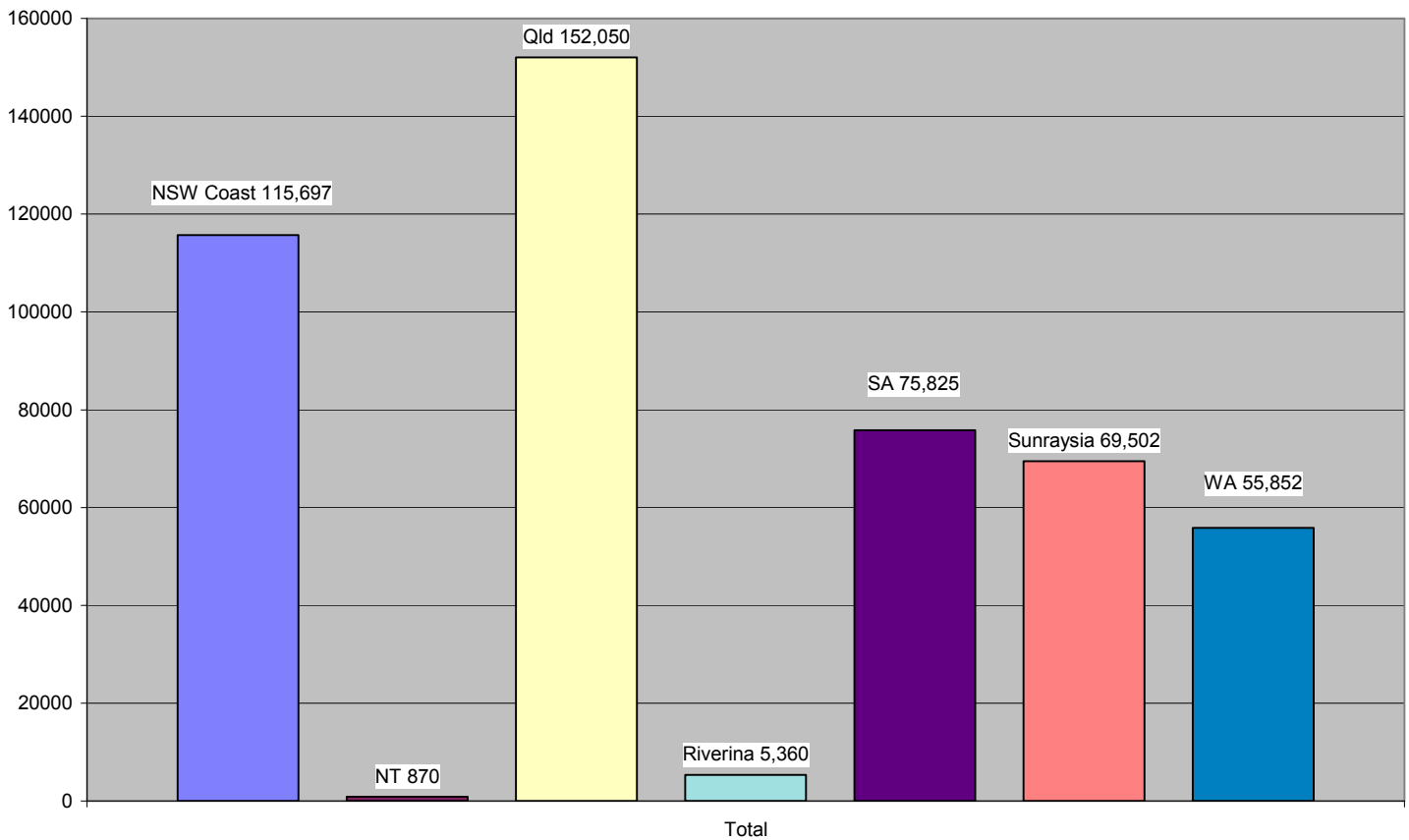
Budwood sales since 1980



Top selling ten varieties were:

Variety	Total
Mandarin Imperial	72,305
Navel Washington	52,884
Lime Tahiti	45,340
Common Salustiana	23,050
Lemon Eureka (Taylor 3402)	23,015
Mandarin Emperor	22,682
Valencia Benyenda	22,450
Mandarin W. Murcott Afourer	16,630
Valencia Keenan	14,235
Mandarin Murcott	13,595

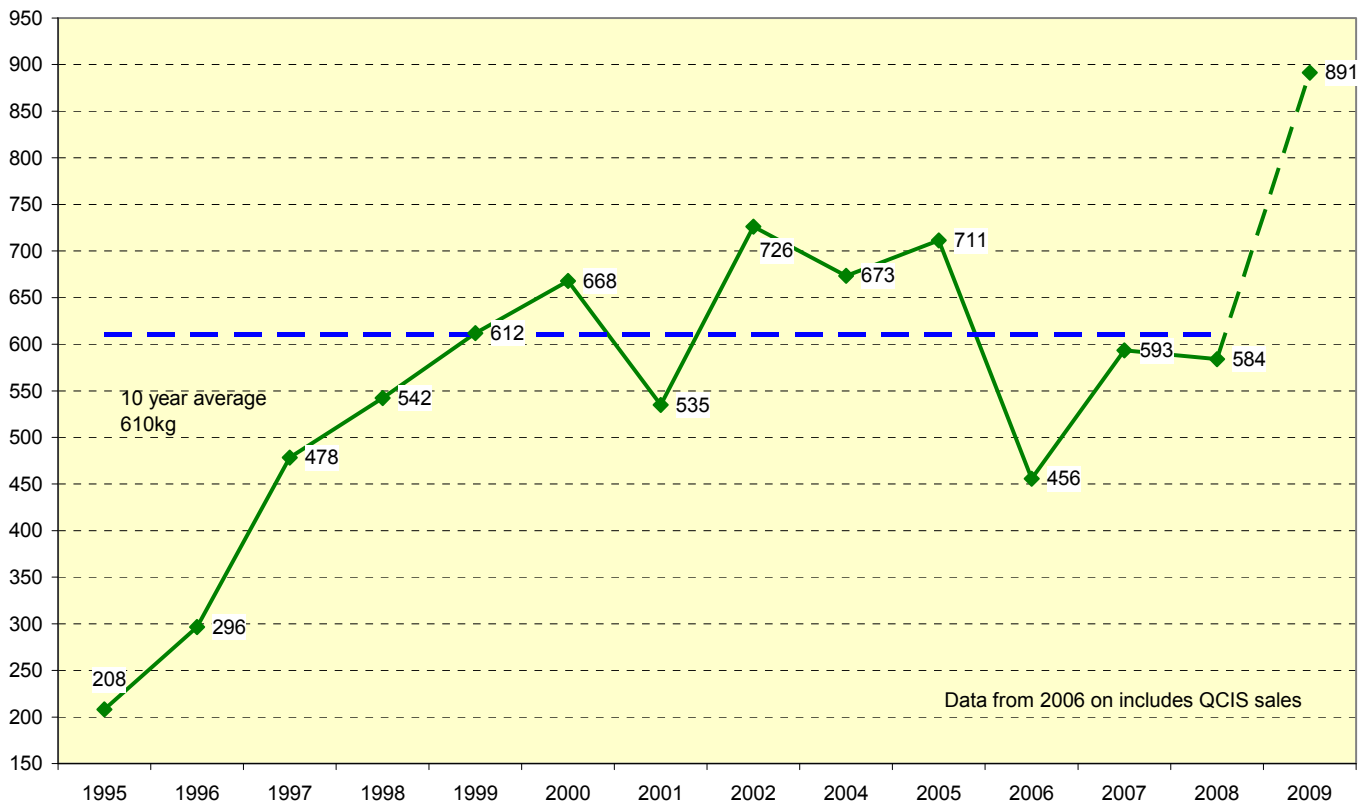
And total bud sales distribution by region:



Seed Sales

Seed sales for 2008/09 were lower than average once again, however sales/orders for 2009/10 are set to be record sales, as shown in the chart below:

Total seed sales 1995 - 2009



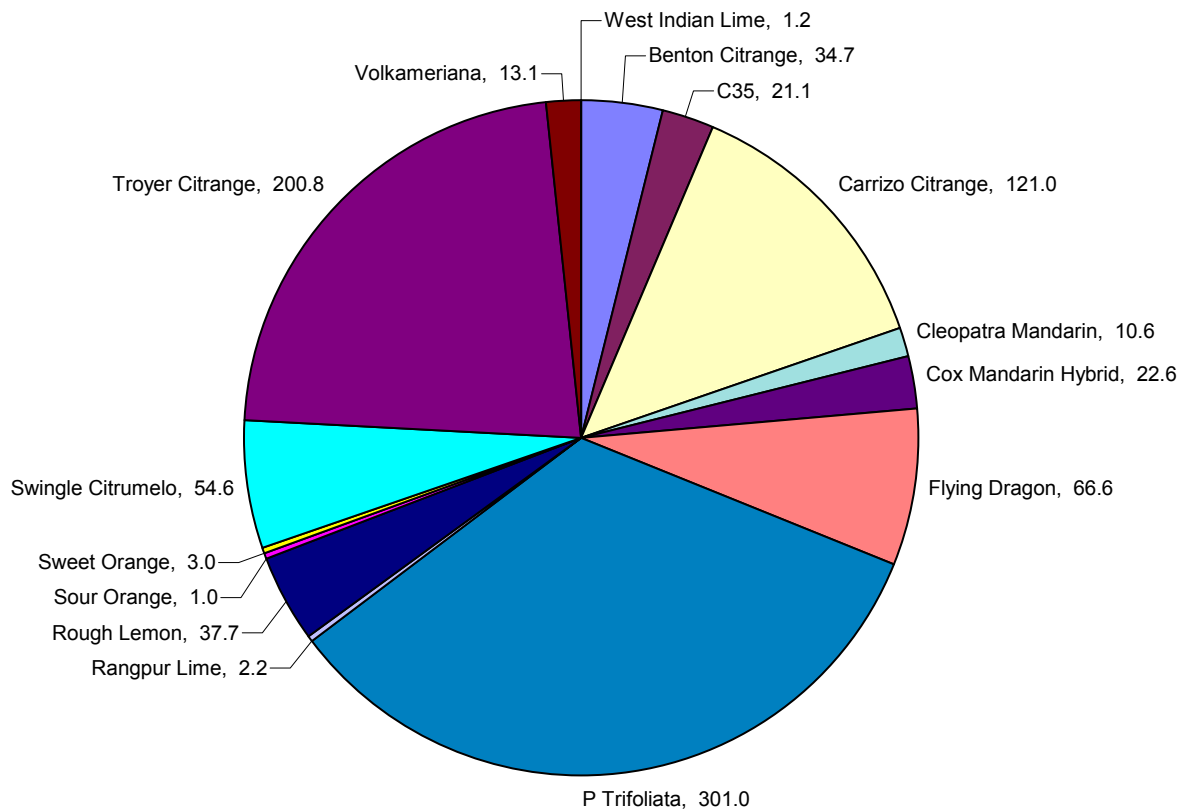
Seed production at Dareton last season was down, partly because the seed trees had to be half hedged the previous year to allow picking access up the rows, however seed production in Qld was good. In 2009/10 this situation was reversed, highlighting the benefits of the two seed schemes working together. 91kgs of seed was sourced from Monash, giving a total seed production of 1022kgs.

As shown in the table below, seed sales for 2008/09 included sales of 30.3kgs overseas, which has increased to 131.7kgs so far for 2009/10. It is likely this is a result of the discounting system introduced last year, as many overseas orders are large enough to attract a discount, thereby making us price competitive with overseas suppliers. The Auscitrus website is a useful advertising tool for overseas buyers.

Distribution of seed by region

Variety	NSW Coast	NT	OS	Qld	Riverina	SA	Sunraysia	WA	Grand Total
Troyer Citrange	8.55		2.50	77.58	2.07	13.05	42.70	20.70	167.15
P Trifoliata	36.01	0.20	22.50	13.62	28.75	8.50	38.60	0.75	148.93
Carrizo Citrange	1.50		0.50	2.75	1.50	13.52	21.90	4.00	45.67
Cleopatra Mandarin	1.00		0.20	33.50			6.90	0.50	42.10
Benton Citrange	7.35	0.20		25.05	1.00	4.11	3.53	0.20	41.44
Rough Lemon	8.00	0.10	0.20			0.25	26.05	5.05	39.65
Swingle Citrumelo	9.00			10.05	2.00	0.25	0.90	3.00	25.20
Flying Dragon	15.60	0.12		4.47			2.73	1.80	24.72
C35							0.20	16.80	17.00
Volkameriana			3.00	5.56			6.22	2.00	16.78
Grand Total	95.26	0.82	30.30	175.70	35.32	39.73	151.27	55.75	584.15

As is usual, Troyer, Carrizo, and *P. trifoliata* made up the bulk of the seed sales for 2008/09. Demand for Flying Dragon remained strong, with a 28% shortfall in supply. There was also a shortfall in Rough Lemon of 18%, however this was substituted with Volkameriana following negotiation with one nursery with a large order.



General activities

Most additional activities revolved around the continuing development of the new property on River Road Dareton. While the majority of the works were completed last year, continuing refinements and finishing off of structures took up a fair amount of time. Landscaping, completing irrigation and fertigation systems, and refining processes using the new equipment kept all staff busy.

Tree growth in the new seed plantings has been very good, with a continual fertigation program in place. There will be some fruit on the trees in 2010, however the first significant harvest is expected in Autumn 2011.

The first stage of budwood tree planting has been completed, and trees propagated for the second (and largest stage), which will be planted in Spring 2010.



Evaluation of New Varieties and Ensuring Healthy Budwood HAL Grant to Auscitrus: CT04003 (2004 – 2009) (Final Report submitted September 2009)

Graeme Sanderson
Troy Witte
Jason Bowes

Research Horticulturist, NSW DII, Dareton
Technical Assistant, NSW DII, Dareton
Temporary Assistant

Evaluation sites in Sunraysia, the Riverina, South Australia, Western Australia and Queensland will contain 30 of the possible 31 new citrus varieties by December 2009. Tarocco Ippolito, Bintangcheng Renbin #5 and Winola mandarin (ANFIC) are being planted and grafted in spring 2009. The final variety, Etna mandarin, will be propagated onto rootstocks after supply of budwood from the Elizabeth Macarthur Agricultural Institute in November 2009.

Evaluation and Extension Activities in 2009

Intensive fruit quality testing has been possible on 19 of the 31 new varieties at the Sunraysia site during 2009. Six varieties produced fruit for the first time in 2009 and have been sequentially tested to determine their quality attributes and maturity periods. These varieties include: Primosole mandarin, Nour clementine, IRM1 and IRM2 murcotts, Or and Gold Nugget mandarins.

Data is also collected on 'trueness to type', phenology, tree growth rate, fruit size distribution and crop management techniques such as nutrition, pruning and crop manipulation with growth regulators. Collected information is then compiled into draft information sheets.

Varieties which have produced fruit at the evaluation sites and are creating commercial interest are: Alkantara, C1867, Nectar, Mor, IRM1, IRM2, Gold Nugget, Mandalate and Eureka SL. Plant Breeders Rights (PBR) and public access varieties have been displayed to citrus growers in 2009 and invited groups have also inspected field trees and fruit at the Sunraysia evaluation site. A one year extension to the current project has been funded by HAL under the current arrangement with Auscitrus as project leader. This will allow a further 6 varieties to be evaluated in 2010. These include: Shasta, Tahoe and Yosemite mandarins (TDE 2, 3 & 4), Earlygold, Bintangcheng No 2 and Jincheng processing oranges.



IRM1 low seeded Murcott harvest 2009 from topworked trees prior to grading.



Public access varieties Cittgroup farm walk at Dareton, June 2009.

Auscitrus operations at EMAI

Elizabeth Macarthur Agricultural Institute (EMAI) is located in a non citrus producing area at Menangle, on the outskirts of Sydney. At EMAI there is a NIASA accredited nursery and laboratories that are certified under ISO 9001:2008. Auscitrus is involved in 2 main areas at EMAI:

- Citrus Foundation Repository
- health status testing of its commercial budwood and rootstock seed trees

Citrus Foundation Repository

Repository for virus-free clones, EMAI

The screen house repository currently holds 155 virus free citrus clones with at least 2 trees of each variety held at EMAI. New varieties that are introduced to the repository are established on both rough lemon and citrange rootstocks.

The virus free repository fills 2 screen houses, with 46 private varieties held separately from the public varieties. All fruit observed on repository trees are photographed and the images are maintained in a database. Images of fruit from 165 trees are currently on the database.

New varieties released from quarantine over the 2008/09 financial year include Etna mandarin, Bintangcheng Renbin #5 and four other private varieties. A private local variety was also included in the repository.

Repository for pre-immunised clones, EMAI

The repository for pre-immunised clones is housed in a controlled environment glasshouse at EMAI. This repository contains 81 citrus clones that have been pre-immunised with a mild strain of citrus tristeza virus (CTV). This mild strain serves to protect against more severe strains of the virus that may be introduced to trees in the field by aphids – this control mechanism is called mild strain cross protection. Images of fruit from 30 trees have been added to the database.

Field repository, Dareton

The field repository contains 76 scion trees and 10 rootstock seed trees, 2 of each variety.

The maintenance and testing of public varieties was partly funded by HAL project CT04003 ‘Evaluating new varieties and ensuring healthy budwood’ from July 2004 to June 2009. The maintenance and testing of private varieties is covered by a contract agreement between the private variety owner and Auscitrus and is paid for by the variety owner.

All trees in the three repositories are checked regularly for citrus pathogens - see section on ‘Health status testing for citrus pathogens’ for details.

It is important to note that the *virus-free* status of repository trees means that no viruses or viroids that we test for have been detected in these trees using our current testing methods. These trees have a *high health status* but pathogens may be detected in these trees through improvements in testing methods and the discovery of new pathogens.

Health status testing for citrus pathogens

Citrus viroids

All budwood source trees (repository and field trees) are tested every 3 years for citrus viroid infection using biological indexing methods.

Viroid testing by biological indexing on Etrog citron has been conducted for 518 Auscitrus budwood multiplication trees at Dareton over the 2008/09 year. No viroids were detected.

Viroids can also be detected using different molecular techniques called sequential polyacrylamide electrophoresis (sPAGE) and RT-PCR. All suspect results from the biological indexing are investigated further by sPAGE and RT-PCR. This is done by testing leaves from the Etrog citron indicator plants used in the biological indexing.

The entire testing process currently takes around 6 months. It would be quicker to do RT-PCR on material straight from the field trees but we have to investigate the reliability of these results before introducing this as a routine test. Over the past year, field material from 223 budwood multiplication trees has been tested directly by both RT-PCR and biological indexing. So far, the results from the 2 test methods have been in agreement.

Newly imported citrus varieties are tested for viroids by sPAGE before they are released from the AQIS post-entry quarantine station at Eastern Creek. This testing is out sourced by AQIS to Auscitrus and the testing is conducted at EMAI. Over the past financial year, 7 samples from newly imported varieties have been tested for citrus viroids by sPAGE. The samples are given to EMAI with only a number to identify them; we do not know the variety names and the results are only supplied to AQIS.

Field material from 56 trees (not scheduled for testing during the 2008/09 year) were tested for viroids only by RT-PCR due to the short turn around time required to fill budwood orders. Six other miscellaneous samples were tested for citrus viroids by RT-PCR to determine if citrus viroids were present.

Citrus tristeza virus (CTV)

CTV is endemic throughout Australia. There are many strains of the virus from mild to severe causing a range of disease symptoms.

Every tree in the EMAI citrus repositories is tested annually for the presence of CTV using a serological test called direct tissue blot immunoassay (DTBIA). This test is used to confirm that the virus is not present in the virus-free clones and to confirm that the virus is present in the pre-immunised trees.

All virus-free repository trees were tested for CTV by DTBIA in autumn 2009 with no CTV detected. Molecular testing for CTV was conducted on 77 virus-free repository trees, in addition to DTBIA, with no CTV detected.

All trees in the pre-immunised repository, except four mandarin trees, tested positive for CTV. Budwood is only sourced from pre-immunised trees that have tested positive for CTV during the past year.

All grapefruit trees in the budwood multiplication blocks and field repository at Dareton are tested annually to confirm the presence of a mild isolate of CTV that protects trees against more severe grapefruit stem pitting strains.

During the 2008/09 financial year, 47 grapefruit trees from budwood multiplication and repository blocks at Dareton were tested for mild strain CTV by biological indexing only to confirm the presence of a mild protective CTV strain. A further 29 trees were tested using molecular techniques to confirm the presence of the mild strain and make sure no other strains have been introduced to the trees by aphids. Ten trees were found to contain both the mild strain and other CTV strains. Biological indexing of these trees is in progress and they will not be used to supply budwood.

Citrus psorosis virus

Rootstock seed supply trees are tested for psorosis virus every 10 years via biological indexing. During the 08/09 year, 40 seed supply trees from Bundaberg Research Station were tested for psorosis. Ten budwood multiplication trees were also tested. No psorosis virus has been detected in the samples.

Queensland field trees suspected of psorosis infection were tested for the virus using molecular techniques. No psorosis virus was detected using this method.

Citrus leaf blotch virus (CLBV)

Seven miscellaneous samples were tested during the 2008/09 financial year for CLBV using molecular techniques. No CLBV was detected in the samples tested.

General business

Pathogen elimination

Viruses and viroids can be removed from infected mother trees by shoot tip grafting and heat treatment. Successful shoot tip grafted plants then require testing to determine if all known pathogens have been eliminated.

Shoot tip grafting techniques were used to produce plantlets of a private variety, with the intention of removing CTV. Initial testing could not detect CTV in this private variety and 2 other private varieties that were shoot tip grafted the previous financial year. Further testing will confirm that CTV has been eliminated from all 3 prior to their introduction to the repository virus-free clones.

Quality assurance

The EMAI nursery is NIASA accredited and the Citrus Pathology and Soil Health Unit is ISO 9001:2008 certified. The unit has been inspected and externally audited during the 2008/09 financial year and maintained both the NIASA accreditation and ISO certification.

Staff

NSW DPI staff involved with Auscitrus activities at EMAI during the 08/09 financial year:

Grant Chambers	Professional Officer, Auscitrus Pathogen Indexing.
Allise Fail	Technical Assistant Maternity leave July 08 to February 09 Part-time from February to June 09 (2 days per week)
Kulan Turton	Technical Assistant – worked July 08 to January 09
Margaret Coogan	Technical Assistant – casual from Feb 09 to backfill Allise
Elissa Dell	Technical Assistant – casual from Feb 09 to backfill Allise
Craig Gaunson	Leading Hand - Gardener
Nerida Donovan	Citrus Pathologist Returned to work November 08 after maternity leave

Varieties and clones in the Citrus Foundation Repository EMAI (July 2009)

Accession No.	Variety	Virus free trees	Pre-immunised trees
Grapefruit			
I.N. 91.0736	Flame	*	*
I.N. 89.0620	Henderson	*	*
A.N. 73.0068	Marsh (3970 Druitt)	*	*
A.N. 91.0632	Marsh (3962 Druitt)	*	*
I.N. 89.0619	Ray Ruby	*	*
I.N. 89.0708	Rio Red	*	*
I.N. 89.0709	Star Ruby	*	*
A.N.04.0950	Star Ruby (Cant)	*	*
A.N. 91.0633	Thompson (N Eagle)	*	*
Pummelo			
I.N. 90.0743	Melogold ^P	*	*
I.N. 01.0925	Namroi	*	*
I.N. 85.0553	Oroblanco ^P	*	*
I.N. 04.0934	Pomelit ^P	*	*
I.N. 94.0786	Tambun	*	*
Citron			
I.N. 01.0926	Bergamia Bergamot Castagnaro	*	*
I.N. 94.0904	Buddha's Hand	*	*
	Etrog	*	*
Lemon			
I.N. 01.0927	Eureka (Allen)	*	*
A.N. 75.0034	Eureka (Lambert)	*	*
A.N. 75.0035	Eureka (Taylor)	*	*
I.N. 04.0937	Eureka seedless ^P	*	*
I.N. 89.0703	Fino	*	*
I.N. 00.0915	Genoa lemon (W. Parr) ^P	*	*
A.Q. 93.0785	Lemonade	*	*
I.N. 00.0918	Lisbon (Limoneira 8A)	*	*
I.N. 75.0036	Lisbon (Prior)	*	*
A.Q. 91.0631	Lisbon (Queensland)	*	*
A.Q.09.0978	Pressler seedless ^P	*	*
I.N. 89.0705	Verna	*	*
Lime			
I.N. 94.0776	Kaffir lime (Malaysia 4669)	*	*
A.D. 97.0907	Kaffir lime (Nathanael)	*	*
I.N. 00.0916	Kaffir lime (Eyles)	*	*
A.N. 08.0969	Tahiti lime	*	*
A.N. 90.0771	West Indian lime (Schweppes)	*	*
Orange			
<i>Navel</i>			
I.N. 86.0600	Atwood	*	*
A.N. 94.0783	Barnfield ^P	*	*
A.Q. 78.4021	Benyenda - thorny	*	*
A.V. 08.0971	Chislett M7 ^P	*	*
I.N. 86.0597	Fisher	*	*
I.N. 99.0912	Fukumoto	*	*
A.S. 75.5077	Hockney	*	*
A.N. 73.0073	Houghton	*	*
A.S. 92.0772	Hutton	*	*
A.N. 75.0032	Lanes Late 3976	*	*
A.N. 73.0072	Leng	*	*
A.V. 94.0781	Lloyd/3 Leng	*	*
I.N. 86.0550	Navelate	*	*
I.N. 87.0546	Navelina Spain 7.5	*	*
I.N. 93.0899	Navelina 315 ex Italy	*	*
A.S. 92.0773	Neilson	*	*
I.N. 86.0598	Newhall California	*	*

^P = private

Accession No.	Variety	Virus free trees	Pre-immunised trees
Orange cont.			
I.N. 87.0551	Newhall 55-1 Spanish	*	*
A.N. 94.0844	Nugan P	*	
A.N. 94.0784	Pasin P	*	
A.V. 94.0779	Rohde ^P	*	*
A.S. 75.5074	Thomson	*	
<i>Valencia</i>			
A.S. 75.5095	B/3010	*	
A.Q. 75.4022	Benyenda	*	*
A.S. 94.0782	Berri 3501	*	*
A.V. 94.0780	CSIRO 5	*	*
A.V. 93.0774	Jenner 4439	*	*
A.N. 75.0029	Newton – Keenan 3125	*	*
A.N. 75.0030	Newton – Keenan 3247	*	
I.N. 08.0976	Turkey 1285 ^P	*	
<i>Other oranges</i>			
I.N. 92.0901	Acidless orange (Lima 156)	*	*
I.N. 98.0921	Blood orange (Sanguine)	*	*
I.N. 08.0968	Blood orange (Tarocco Ippolito)	*	
I.N. 07.0965	Blood orange (Tarocco Meli C8158)	*	
I.N. 07.0966	Blood orange (Tarocco Rosso C4977)	*	
I.N.06.0960	Common orange (Bintangcheng no 2)	*	
I.N. 08.0973	Common orange (Bintangcheng Renbin # 5)	*	
I.N.06.0964	Common orange (Earlygold) ^P	*	*
I.N. 94.0902	Common orange (Delta seedless)	*	*
I.N. 86.0548	Common orange (Hamlin)	*	*
I.N. 02.0930	Common orange (Jaffa) ^P	*	*
I.N.06.0959	Common orange (Jincheng 447)	*	
I.N. 94.0903	Common orange (Midknight)	*	*
I.N. 92.0900	Common orange (Natal)	*	*
I.N. 86.0549	Common orange (Parson Brown)	*	
I.N. 90.0739	Common orange (Pera Bianchi) ^P	*	*
I.N. 90.0741	Common orange (Pera Olympia)	*	*
I.N. 90.0742	Common orange (Pera Limeira)	*	*
I.N. 87.0547	Common orange (Pineapple)	*	
I.N. 93.0860	Common orange (Salustiana)	*	*
A.Q. 78.4020	Common orange (Smith - Joppa)	*	
I.N. 97.0924	Pigmented navel (Cara Cara)	*	*
I.N. 08.0977	Pigmented navel (Kirkwood red) ^P	*	
Mandarin			
I.N. 99.0909	Afourer	*	*
I.N. 08.0975	African Sunset ^P	*	
I.N. 99.0913	Avana Tardivo	*	
I.N. 99.0914	Avana Apireno	*	*
I.N. 04.0941	Cami ^P	*	
I.N. 91.0770	Clementine (Arrufatina) ^P	*	*
I.N. 98.0920	Clementine (Caffin)	*	*
I.N. 89.0704	Clementine (Clementard)	*	*
I.N. 99.0910	Clementine (Corsica 1)	*	
I.N. 99.0911	Clementine (Corsica 2)	*	
I.N. 87.0544	Clementine (Fina)	*	*
I.N. 91.0740	Clementine (Hernandina) ^P	*	*
I.N. 87.0552	Clementine (Marisol)	*	
I.N.05.0957	Clementine (Nour)	*	*
I.N. 87.0543	Clementine (Nules)	*	
I.N. 04.0955	Clementine (Orogrande)	*	*
I.N. 87.0545	Clementine (Oroval)	*	
I.N. 04.0953	Clementine (Sidi Aissa)	*	*
I.N. 03.0933	Clementine x Murcott ^P	*	
I.N. 89.0707	Fallglo	*	

^P = private

Accession No.	Variety	Virus free trees	Pre-immunised trees
Mandarin cont.			
I.N. 91.0733	Daisy	*	*
A.Q. 94.0777	Eloise ^P	*	
I.N. 90.0736	Encore	*	
I.N. 08.0974	Etna	*	
I.N. 93.0859	Fortune	*	
A.Q. 94.0787	Fremont	*	
I.N. 04.0939	Gold Nugget ^P	*	*
A.N. 75.0041	Hickson	*	
A.N. 75.0043	Imperial 0043/2	*	
A.Q. 01.0928	IrM1 ^P	*	*
A.Q. 04.0947	IrM2 ^P	*	*
I.N. 08.972	JC5 ^P	*	
I.N. 04.0945	Mandarin hybrid D8811 (Mandalate) ^P	*	
I.N. 04.0935	Mor ^P	*	
I.N. 04.0938	Nectar ^P	*	
A.Q. 94.0778	Nova (Trott)	*	*
I.N. 91.0734	Nova (Spain)	*	
I.N. 04.0936	Nouvelle seedless ^P	*	
I.N.05.0958	Or ^P	*	
I.N. 04.0951	Parsons Special /2	*	
I.N. 86.0599	Pixie	*	
I.N. 04.0954	Primosole	*	*
A.N. 75.0065	Satsuma (Silverhill)	*	
I.N. 89.0706	Satsuma (Clausellina)	*	
I.N. 91.0852	Satsuma (Okitsu Wase)	*	*
I.N. 91.0853	Satsuma (Miho Wase)	*	*
I.N. 03.0931	Seedy mandarin ^P	*	
I.N. 03.0932	Seedless mandarin ^P	*	
A.Q. 04.0949	Success ^P	*	
A.Q. 94.0886	Sunburst	*	
A.Q. 01.0929	Taylor Lee ^P	*	*
I.N.06.961	Temple x Dancy x Encore hybrid (Shasta Gold) ^P	*	*
I.N.06.963	TDE hybrid (Tahoe Gold) ^P	*	*
I.N.06.962	TDE hybrid (Yosemite Gold) ^P	*	*
I.N.08.0967	Winola ^P	*	
Tangor/elo			
A.N. 75.0090	Ellendale (Herps)	*	*
A.Q. 04.0952	Murcott tangor (Benham)	*	
A.Q. 90.4149	Murcott tangor (Turner)	*	
A.Q. 04.0948	Murcott 66.75 ^P	*	
I.N. 04.0940	Tacle ^P	*	
I.N. 04.0942	Tarocco hybrid C1829 tangor ^P	*	
I.N. 04.0943	Tarocco hybrid C2191 (Alkantara) ^P	*	
I.N. 04.0944	Tarocco hybrid C1867 ^P	*	
I.N. 90.0818	Topaz tangor	*	
I.N. 98.0919	Tsunokaori ^P	*	*
Native citrus			
A.N. 04.0946	<i>Citrus australasica</i> var. <i>sanguinea</i> Rainforest Pearl ^P	*	
A.N. 08.0970	D1 ^P	*	
Cumquat			
I.N. 04.0956	Nagami	*	*

^P = private