Annual Industry Survey 2013

Liz Mann, Industry Development Manager, Australian Processing Tomato Research Council Inc.

Summary

Approximately 193,009 tonnes of tomatoes were delivered for processing during the 2012/13 season. This is an increase of about 5% on last year's intake. The average field yield was approximately 96.6 tonnes/ha. The entire planted area was harvested this season.

The average tomato soluble solids level was 5.13%

12 specialist processing tomato growers supplied the tonnes processed during the 2012/13 harvest.

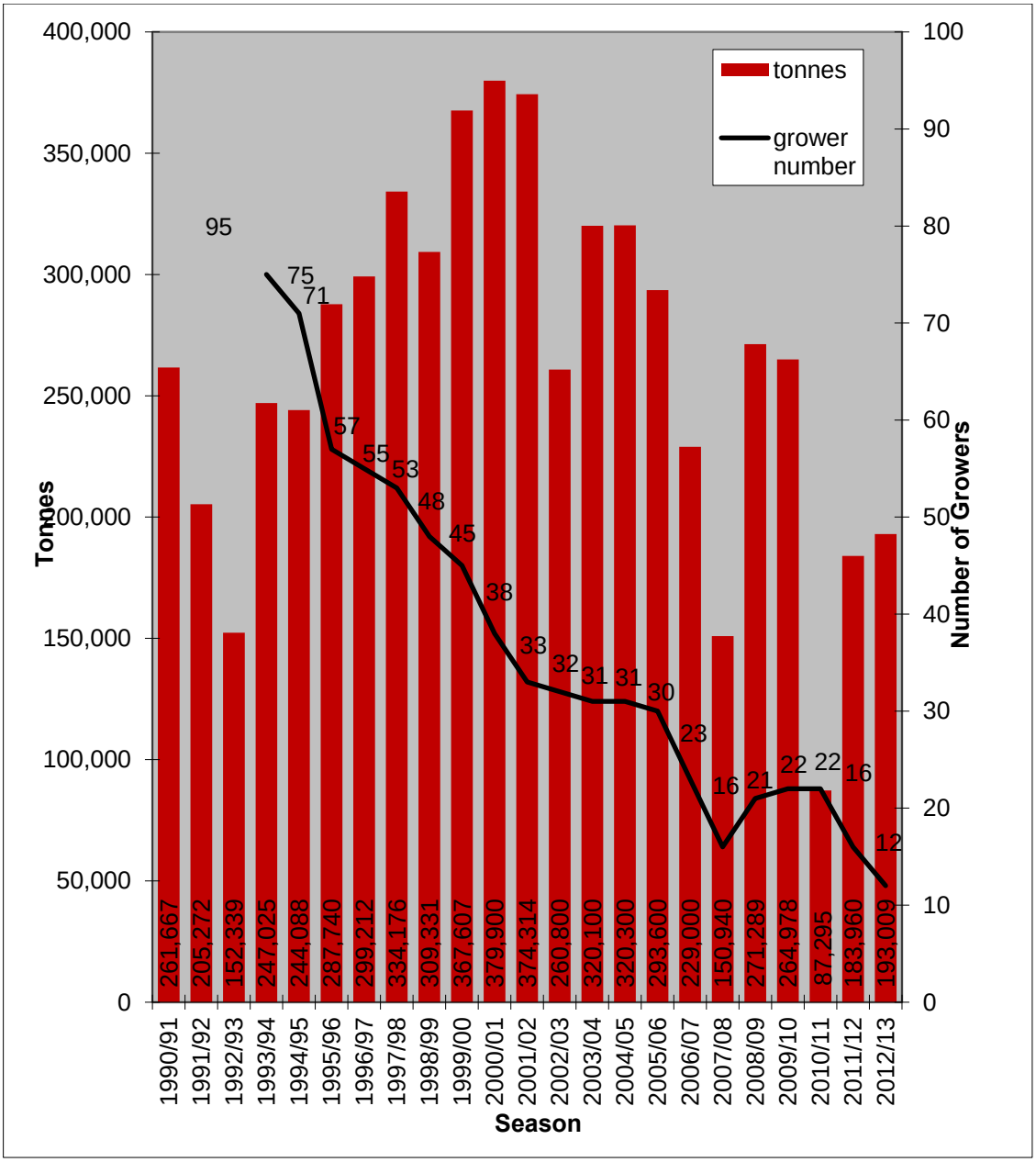
An area totalling around 1,999 hectares was planted by processing tomato growers during the 2012/13 season. 98.5% of the area was drip irrigated and 72% sown with transplants.

115,351 tonnes of tomato products valued at close to $104 million were imported during 2012. This equated to a decrease of 12% of processed tomato products by tonnage. Peeled tomato products, particularly in retail packs, are the major import category.

Exports equated to approximately 5,634 tonnes of product, down from 6,332 in the previous year. However, in raw tomato equivalent terms export volume has increased 23% from the previous year.

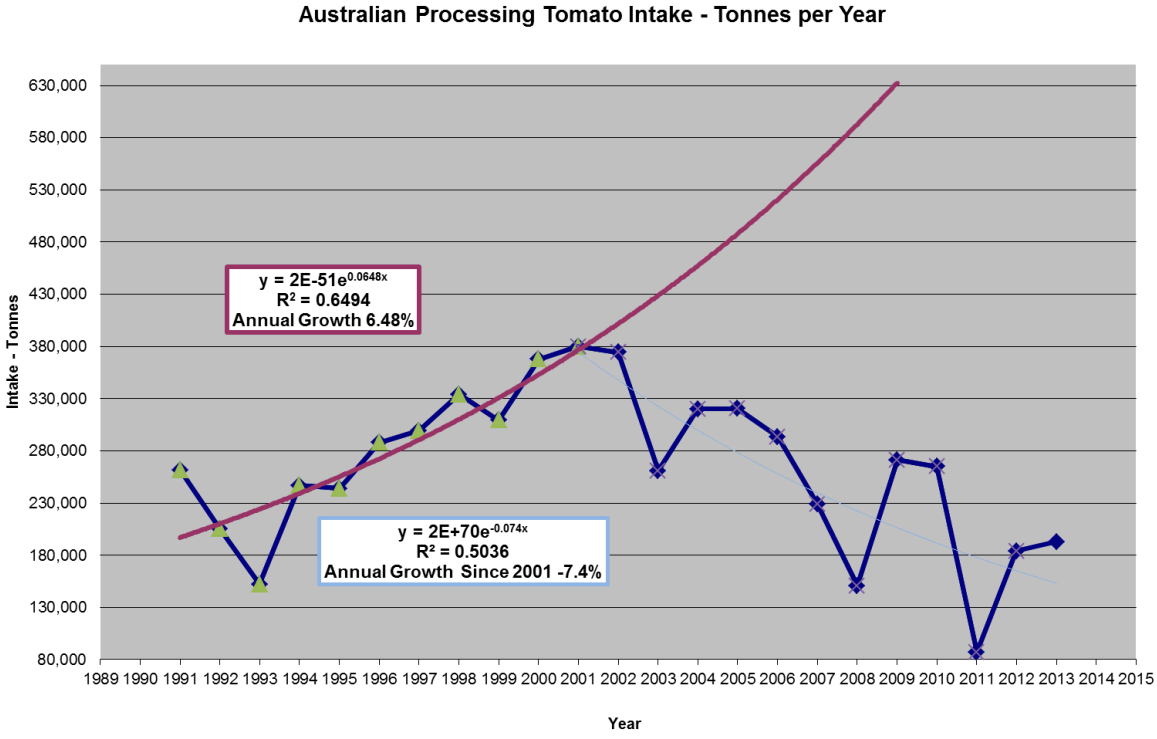
2013 Survey Results

Production from the 2012/13 harvest totalled approximately 193,009 tonnes, an increase of about 5% on the previous year.



Graph 1 Paid Tomato Tonnes Delivered

Source: - Industry Survey & Horn, B (2000, 2001, 2002, 2003)



Graph 2 Paid Tomato Tonnes Delivered, Depicting Annual Growth Trends
NB. Annual trends, in particular since 2001 could be considered a weak relationship

Twelve specialist processing tomato grower enterprises[1] supplied the bulk of the intake.

Three businesses processed tomatoes this year.

Crop Area and Management

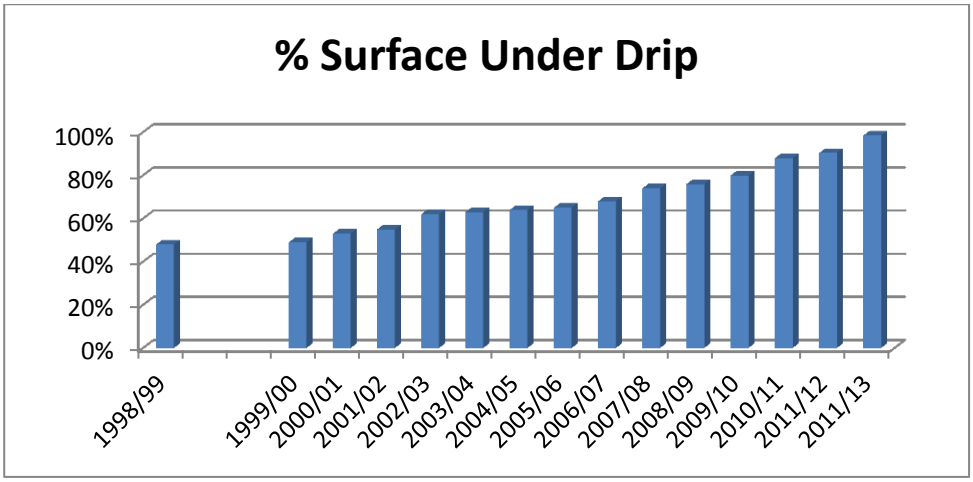
An area totalling around 1,999 hectares was planted by processing tomato growers during the 2012/13 season, with all hectares harvested.

Season	Hectares (Excl Market Growers)	Hectares Harvested	% Surface Under Drip	% Surface Transplants
1998/99	4,328		48%	21%
1999/00	5,108		49%	25%
2000/01	4,779		53%	33%
2001/02	4,486		55%	43%
2002/03	3,648		62%	46%
2003/04				

[1] Some people are farming tomatoes in partnership. For the purpose of this report such enterprises are counted as one "grower enterprise", or "grower" for short.

2004/05				
2005/06	3,500		65%	45%
2006/07	2,860		68%	55%
2007/08	2,308		74%	66%
2008/09	3,000		76%	57%
2009/10	3,442	2,806	80%	65%
2010/11	2,850	2,074	88%	79%
2011/12	2,366	1,962	90%	81%
2012/13	1,999	1,999	98.5%	72%

Table 1 Penetration of Drip Irrigation and Transplants
Source: - Industry Survey & Horn, B (2000, 2001, 2002, 2003)



Graph 3 Percentage of Production Area Irrigated Via Sub-surface Drip
Source: - Industry Survey & Horn, B (2000, 2001, 2002, 2003)

Only 1 grower in the industry used furrow irrigation during the 2012/13 season. 179 hectares of processing tomatoes were planted in NSW, producing a total of 3,444 tonnes during 2012/13. The crops in NSW were severely affected by TSWV, CMV (Cucumber Mosaic Virus) and Big Bud. The remainder of the tonnes were produced in Northern Victoria.

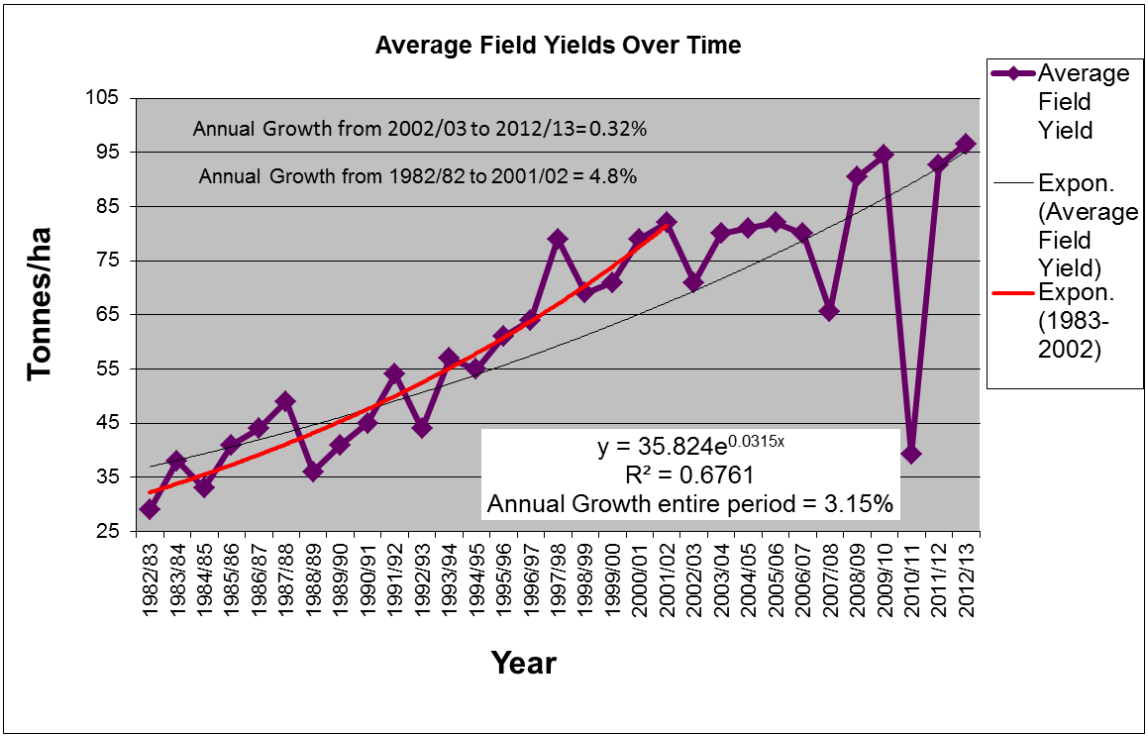
Harvest commenced on the 29 January 2013, following a number of warm dry months during the growing season. Harvest was slow initially due to large amounts of green fruit; possibly the result of split sets which seemed to occur as a result of the cool start in early October. Harvest then further slowed (delivering fruit to only one factory) in mid February for 4 days.

Approximately 40-50mm of rain fell in late February across the production region, closing the factory for 3 days. A small rain event then fell on 20 March 2013 which stopped harvest in some areas, while harvest in other areas continued uninterrupted.

The season completed on the 13 April 2013.

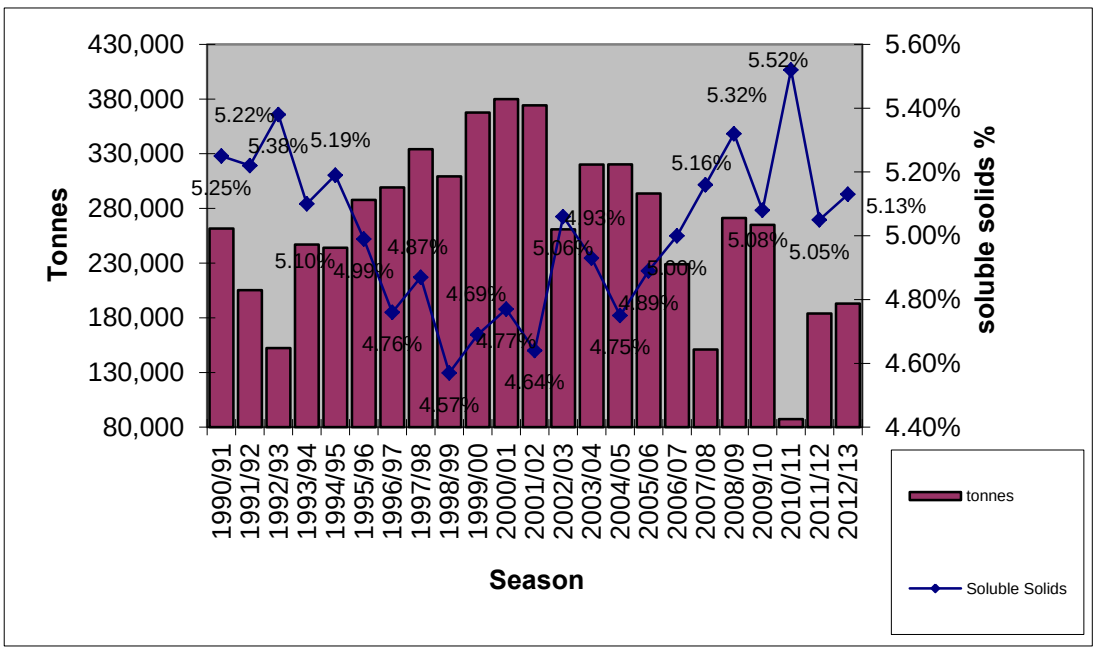
Field Yields

An average yield of around 96.6 tonnes/ha was achieved. This was an increase from the previous record of 94.4 tonnes/ha achieved in 2009/10.



Graph 4 Field Yield Over Time
Source: - Industry Survey & Horn, B (2000, 2001, 2002, 2003)

Soluble Solids



Graph 5 Soluble Solids History
Source: - Industry Survey & Horn, B (2000, 2001, 2002, 2003)

Note: *Soluble Solids for 2002/03 are calculated from approximately 180,000 tonnes. Soluble Solids for 2003/04 and 2004/05 are calculated from approximately 265,000 tonnes. Soluble solids for 2006/07 are calculated from approximately 214,500 tonnes. Soluble solids for 2007/08 are calculated from*

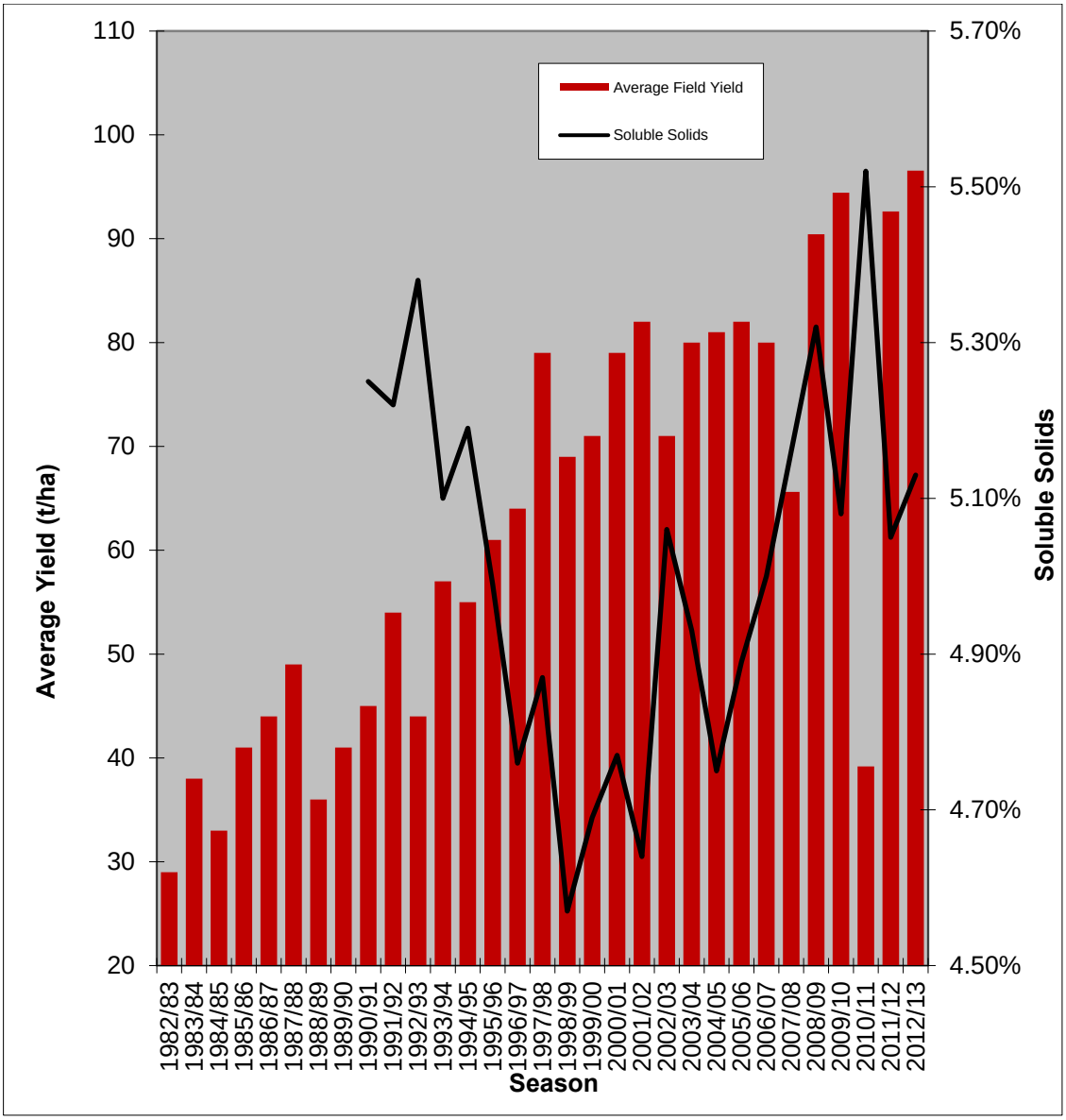
approximately 131,879 tonnes. Soluble solids for 2008/09 are calculated from approximately 251,539 tonnes, and for 2009/10 from approximately 245,791 tonnes. During 2010/11 soluble solids was calculated from 81,745 tonnes, 2011/12 from 170,137 tonnes, and 2012/13 from 189,565 tonnes.

Soluble Solids per Hectare

	Soluble Solids	Tonnes SS/ha	Tonnes Soluble Solids
1994/95	5.19%	2.769	12,668
1995/96	4.99%	3.059	14,358
1996/97	4.76%	3.051	14,242
1997/98	4.87%	3.839	16,274
1998/99	4.57%	3.164	14,136
1999/00	4.69%	3.324	17,241
2000/01	4.77%	3.767	18,121
2001/02	4.64%	3.826	17,368
2002/03	5.06%	3.578	13,196
2003/04	4.93%	3.945	15,781
2004/05	4.75%	3.901	15,214
2005/06	4.89%	3.988	14,357
2006/07	5.00%	4.003	11,450
2007/08	5.16%	3.353	7,739
2008/09	5.32%	4.811	14,433
2009/10	5.08%	4.797	13,461
2010/11	5.52%	2.290	4,819
2011/12	5.05%	4.735	9,290
2012/13	5.13%	4.953	9,901

Table 2 National Production of Soluble Solids

Source: - Industry Survey & Horn, B (2000, 2001, 2002, 2003)



Graph 6 Soluble Solids and Average Yield Comparison

As shown in Graph 6 soluble solids seem to decrease as average yields increased. In 2008/09 this trend appeared to have changed, as both average yields and soluble solids levels increased in that year. This may have been attributed to a change in the main variety being grown and also a change in general crop nutrition. Following research work conducted by the industry at this time, growers became more aware of crop nutrition and began applying a range of different macro and micro nutrients through fertigation.

Tomato Varieties

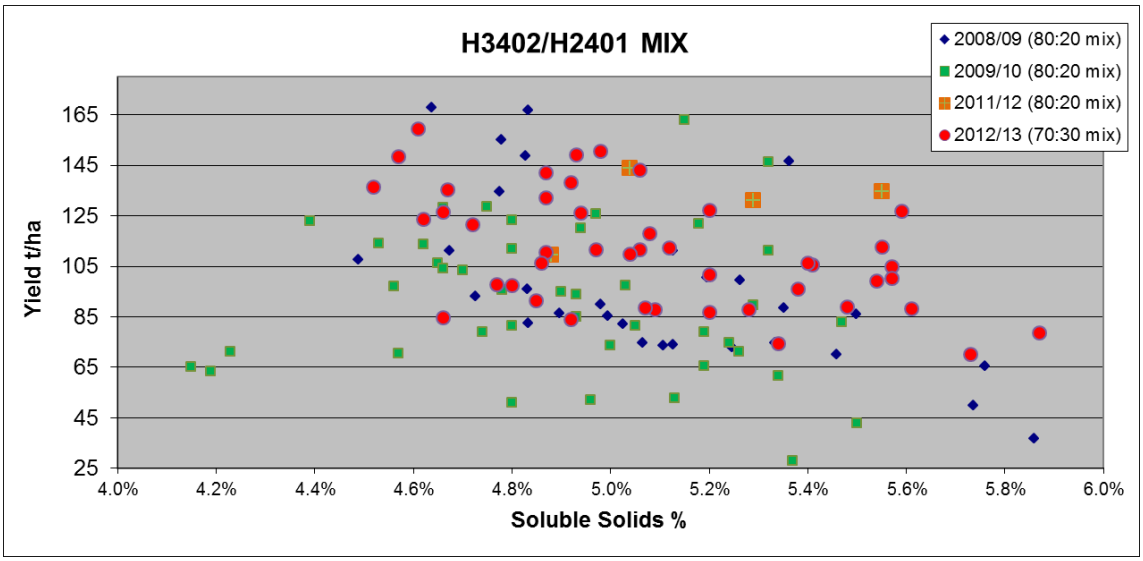
Variety	Hectares planted	%
H3402/H2401 Mix (70:30)	1,120.4	56.1%
H9035	221.5	11.1%
ENP113	124.8	6.2%

H4401	122.8	6.1%
H3402	107.6	5.4%
H1015	57.3	2.9%
H1014	48.7	2.4%
H5108	42.9	2.1%
Crusader	38.8	1.9%
Magnum	34.8	1.7%
H9723	30.1	1.5%
UG4305	19.3	1.0%
UG19406	15.4	0.8%
H2206	5.3	0.3%
H1162	4	0.2%
H1296	4	0.2%
KGMA03	0.6	0.0%
other	0.1	0.0%
Total	**1,999**	**100%**

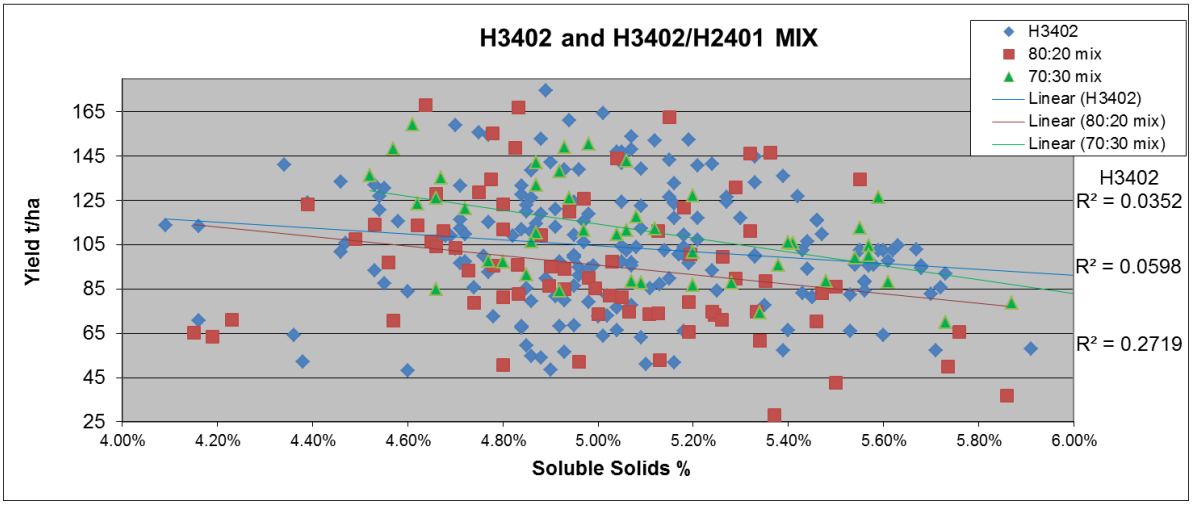
Table 3 Varieties Grown by the Industry
Source: - Industry Survey (planted area per variety)

Yield and Solids Performance of the Main Varieties Grown with Drip Irrigation

During the 2012/13 season the main variety grown was H3402/H2401 mix, but this season the mix was 70:30 unlike in earlier years where it was 80:20.



Graph 7 H3402/H2401 Yield and Soluble Solids Over Past 4 Seasons



Graph 8 H3402 and H3402/H2401 Yield and Soluble Solids Over Past 4 Seasons

As shown in the above graph yield and solids for H3402 and H3402/H2401 do not appear to be inversely related. As R^2 values become closer to 1.0, the better the fit of the regression line. That is, the closer the line passes through all of the points.

As shown in Graph 8 there does not appear to be any large difference in potential yield or soluble solids of the H3402, compared to the H3402/H2401 mixes.

2012/13 Weather

Spring 2012 in Victoria was much drier than usual, with below average rainfall across the production region.

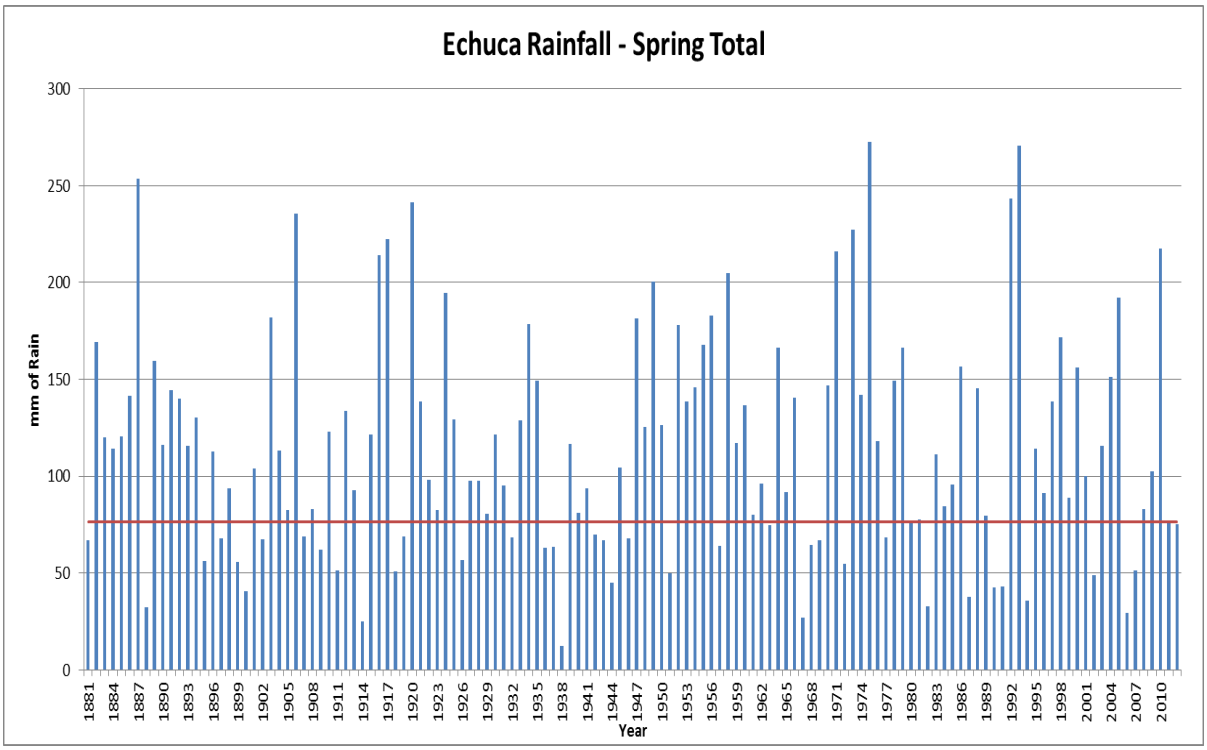
Record high spring temperatures were recorded in parts of the production region on 29 November 2012. The warmest night on record was also recorded at Echuca on 5 January 2013.

In Echuca during summer 2012/13 overnight minimum temperatures were slightly warmer than those usually experienced (departure from normal 0.6°C). Daytime maximum temperatures were also much warmer than those registered in the past (departure from normal 2.0°C).

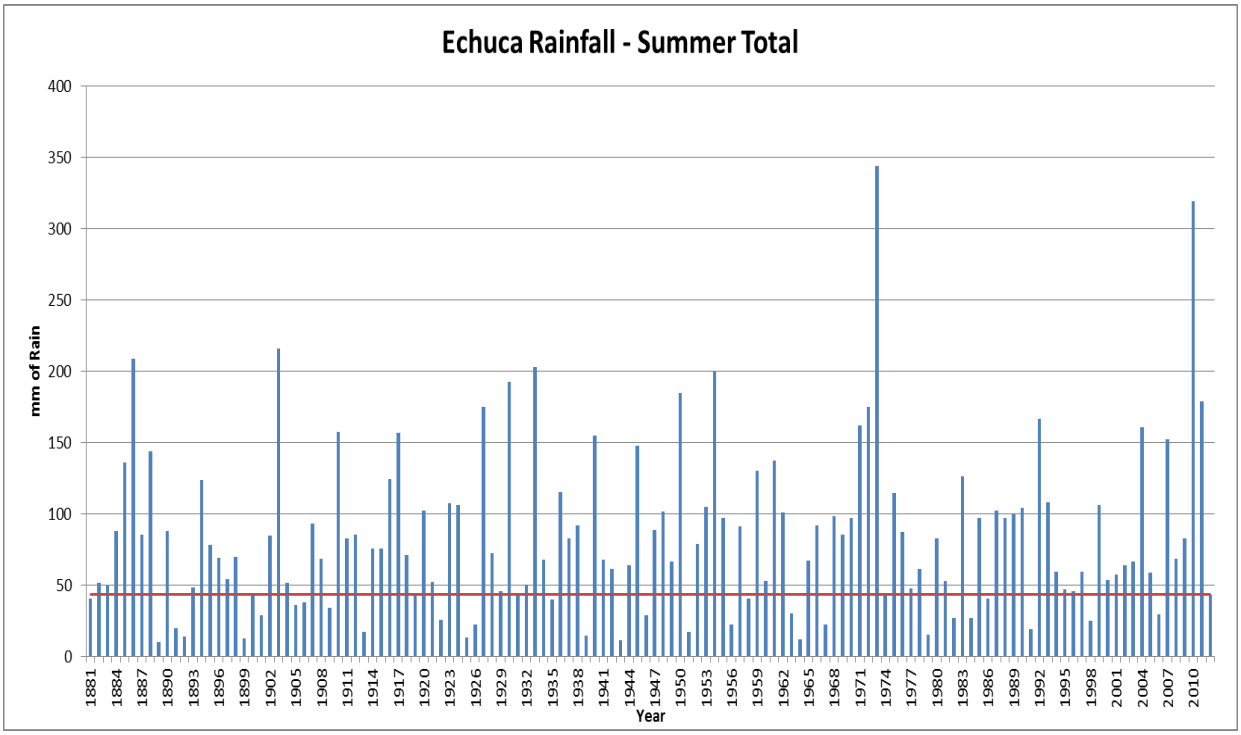
Total rainfall for the past summer (Dec 2012 to Feb 2013) was generally less than that usually recorded (average percentage of normal received 56.5%).

Approximately 20-50mm of rain fell in late February across the production region, closing the factory for 3 days. A small rain event then fell on 20 March 2013 which stopped harvest in some areas, while harvest in other areas continued uninterrupted.

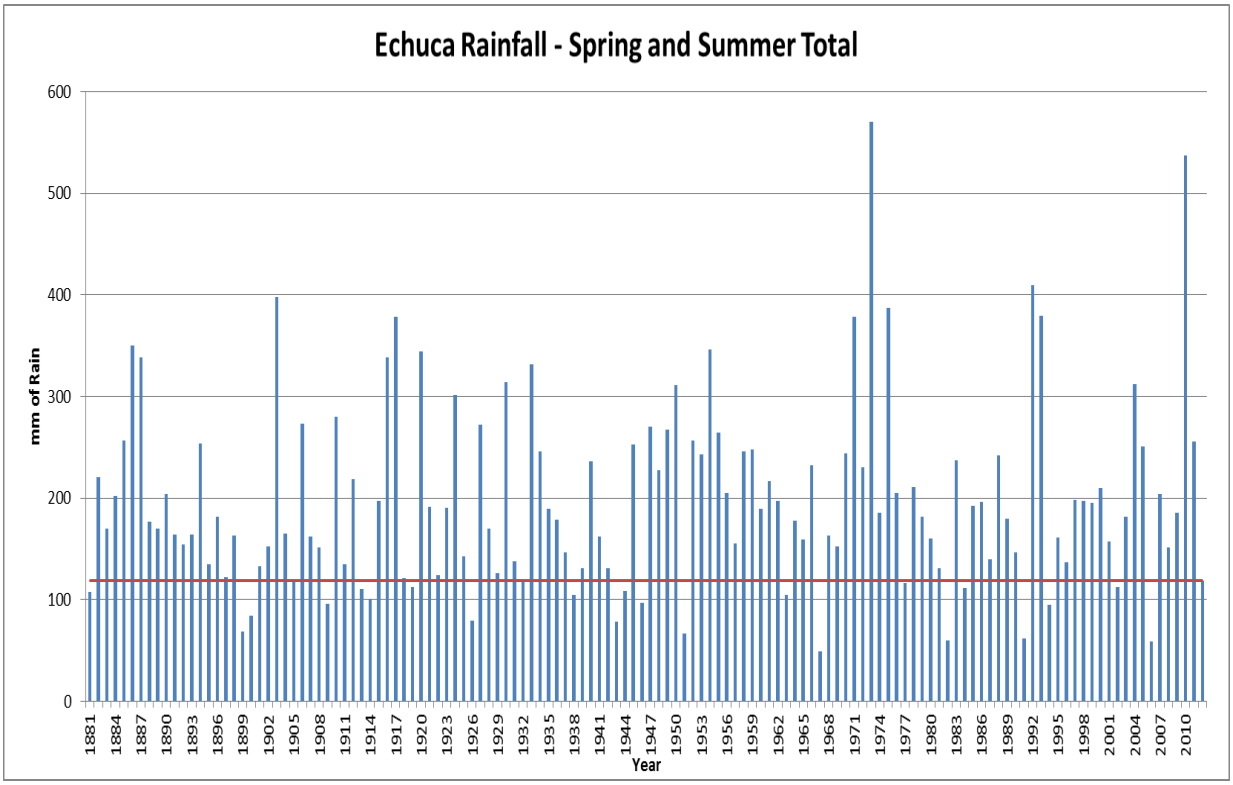
Atmospheric and oceanic indicators of the El Niño-Southern Oscillation (ENSO), such as the Southern Oscillation Index (SOI), trade winds and ocean temperatures have generally remained in the neutral range since mid to late 2012, thus resulted in a dryer summer, more ideal for processing tomato production.



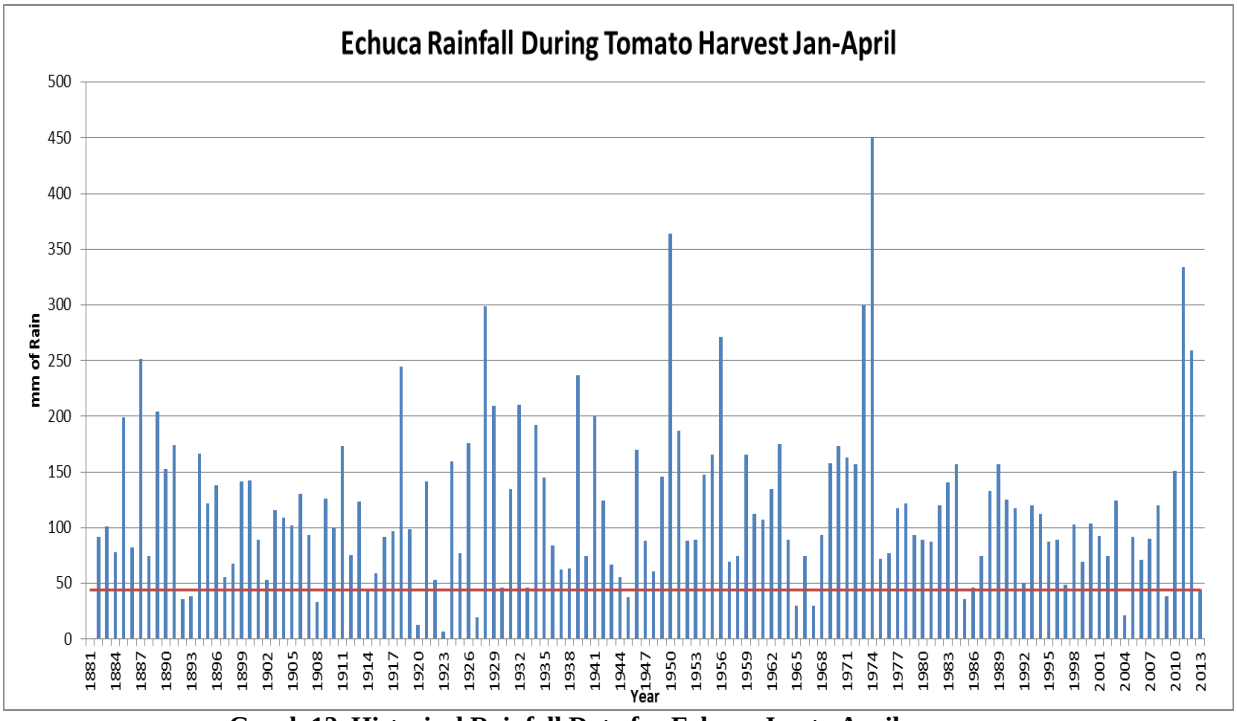
Graph 9 Historical Spring Rainfall Data for Echuca



Graph 10 Historical Summer Rainfall Data for Echuca



Graph 11 Historical Combined Spring and Summer Rainfall Data for Echuca



Graph 12. Historical Rainfall Data for Echuca Jan to April

Australian Market Overview

Imports

115,351 tonnes of tomato products valued at close to $104 million were imported during 2012. This equated to a decrease of 12% of processed tomato products by

tonnage. Peeled tomato products, particularly in retail packs, are the major import category.

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Product	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**
Dried/powder	**7,176**	**1,476**	**6,610**	**1,451**	**6,884**	**1,605**	**8,286**	**1,778**	**8,696**	**1,888**	**8,890**	**1,783**	**7,380**	**1,786**	**8,140**	**1,815**	**9,101**	**2,718**	**8,779**	**1,958**
Peeled/pieces																				
In packs <1.14L	21,141	18,202	24,035	22,037	32,269	32,911	24,783	26,494	31,538	32,888	51,257	44,215	39,683	36,335	48,431	44,573	43,889	45,792	41,876	44,703
In packs >1.14 L	10,779	11,860	9,701	8,214	5,917	7,857	6,357	8,230	9,825	11,916	13,085	13,742	9,530	11,034	10,031	13,445	12,692	17,677	12,248	16,964
All peeled/pcs	**31,920**	**30,062**	**33,736**	**30,251**	**38,186**	**40,768**	**31,140**	**34,724**	**41,363**	**44,804**	**64,342**	**57,957**	**49,213**	**47,369**	**58,462**	**58,018**	**56,580**	**63,469**	**54,124**	**61,667**
Paste/puree																				
In packs <1.14 L	7,268	6,358	8,342	6,894	9,345	7,901	7,453	6,996	9,206	8,167	12,645	9,532	12,727	9,050	14,786	11,705	11,672	10,806	12,874	12,247
In packs >1.14 L	10,249	11,216	11,359	11,834	9,792	10,798	9,428	10,357	20,358	22,038	38,344	36,978	18,754	18,389	16,908	17,852	33,824	40,385	20,953	24,788
All paste/puree	**17,517**	**17,574**	**19,701**	**18,728**	**19,137**	**18,699**	**16,881**	**17,353**	**29,564**	**30,205**	**50,989**	**46,510**	**31,481**	**27,439**	**31,694**	**29,557**	**45,496**	**51,191**	**33,827**	**37,035**
Juice	**137**	**79**	**139**	**137**	**75**	**52**	**123**	**88**	**101**	**75**	**41**	**30**	**62**	**40**	**74**	**78**	**179**	**130**	**238**	**240**
(Litres*1,000)																				
Sauce/ketchup	**7,512**	**5,293**	**8,058**	**5,466**	**8,842**	**6,465**	**11,861**	**7,879**	**11,554**	**7,828**	**12,109**	**7,844**	**10,845**	**7,207**	**14,628**	**11,157**	**14,716**	**13,380**	**7,096**	**14,451**
(Litres*1,000)																				
Total	**64,262**	**54,484**	**68,244**	**56,033**	**73,124**	**67,589**	**68,291**	**61,822**	**91,278**	**84,800**	**136,371**	**114,123**	**98,980**	**83,841**	**112,998**	**100,625**	**126,073**	**130,888**	**104,065**	**115,351**

Table 4 Imports of Tomato Products[2]

Source: - Australian Bureau of Statistics

Import volume was equivalent to about 358,367 tonnes of raw tomatoes, a 22% decrease from the previous year.

Product	**Factor**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Dried/powder	20	29,520	29,020	32,100	35,560	37,760	35,660	35,720	36,291	54,358	39,155
Whole/pcs <1.14L	1.1	20,022	24,241	36,202	29,143	36,177	48,636	39,969	49,030	50,371	49,173
Whole/pcs >1.14L	1.1	13,046	9,035	8,643	9,053	13,108	15,116	12,137	14,790	19,445	18,661
Paste/puree <1.14L	6.0	38,148	41,364	47,406	41,976	49,002	57,194	54,301	70,232	64,835	73,484
Paste/puree >1.14L	6.0	67,296	71,004	64,788	62,142	132,228	221,866	110,332	107,112	242,310	148,728
Juice[1]	1.1	158	274	104	96.8	82.5	33	43	86	143	264
Sauce/ketchup	2	10,586	10,932	12,930	15,758	15,656	15,688	14,415	22,314	26,760	28,902
Total Tomato		**178,776**	**185,870**	**202,173**	**193,729**	**284,013**	**394,193**	**266,916**	**299,855**	**458,223**	**358,367**
NB. Conversion factor for paste/puree has changed from 5.5 to 6.0 as reported in previous industry reports											
[1] Juice exports are recorded in litres. In this report, one litre of juice is assumed to weigh one kilogram.											

Table 5 Equivalent Tonnes Raw Tomato Imported[3]

Source: - Australian Bureau of Statistics and ATPA Conversion Factors

NB. Conversion factor for paste/puree has changed from 5.5 to 6.0 as reported in industry reports prior to 2011

[2] Trade statistics relating to juice and sauce report quantities in litres rather than kilograms. Throughout this report, one litre of product is assumed to weigh one kilogram.

[3] The Australian Tomato Processors Association previously provided the product to raw material conversion factors used throughout this report from Horn, B (2003).

Product	$'000	% of Tonnes	Tonnes	$/kg
Dried/powder				
Total	**$8,779**		**1,958**	**$3.35**
Turkey	$6,741	73%	1,426	$3.35
Israel	$602	8%	163	$3.70
Portugal	$445	6%	120	$3.71
Whole/pieces <1.14L				
Total	**$41,876**		**44,703**	**$0.94**
Italy	$40,197	98%	43,620	$0.92
Germany	$237	1%	276	$0.86
Turkey	$728	0.5%	211	$3.45
Whole/pieces >1.14L				
Total	**$12,248**		**16,964**	**$0.72**
Italy	$8,868	78%	13,208	$0.67
USA	$752	9%	1,511	$0.50
China	$791	6%	1,089	$0.73
Paste/puree <1.14L				
Total	**$12,874**		**12,247**	**$1.05**
Italy	$7,572	66%	8,131	$0.93
China	$4,561	29%	3,576	$1.28
Turkey	$275	1%	182	$1.51
Paste/puree >1.14L				
Total	**$20,953**		**24,788**	**$0.85**
China	$9,270	45%	11,114	$0.83
USA	$5,724	30%	7,470	$0.77
Italy	$2,563	14%	3,429	$0.75
Tomato Juice (Litres*1000)				
Total	**$238**		**240**	**$0.99**
Italy	$73	55%	133	$0.55
USA	$109	24%	57	$1.93
Thailand	$43	18%	44	$0.97
Sauce/ketchup (Litres*1,000)				
Total	**$7,096**		**14,451**	**$0.49**
Italy	$7,096	38%	5,491	$1.29
China	$2,807	23%	3,274	$0.86
USA	$2,044	17%	2,482	$0.82

Table 6 Main Sources of Imports in 2012
Source: - Australian Bureau of Statistics

Based on the above table are the following:

- Majority of Dried Tomato imports are from Turkey at 1,426 tonnes, an increase of 6% from 1,339 tonnes in 2011.

- Majority of Whole/pieces are imported from Italy, at 56,828 tonnes, an increase of 5% from 54,354 tonnes in 2011.
- Majority Paste <1.14 litres imports are from Italy at 8,131 tonnes, an increase of 12.9% from 7,202 tonnes in 2011.
- Majority Paste >1.14 litres imports are from China at 11,114 tonnes. During 2011 the majority of imports in this category came from the USA at 18,412 tonnes. Whereas in 2010 they were from China at 7,424 tonnes, which was a decrease of 10% from 8,301 tonnes in 2009.
- Majority of the Juice imports are from Italy at 133 thousand litres. During 2011 the majority of the imports in this category came from Thailand at 67 thousand litres. Whereas during 2010 the majority of imports in this category came from China at 23 thousand litres, which was an increase of 21% from 19 thousand litres in 2009.
- Majority of the Sauce/Ketchup imports are from Italy at 5,491 thousand litres, a decrease of 5% from 5,761 thousand litres in 2011.

Exports

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Product	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**	**$'000**	**Tonne**
Whole/pieces	8,180	6,762	3,476	2,026	4,542	2,388	5,819	2,799	5,757	1,645	5,442	2,077	6,166	2,417	3,419	869	2581	941	3744	1437
Paste/puree	7,530	5,895	4,217	3,765	1,150	3,033	2,856	918	1,870	819	959	595	1,281	802	1,040	650	1011	541	2368	1915
Sauce/ketchup	9,615	4,367	9,710	4,401	9,669	4,468	8,996	4,358	8,559	3,930	10,003	4,799	7,453	4,444	11,329	5,266	10238	4,667	5236	2,067
Juice[1]	833	781	791	791	749	668	666	282	706	497	394	242	72	60	46	43	191	183	275	215
Total	**26,158**	**17,805**	**18,194**	**10,983**	**16,110**	**10,557**	**18,337**	**8,357**	**16,892**	**6,891**	**16,798**	**7,713**	**14,972**	**7,722**	**15,833**	**6,828**	**14,021**	**6,332**	**11,623**	**5,634**

[1] Juice exports are recorded in litres. In this report, one litre of juice is assumed to weigh one kilogram.

Table 7 Exports of Tomato Products
Source: - Australian Bureau of Statistics

Exports equated to approximately 5,634 tonnes of product, down from 6,332 in the previous year. However, in raw tomato equivalent terms export volume has increased 23% from the previous year.

Product	Factor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Whole/pieces	1.1	978	693	1,363	7,438	4,996	2,627	3,079	1,810	2,285	2,658	956	1,035	1,581
Paste/puree	6	11,652	8,082	39,174	35,370	22,590	18,198	5,508	4,914	3,570	4,810	3,900	3,248	11,492
Sauce/ketchup	2	9,540	14,124	12,244	8,734	8,802	8,936	8,716	7,860	9,598	8,888	10,532	9,334	4,134
Juice [1]	1.1	747	926	1,015	859	870	735	310	547	266	66	47	201	237
Total Tomato		**22,917**	**23,825**	**53,796**	**52,401**	**37,258**	**30,496**	**17,613**	**15,130**	**15,719**	**16,422**	**15,435**	**15,830**	19,455

NB. Conversion factor for paste/puree has changed from 5.5 to 6.0 as reported in previous industry reports

Table 8 Equivalent Tonnes Raw Tomato Exported
Source: - Australian Bureau of Statistics. ATPA Conversion Factors
NB. Conversion factor for paste/puree has changed from 5.5 to 6.0 as reported in industry reports prior to 2011

New Zealand was again the most significant export destination in all categories except juice.

Product	$,000	% (of Tonnes)	Tonnes	$/kg
Whole/pieces				
Total	**$3,744**		**1437**	**$2.60**

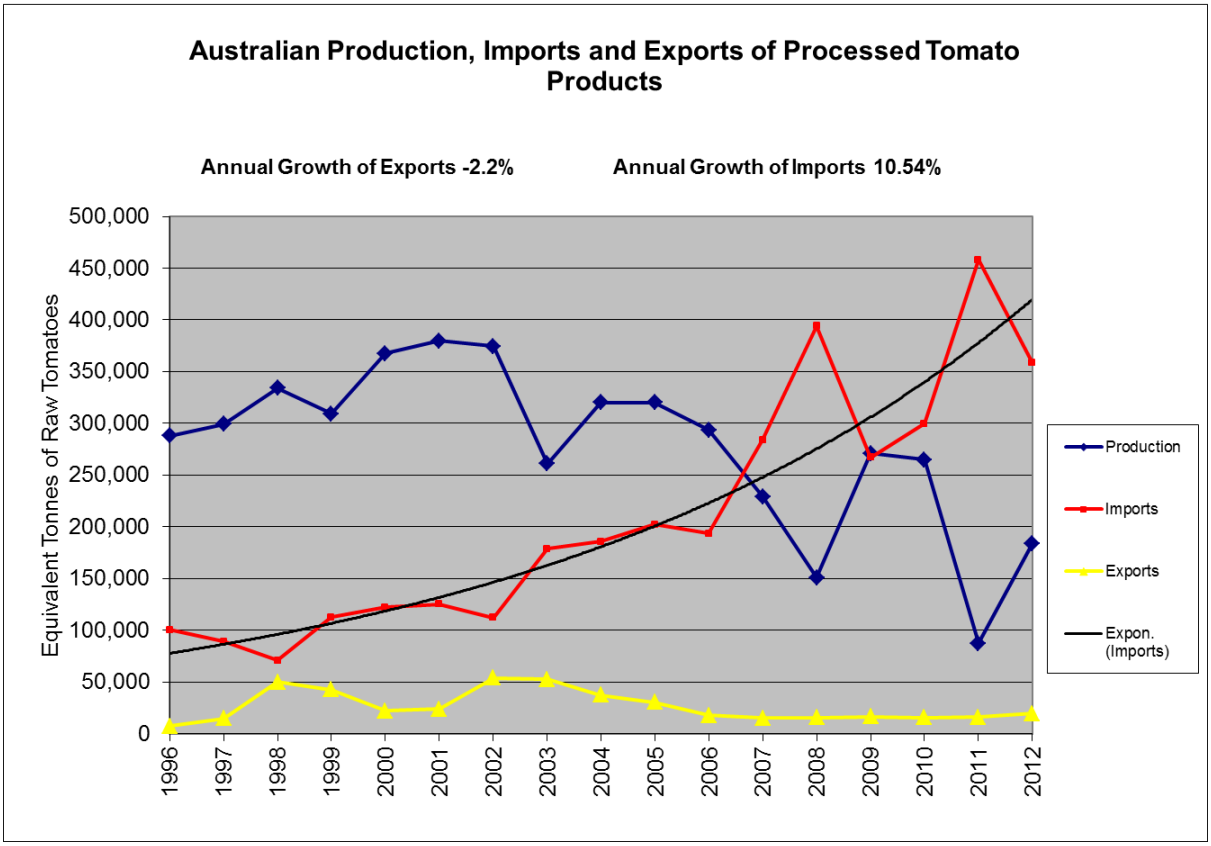
New Zealand	$1,172	76%	1097	$1.07
Japan	$1,548	10%	140	$11.06
Portugal	$356	5%	69	$5.19
Paste/puree				
Total	**$2,368**		**1915**	**$1.24**
New Zealand	$1,767	90%	1,728	$1.02
Japan	$227	4%	85	$2.68
Papua New Guinea	$61	1%	24	$2.49
Sauce/ketchup				
Total	**$5,236**		**2,067**	**$2.53**
New Zealand	$3,263	66%	1,366	$2.39
China	$578	9%	176	$3.28
Papua New Guinea	$376	7%	149	$2.52
Juice (Litres*1000)				
Total	**$275**		**215**	**$1.28**
Singapore	$91	43%	93	$0.98
Fiji	$34	12%	27	$1.27
Papua New Guinea	$36	11%	24	$1.54

Table 9 Major Export Destinations in 2012
Source: - Australian Bureau of Statistics

Export and Import Volumes Compared

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Exports	53,796	52,401	37,258	30,496	17,613	15,130	15,719	16,422	15,435	15,830	19,455
Imports	112,300	178,776	185,870	202,173	193,729	284,013	394,193	266,916	299,855	458,223	358,367
Net Imports	**58,504**	**126,375**	**148,612**	**171,677**	**176,116**	**268,883**	**378,474**	**250,494**	**284,420**	**284,420**	**338,912**
% Exports/Imports	**48%**	**29%**	**20%**	**15%**	**9%**	**5%**	**4%**	**6%**	**5%**	**3%**	**5%**

Table 10. Exports and Imports, Raw Tomato Equivalent Tonnes
Source: - Australian Bureau of Statistics. ATPA Conversion Factors
NB. Conversion factor for paste/puree has changed from 5.5 to 6.0 as reported in previous industry reports



Graph 13 Australian Production, Imports and Exports

Apparent Demand for Tomato Products

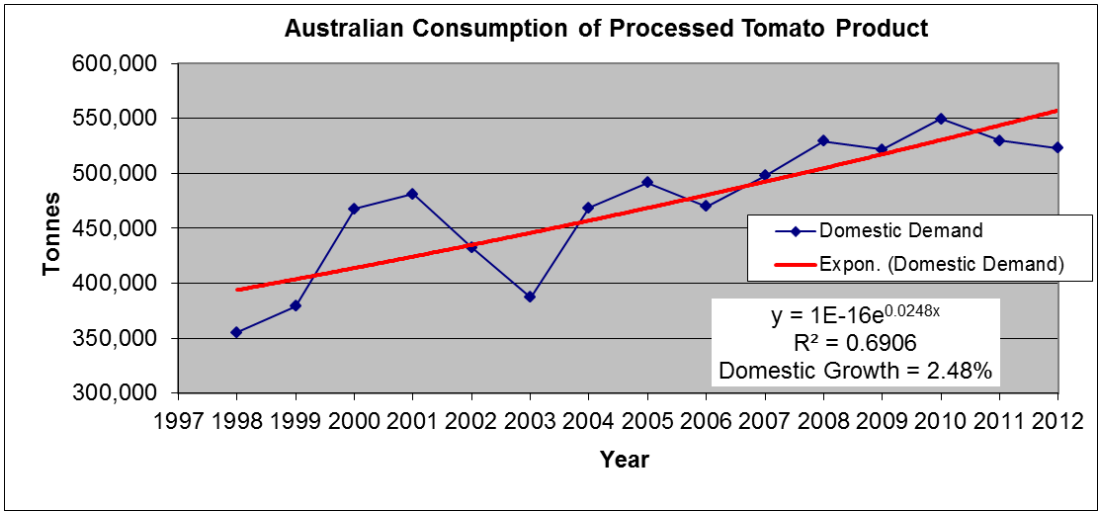
Adding production and import volumes provides an idea of the apparent gross demand for Australian processed tomato. The domestic market size is this total less exports. The analysis is crude as year-end inventory levels are not known and crop years do not exactly coincide with calendar years.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	3 Yr Average
Production	374,300	260,800	320,000	320,000	293,600	229,000	150,940	271,000	264,978	87,295	183,960	178,744
Plus imports	112,300	178,776	185,870	202,173	193,729	284,013	394,193	266,916	299,855	458,223	358,367	372,148
Gross demand	**486,600**	**439,576**	**505,870**	**522,173**	**487,329**	**513,013**	**545,133**	**537,916**	**564,833**	**545,517**	**542,327**	**550,892**
Less exports	53,796	52,401	37,258	30,496	17,613	15,130	15,719	16,422	15,435	15,830	19,455	16,907
Domestic demand	**432,804**	**387,175**	**468,612**	**491,677**	**469,716**	**497,883**	**529,414**	**521,494**	**549,398**	**529,688**	**522,872**	**533,986**

Table 11 Apparent Demand for Processing Tomatoes
(Raw Material Tonnes)

Source: - Estimate Based on Industry Survey & Horn, B (2000, 2001, 2002, 2003)

NB. Conversion factor for paste/puree has changed from 5.5 to 6.0 as reported in industry reports prior to 2011

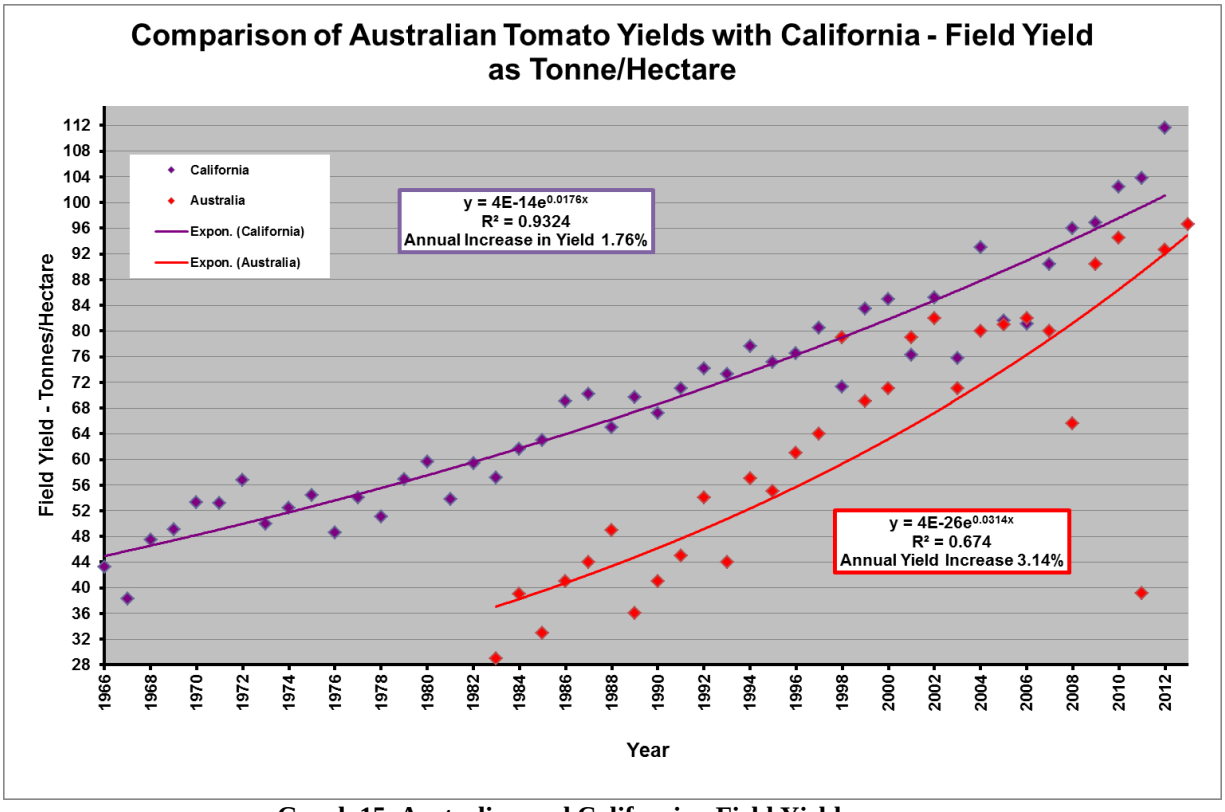


Graph 14 Apparent Australian Consumption of Processed Tomatoes

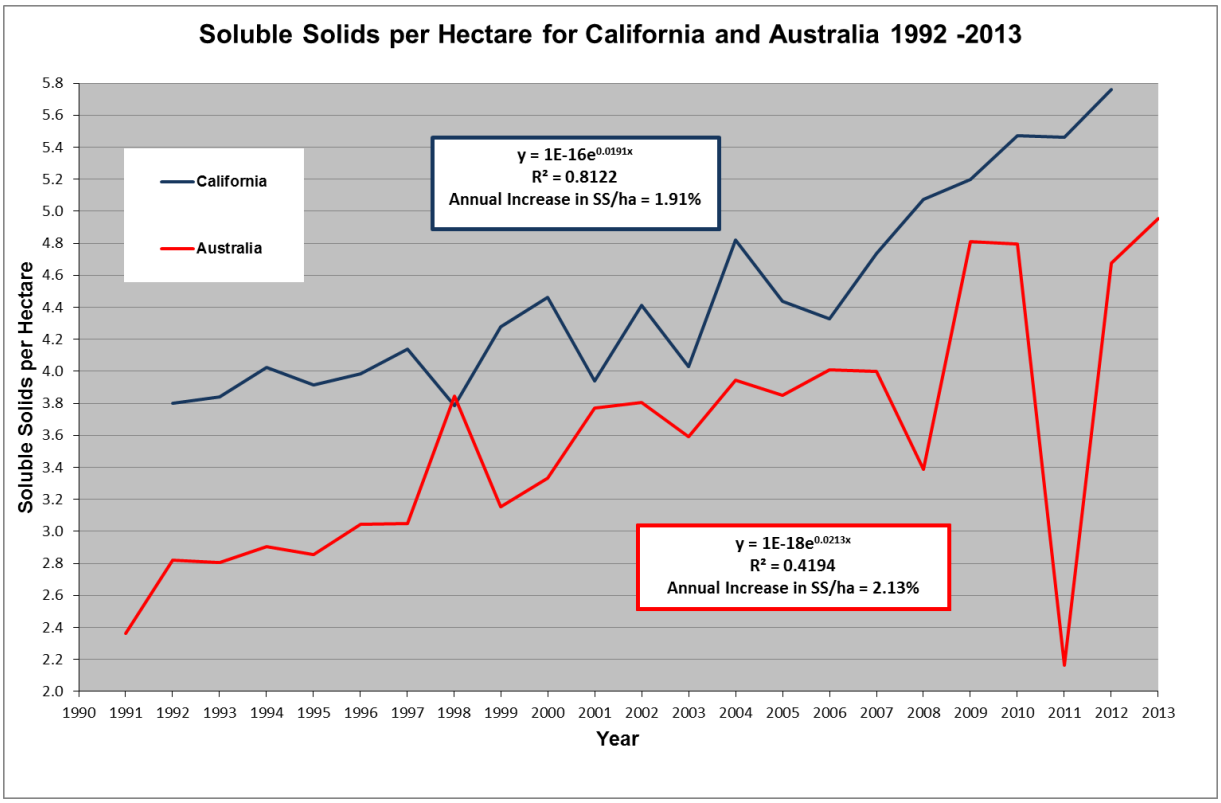
Australian and Californian Comparison

The graphs below indicate the Australian and Californian yield as both tonnes/hectare and solids/hectare. The Australian tonnes/hectare had been increasing at a rate of 3.14% per year, and the soluble solids/hectare at 2.13%.

The actual Australian figure for 2013 was 96.6 tonnes/hectare at 5.15° Brix, although the average yield was reduced due to the impact of severe TSWV, CMV and Big Bud on one property. If this property was excluded the industry average yield would equate to 104 t/ha, just below that in California of 111.7 t/ha.



Graph 15 Australian and Californian Field Yields



Graph 16 Australian and Californian Tonnes of SS/ha