

**AUSTRALIAN PROCESSING TOMATO  
RESEARCH COUNCIL**

**ANNUAL INDUSTRY SURVEY**

**2021**



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## Executive Summary

During the 2020/2021 season, eleven growers produced 232,562 tonnes of processing tomatoes, an increase on the volume grown in 2019/20, and the crop was again processed by three companies.

Approximately 2,215 hectares were planted, with total use of sub-surface drip irrigation for the third time. The use of transplants increased slightly to 90% of the total area under production, with seeded tomatoes making up the remaining 10% of production areas.

In 2020/21, the Australian processing tomato industry achieved their highest ever average yield/ha, which was 106.13 tonnes per hectare in 2020/21. The record average was helped by a relatively dry and uninterrupted planting/sowing period a mild summer and only two major rain events during the harvest period. 100% of planted area was harvested, which was an ideal outcome for industry.

Soluble solids averaged 5.01%, which continues the outcomes in recent years where solids have been consistently above the 5.00% benchmark.

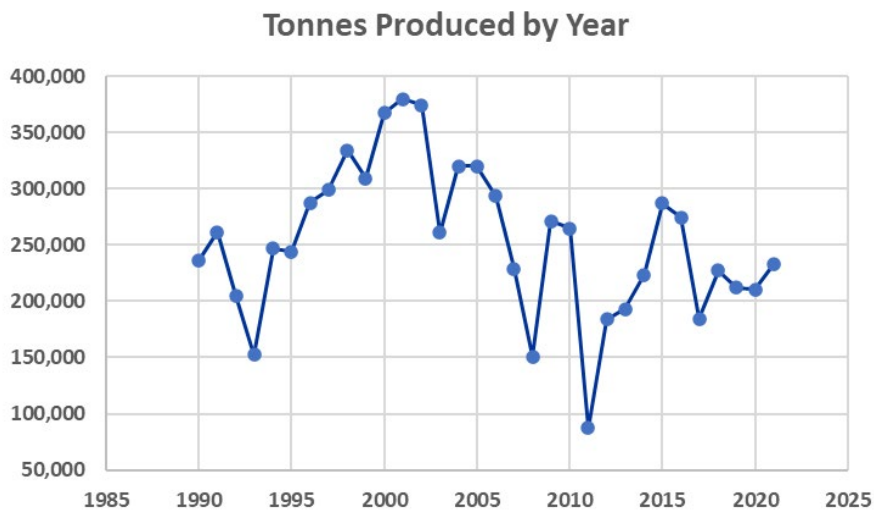
Imports of processed tomato products, in equivalent raw tonnes, increased significantly during the 2020 calendar year, to levels not seen since 2011. Exports almost doubled compared to the previous year, at yet again higher price points for the fifth successive year.

Domestic demand was supplied by a slightly increased percentage of imports versus local produce; however, the 5-year average remains fairly stable at about two thirds imported to one third local.

Australians increased their average consumption from 23 kg/capita to approximately 25 kilograms of processed tomato products, in equivalent raw weight. The higher consumption of tomato products has been linked most significantly to a change in consumer trends resulting from the pandemic, which started in early 2020; this trend has also been observed in other regions around the world.

# 1 Industry Size

## 1.1 Volume

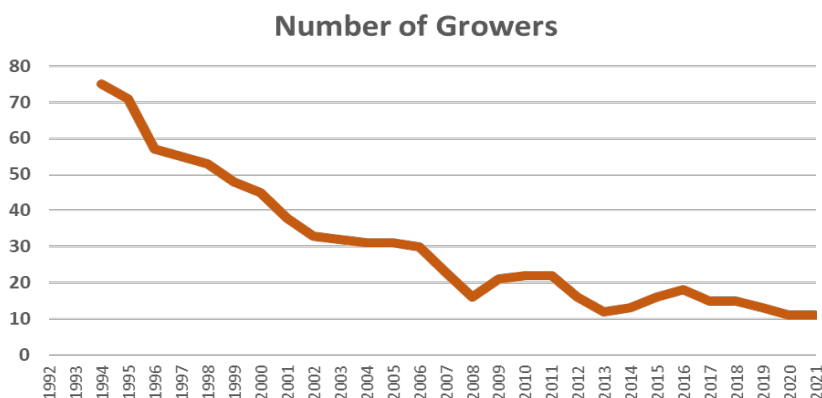


Graph 1-1: Paid tomato volumes delivered (tonnes)<sup>1</sup>

Growers produced 232,562 tonnes of processing tomatoes during the 2020/21 season, with the increases in demand coming from the two major processing operations in Australia. It is also worth noting that contained in the total production figures are the organically grown tomatoes, which contributed 2,731 tonnes of produce, with an average yield of 55.4 MT/ha.

No fresh market tomatoes contributed to the processing industry during the 2020/21 season.

## 1.2 Producers



Graph 1-2: Number of growers<sup>1</sup>

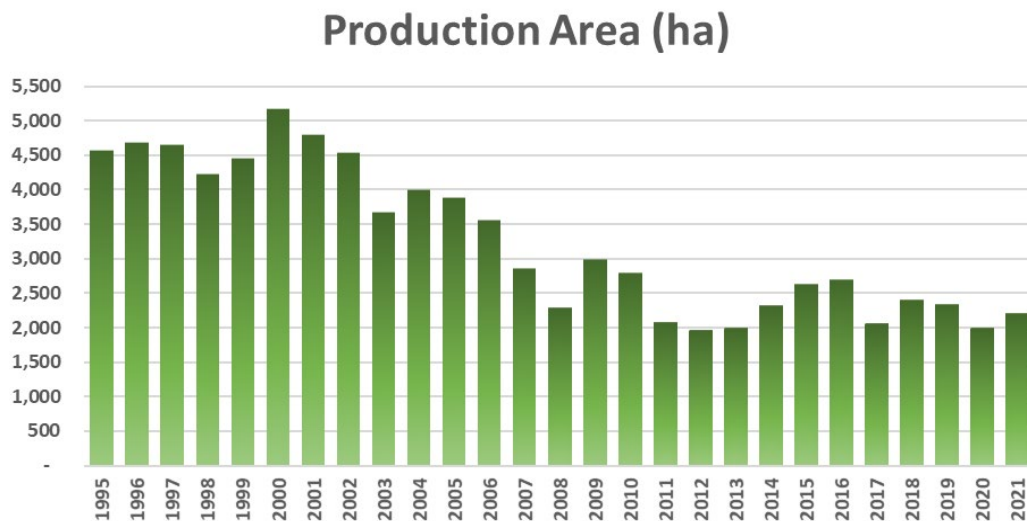
The grower number remained at 11 specialist growing businesses for the 2020/21 processing tomato season.

## 1.3 Processors

As in the previous season, the crop was processed by three businesses, with Kagome and SPC taking most of the harvest.

## 2 The Crop

### 2.1 Area and management



**Graph 2-1: Planted production area (ha)<sup>1</sup>**

The area under production increased to 2,214 hectares, of which 100% was harvested. The larger area planted may reflect both an increased capacity of processors as well as additional demand from export markets in response to global consumer trends during the pandemic.

Season	Drip Irrigation	Transplanted	Seeded
2010/11	88%	79%	21%
2011/12	90%	81%	19%
2011/13	98.5%	72%	28%
2013/14	95%	59%	41%
2014/15	99.9%	68%	32%
2015/16	98.3%	69%	31%
2016/17	99.6%	86%	14%
2017/18	99.3%	88%	12%
2018/19	100%	91%	9%
2019/20	100%	86%	14%
2020/21	100%	90%	10%

**Table 2-1: Proportions of drip and transplants Vs seed<sup>2</sup>**

This season, the crop was again fully grown under sub-surface drip irrigation.

The trend toward higher percentages of transplants Vs seeded crop was observed again this season, with the Boort Growing Region in Victoria accounting for all seed grown tomato production. The seed sown crops represented 10% of the total industry by area in 2020/21.

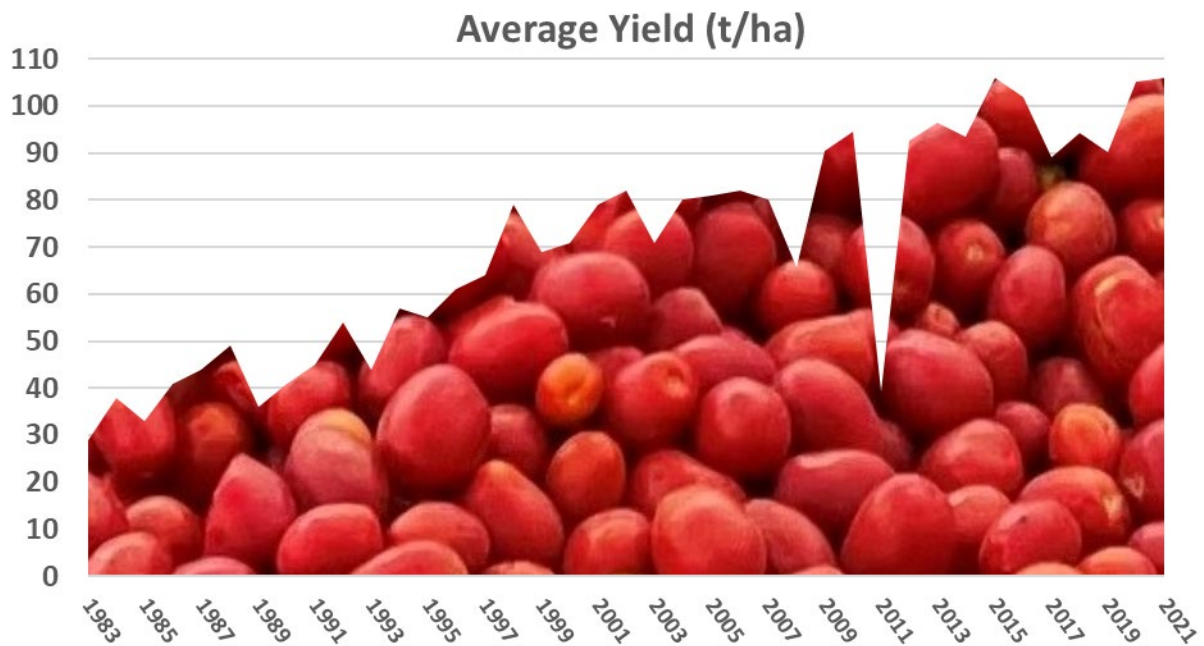
## 2.2

### Yield

Season	Planted Area	Harvested Area	Harvested Area %	Harvested Area MT/ha	Seasonal Comments
2009/10	3443	2806	81%	94.4	Wet harvest
2010/11	2850	2074	73%	39.2	Flooded crops
2011/12	2366	1962	83%	92.6	Wet harvest
2011/13	1999	1998	100%	96.6	Wet, late harvest
2013/14	2386	2330	98%	93.6	Wet, late harvest
2014/15	2700	2635	98%	106.1	Early crop failure
2015/16	2782	2697	97%	101.9	Poor crop stand, delayed harvest, over-contract fruit
2016/17	2183	2071	95%	89.2	Delayed harvest due to rain
2017/18	2457	2407	98%	94.4	Abandoned due to factory power outage and resulting delay
2018/19	2347	2347	100%	90.3	Extreme bacterial speck, high temperatures
2019/20	2073	2003	97%	105.1	Hot and windy during growing; late harvest rains
2020/21	2215	2215	100%	106.13	Dry start, strong winds mid spring, some hail, mild summer

Table 2-2: Average yield, harvest conditions (MT/ha)<sup>2</sup>

The 2020/21 season saw an increase in overall yield average, which when combined with the fact that a significantly greater area was also planted; which generally invites more risk; was also grown by producers, the record yield average is an even more impressive result.

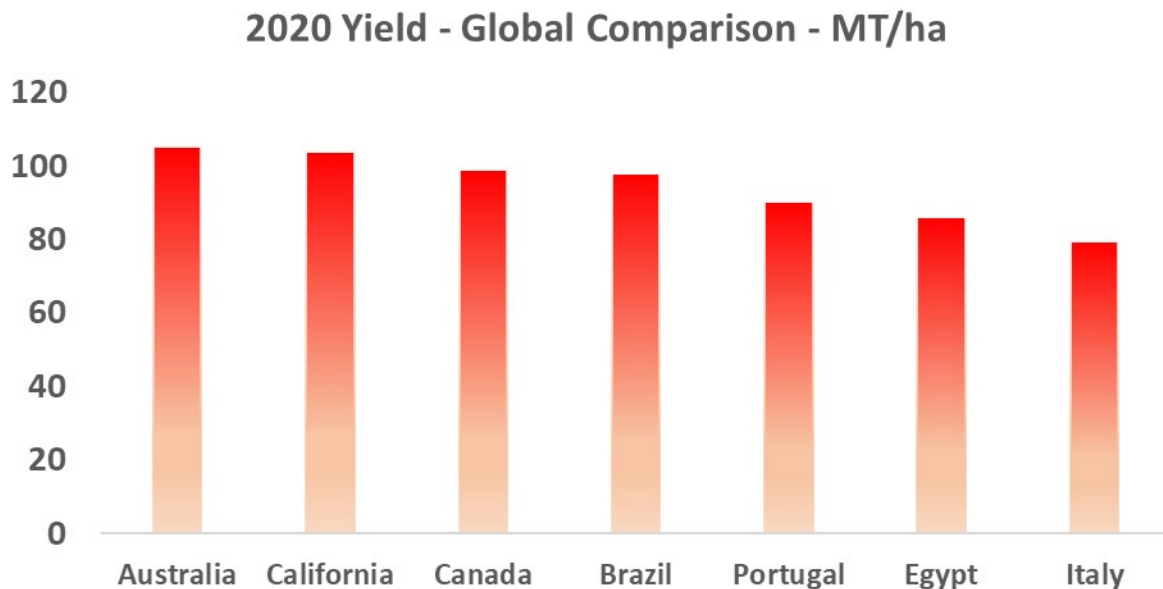


Graph 2-2: Average yield (t/ha)<sup>1</sup>

The industry recorded their highest ever average yield in 2020/21, which although assisted by a reasonably moderate season, is also a testament to the skill of the remaining growers in industry.

Additionally, the success of achieving 100% harvested area (or close to it) in recent years is a result of the adaptation of processors to shift the harvest schedule to earlier in the season, which helps avoid harvest delays and minimise chance of abandoned crops due to overripe fruit or poor paddock conditions.

The industry is focussed on ever higher yields and solids to stay competitive internationally and to improve grower viability. The annual industry cultivar evaluation trials and research into irrigation optimisation, based on soil type, are just some of the current actions the Australian processing tomato industry are currently undertaking to help achieve ever higher yield outcomes.

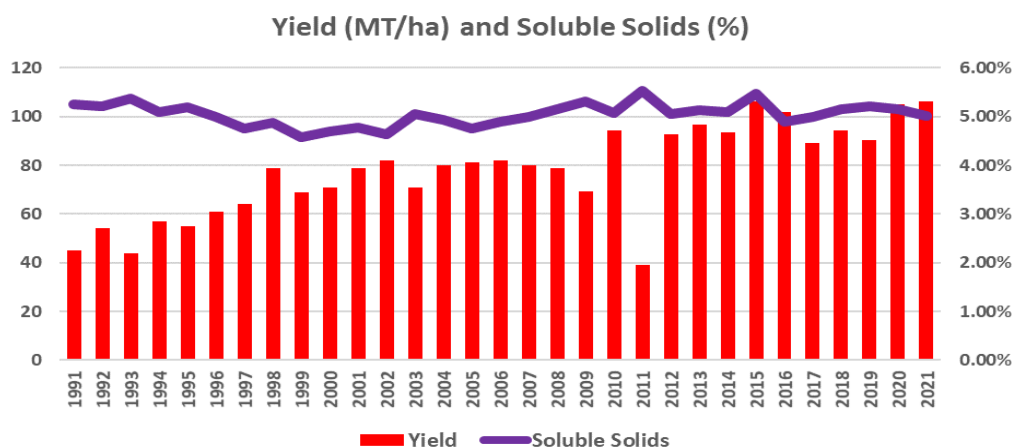


Graph 2-3: 2020 average yield (MT/ha), by country<sup>3</sup>

Graph 2-3 presents the 2020 average yields for countries for which relevant data is available.

California and Australia were almost on par with 2020 yield averages, with Canada and Brazil close behind.

## 2.3 Soluble Solids



Graph 2-4: Soluble solids (%) and yield (t/ha)<sup>1</sup>

Average soluble solids for the season were 5.01%, above the minimum benchmark of 5.00% preferred by processors. The recent history of soluble solids indicates that benchmark is being attained in most seasons.

## 2.4 Varieties

VARIETIES	PERCENTAGE OF TOTAL AREA GROWN	
	2020/21	2019/20
H3402	18.5%	11.0%
H1311mix	16.7%	3.8%
H3402mix	17.0%	18.6%
UG19406/UG16112	14.6%	9.3%
H1175mix	7.8%	21.5%
H1311	5.6%	5.0%
H1015	9.0%	11.2%
H1014	5.6%	0%
H4401	3.3%	4.8%
SVTM9000	0.5%	0%
UG16112	0.6%	0.9%
UG4014	0.3%	0%
H1428	0.3%	0%
UG19406/18806	0%	9.7%
UG19406	0%	1.9%
H1301	0%	1.5%
H1307	0%	0.6%

Table 2-3: Variety by proportion of total area

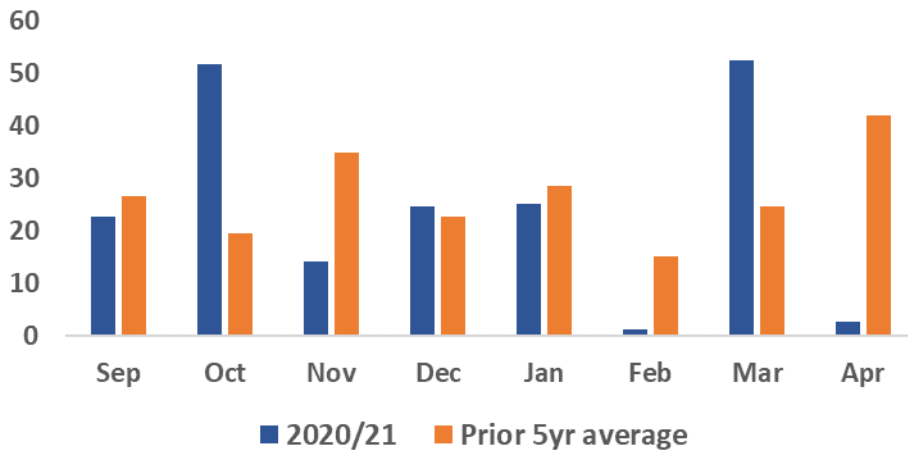
When comparing 2019/20 to the 2020/21 season, there were some significant shifts in the balance of varieties grown by area. Many factors influence the dominance of varieties being grown from season to season and may reflect a change in bias toward customer requirements, upgrading of processing infrastructure, new market access or loss of previous markets, seasonal harvesting logistics and agronomic suitability to growing region and soil type.

The industry is still being heavily challenged by seed availability. The main issues are related to unwanted viroids being detected in seed destined for Australia, delays from laboratory analysis and more expensive testing and import-entry biosecurity protocols. These shortages in certain cultivar lines have influenced the balance of crop area grown by variety and therefore the bias toward cultivars in the table needs to be considered with this confounding information in mind.



### 3 The Season

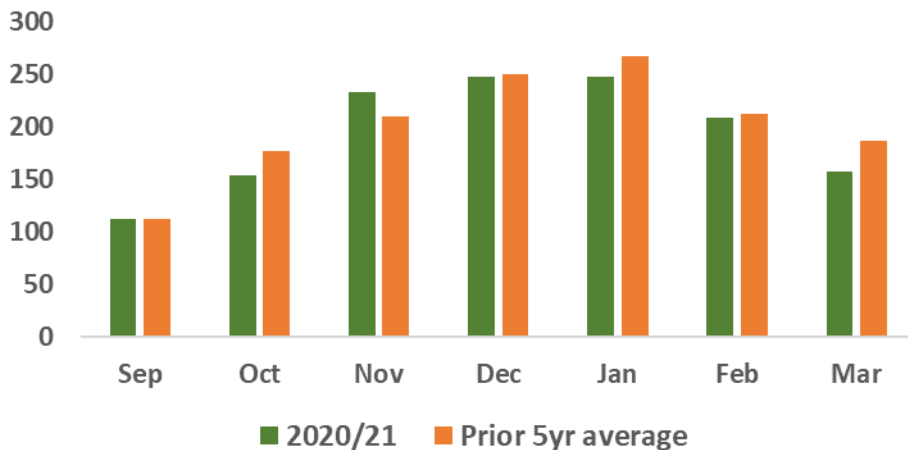
#### Growing Season Rainfall (mm) - Echuca



Graph 3-1: Rainfall at Echuca (mm)<sup>4</sup>

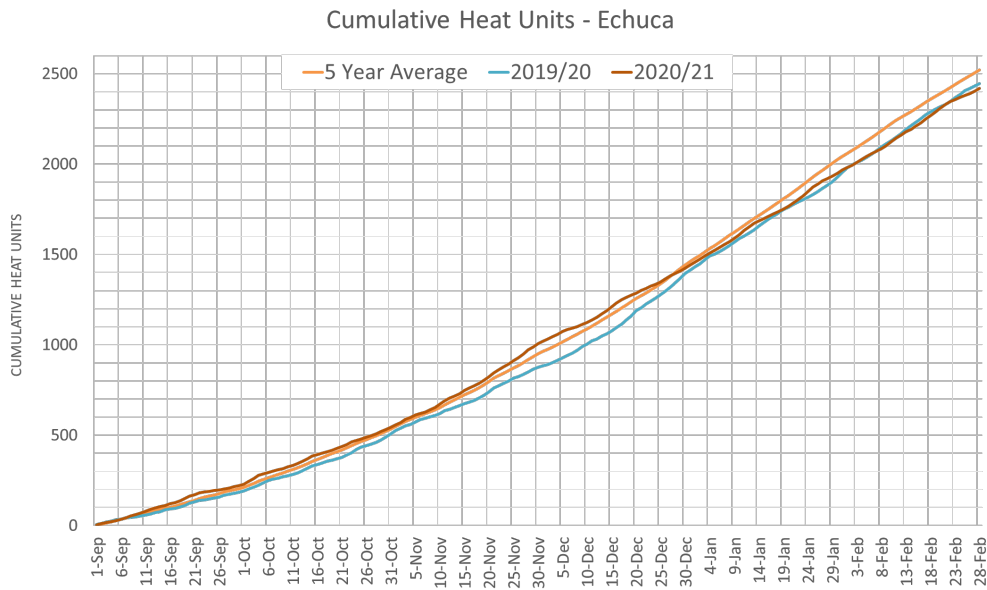
The relatively dry winter and planting period in 2020 meant there was little delay in planting schedules. Some high wind events in November caused damage on a few properties, however the impacts were not widely felt. As seen in 'Graph 3-1', there was almost no rainfall in April, which helped growers and processors to finish up without any losses of area or major delays in harvesting.

#### Evapotranspiration (ETo) (mm) - Swan Hill



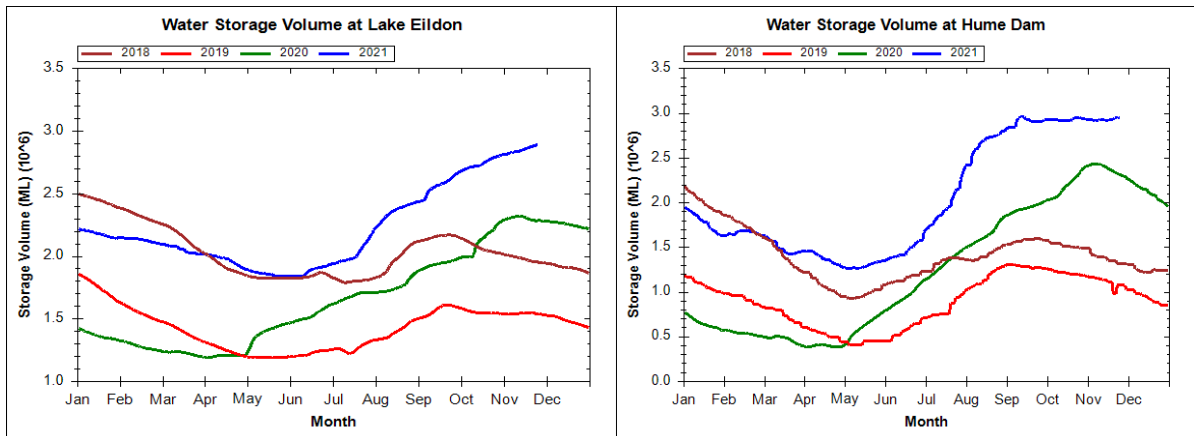
Graph 3-2 Evapotranspiration (ETo), Swan Hill (mm)<sup>4</sup>

The evapotranspiration levels were lower in every month of the 2020/21 growing season versus the 5-year average, except for November, where a few spikes in temperature contributed to a higher ETo.



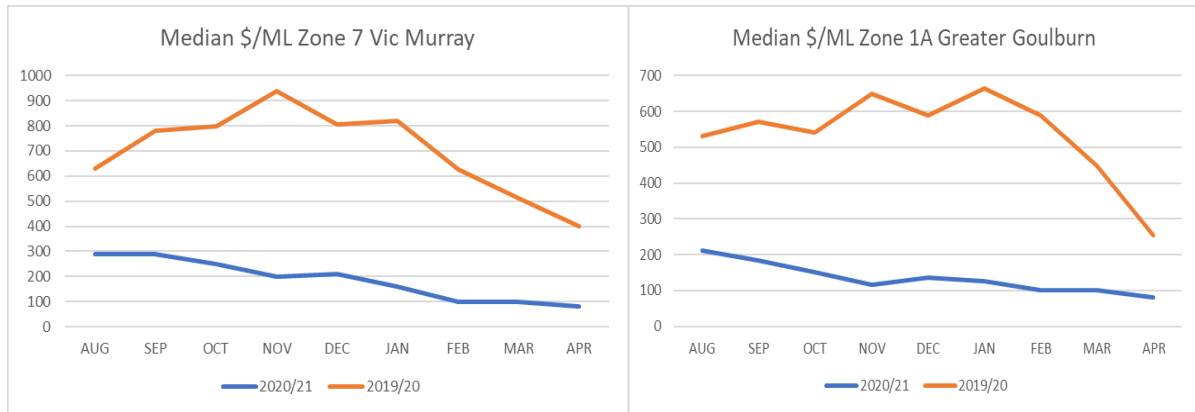
Graph 3-3: Heat units – Echuca<sup>5</sup>

The heat units recorded during the major crop growth period demonstrate that the season was cumulatively milder than the previous 5-year average. This mild weather did cause some delays in ripening and hence minor disruptions to processor harvest schedules.



Graph 3-4: Storage Volume, Lake Eildon, and Hume Dam<sup>6</sup>

The water storages at both Eildon and Hume reservoirs increased in the early part of the 2020/21 season and has continued to improve throughout the 2021 calendar year and indeed leading into the 2021/22 season.



**Graph 3-5: Zone 1A and Zone 7 median water price (\$/ML)**

The price of water during 2020/21 was substantially lower than 2019/20 and the price of water could be seen as a direct reflection of higher allocations and inflows into major water storages for Vic and NSW during this period.

The outlook for the 2021/22 season is for higher rainfall and lower temperatures, so water prices are predicted to remain suppressed for another season.

## 4 Trade

### 4.1 Imports

Product	Factor	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Dried/powder	20	54,358	39,155	39,125	35,940	26,875	34,506	37,934	37,660	34,880	28,017
Whole/pcs <1.14L	1.1	50,371	49,173	48,060	42,660	45,222	40,965	43,354	42,683	41,799	51,121
Whole/pcs >1.14L	1.1	19,445	18,661	18,911	28,402	28,088	22,997	24,002	24,275	22,369	21,129
Paste/puree<1.14L	6	64,835	73,484	80,602	83,976	153,210	102,733	107,923	109,578	110,328	159,447
Paste/puree>1.14L	6	242,310	148,728	145,214	109,242	102,866	130,171	140,532	144,906	133,524	143,118
Juice	1.1	143	264	137	116	75	83	38	75	50	30
Sauce/ketchup	2	26,760	28,902	33,633	38,628	39,276	38,462	45,705	45,946	47,050	48,375
<b>Total Tomato</b>		<b>458,222</b>	<b>358,367</b>	<b>365,682</b>	<b>338,964</b>	<b>395,612</b>	<b>369,917</b>	<b>399,488</b>	<b>405,123</b>	<b>389,999</b>	<b>451,236</b>

**Table 4-1: Imports of Tomato Products<sup>8</sup>** (equivalent raw tonnes)

The volume of imports increased significantly during 2020, with most of the increase coming from the paste/puree categories.

The largest importing countries, sorted by category were as follows (where major importer was below 90% of total, the next most significant supplier was also included).

- **Dried/powder** – Turkey 47%, New Zealand 17%
- **Whole/pcs <1.14L** – Italy 97%
- **Whole/pcs >1.14L** – Italy 97%
- **Paste/puree<1.14L** – Italy 80%, China 17%
- **Paste/puree>1.14L** – USA 45%, China 20%, Italy 19%
- **Juice** – USA 60%, Germany 19%
- **Sauce/ketchup** – Italy 40%, New Zealand 18%

At 70% of total volume (last year 71%), Italy remains the dominant source of imported processed tomato products into Australia. The next largest importers were China and the USA, who both imported approximately 10% each of total product into Australia.

Product	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Dried/powder	3.86	5.11	5.37	5.75	6.36	5.61	5.79	5.84	5.67	6.22
Whole/pcs <1.14L	1.11	1.07	1.11	1.25	1.24	1.28	1.13	1.18	1.26	1.39
Whole/pcs >1.14L	0.83	0.82	0.93	1.07	1.05	0.97	0.91	0.98	1.00	1.00
Paste/puree<1.14L	1.25	1.20	1.25	1.46	1.45	1.41	1.31	1.28	1.40	1.56
Paste/puree>1.14L	0.97	0.96	0.96	1.13	1.35	1.20	1.12	1.16	1.23	1.31
Juice [1]	1.59	1.13	1.01	1.32	1.63	0.93	2.45	1.82	1.86	3.09
Sauce/ketchup	1.27	0.56	1.60	1.75	1.82	1.82	1.80	1.81	1.90	2.19
<b>Total Tomato</b>	<b>1.11</b>	<b>1.03</b>	<b>1.21</b>	<b>1.37</b>	<b>1.40</b>	<b>1.38</b>	<b>1.31</b>	<b>1.34</b>	<b>1.41</b>	<b>1.54</b>

**Table 4-2: Average import prices (\$/kg), in 2020 monetary values<sup>8</sup>**

## Correlation of Imports and Price

- The Australian data indicates that there is a strong negative correlation between imported dried/powdered products and price. This means that the typically as import volumes increase, price of importation decreases or vice versa.
- The other correlations for imported product are quite varied and swing from moderately positive to moderately negative and deviate within different package sizes within category groups. Therefore, it suggests that overall, the variability in imported volumes does not appear to be strongly price driven for most categories.

## 4.2 Exports

Product	Factor	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Whole/pieces	1.1	1035	1581	1075	2552	746	461	133	62	139	623
Paste/puree	6	3248	11492	14987	33800	43747	104518	21852	16402	11695	32766
Sauce/ketchup	2	9334	4134	3218	3524	8196	4039	8799	11636	13227	14788
Juice	1.1	201	237	224	195	131	57	50	80	106	52
<b>Total Tomato</b>		<b>13818</b>	<b>17444</b>	<b>19504</b>	<b>40070</b>	<b>52819</b>	<b>109075</b>	<b>30834</b>	<b>28180</b>	<b>25167</b>	<b>48228</b>

**Table 4-3: Exports of tomato products<sup>8</sup>** (equivalent raw tonnes)

The volume of exports almost doubled in 2020, which may reflect consumer trends globally, which has indicated higher consumption of processed tomato products across the board.

The largest export markets, sorted by category and then by country were as follows:

- **Whole/pieces** – Thailand 79%, New Zealand 7%
- **Paste/puree** – Japan 47%, Vietnam 23%
- **Sauce/ketchup** – New Zealand 45%, China 25%
- **Juice** – New Zealand 52%, Singapore 13%, USA 12%

At 32% of all products, New Zealand is the largest export destination for Australian processed tomato produce, with Japan close behind at 28% and China at 14% of total exports.

Product	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Whole/pieces	3.16	2.97	3.33	1.31	4.10	5.10	6.64	4.72	2.59	1.67
Paste/puree	2.16	1.41	1.41	1.40	1.28	0.99	1.18	1.40	1.78	2.23
Sauce/ketchup	2.53	2.89	2.76	2.62	2.58	2.72	1.94	1.97	2.01	2.31
Juice [1]	1.20	1.46	1.22	1.23	1.28	1.60	1.13	1.72	1.04	1.06
<b>Total Tomato</b>	<b>2.55</b>	<b>2.35</b>	<b>2.17</b>	<b>1.59</b>	<b>1.87</b>	<b>1.25</b>	<b>1.66</b>	<b>1.81</b>	<b>1.96</b>	<b>2.25</b>

**Table 4-4: Average export prices (\$/kg), in 2020 monetary values<sup>8</sup>**

The real price of 2020 exports increased for the fourth year running.

The data suggests a moderate to weak negative correlation between average export price and volume variability, meaning that as price goes up, volume goes down. This applies to all product categories, except for Juice, which appears to have no correlation whatsoever to export price.

It's worth noting that there is a moderate, but not a strong, negative correlation between export volumes and the USD exchange rates across the last 10 years, meaning that as exchange rates decrease, exports increase or vice versa. The fact that it is only a moderate correlation may suggest that exports from Australia aren't heavily dictated by exchange rates and that other market forces are having more influence on the annual export opportunities.

### 4.3 Market Demand

Calendar Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	5 Yr	7 yr
<b>Imports</b>	458,223	358,367	365,682	338,964	395,613	368,918	399,488	405,123	389,999	451,236	<b>391,828</b>	<b>380,541</b>
<b>Net Australian</b>	71,465	179,090	171,491	181,561	234,007	165,773	153,848	199,456	185,310	184,334	<b>187,679</b>	<b>184,492</b>
<b>Dom Demand</b>	529,688	537,457	537,173	520,525	629,620	534,691	553,336	604,579	575,309	635,570	<b>579,507</b>	<b>565,033</b>
<b>Imported %</b>	87%	67%	68%	65%	63%	69%	72%	67%	68%	71%	<b>68%</b>	<b>67%</b>
<b>Local %</b>	13%	33%	32%	35%	37%	31%	28%	33%	32%	29%	<b>32%</b>	<b>33%</b>
<b>Per capita (kgs)</b>	24	24	23	22	26	22	22	24	22	25	<b>23</b>	<b>24</b>

**Table 4-3: Apparent domestic market demand<sup>2</sup>** (equivalent raw tonnes)

Table 4-3 presents the information relating to apparent Australian market demand for processed tomato products and shows how this demand is being met, i.e., local or imported products.

For individual years, combining data can produce non-matched results; ABS data is based on a calendar year, rather than a seasonal year, and this survey is unable to account for year-end stocks. However, these factors should tend to be mitigated when viewed over time, such as the 5-year or 7-year averages.

Considering this data, the following may be considered:

- **Imports:** Imports increased significantly in the 2020 calendar year.
- **Net Australian:** The net Australian production equates to tomatoes processed less exports. The net Australian figure was almost identical to the previous calendar year; this suggests that almost all of the additional demand for processing tomato products in Australia has been met by imported produce.
- **Domestic Demand:** The sharp increase in domestic demand of processing tomato products in the 2020 calendar year is a direct result of the pandemic effects on consumer trends. Many studies globally have reviewed this effect and in broad terms, the rise in consumption of these products has been influenced by demand for processed tomato products to supply an increase of in-home cooking requirements for these products.
- **Imported %:** The imported percentage of processed tomato products slightly increased in 2020. Since the flooding in Australian production regions and consequent loss of production capability for the 2011 season, the local demand for processed tomato products has stabilised around 30% of total consumption.

There is no clear indication that this trend is changing – if anything the last calendar year demonstrates that a possible insinuation to be made is that when an increased demand for processed products needed to be met, the retailers look to increase imports before sourcing local.

- **Local %:** Although the percentage of local product demand decreased in 2020, the total equivalent raw tonnes of Australian local product was about the same as 2019.

- 
- **Per Capita kgs:** The Australian 7-year average per capita consumption has remained stable, at about 24 kilograms of equivalent raw tomatoes. Although the spike in consumption in the last calendar year was significant (25 kg/person in 2020 Vs 22 kg/person in 2019), the interesting question will be if this trend continues.

By comparison, in 2019/20 US consumption was about 24 kilograms and Western EU consumption was about 18 kilograms<sup>10</sup>.

For a detailed report on global consumption and stocks – please follow the below link.

[2020 Tomato News Online Conference: François-Xavier Branthôme - Tomato News](#)

## 5 Global Production and Outlook

### 5.1 Production

- In 2020, recorded global production totalled 38.402 million tonnes, an increase of 3.2% compared to 2019. It is anticipated that production will only increase in 2021 by 0.8%.
- Australia is anticipating a reasonable rise in 2021-22 production: with the most recent estimate of 267,974 tonnes produced from 2488 ha planted, which includes 3000 tonnes of organic and 280 tonnes of cherry tomatoes. This represents an estimated increase of approximately 15% on the 2019/20 production level.
- In 2021, Australia contributed 0.55% of global production and increased its ranking from 20<sup>th</sup> in industry volume to 18<sup>th</sup> in industry volume.

Country	Season	2019	2020	2021E	% Change 2020-21	Ranking 2020	% Total 2020
USA	Jul-Dec	10,514	10,721	10,112	-6%	1	27.9%
China	Jul-Dec	4,600	5,800	4,800	-17%	2	15.1%
Italy	Jul-Dec	4,801	5,166	6,050	17%	3	13.5%
Spain	Jul-Dec	3,200	2,650	3,185	20%	4	6.90%
Turkey	Jul-Dec	2,200	2,500	2,200	-12%	5	6.51%
Brazil	Jul-Dec	1,200	1,421	1,350	-5%	6	3.70%
Iran	Jul-Dec	1,650	1,300	1,300	0%	7	3.39%
Portugal	Jul-Dec	1,410	1,262	1,596	26%	8	3.29%
Tunisia	Jul-Dec	815	961	938	-2%	9	2.50%
Chile	Jan-Jun	1,100	907	1,174	29%	10	2.36%
Algeria	Jul-Dec	800	800	820	3%	11	2.08%
Ukraine	Jul-Dec	720	800	800	0%	12	2.08%
Russia	Jul-Dec	552	515	523	2%	13	1.34%
Argentina	Jan-Jun	395	454	595	31%	14	1.18%
Canada	July-Dec	434	438	433	-1%	15	1.14%
Egypt	Jul-Dec	400	420	440	5%	16	1.09%
Greece	Jul-Dec	400	420	420	0%	17	1.09%
<b>Australia</b>	<b>Jan-Jun</b>	<b>212</b>	<b>210</b>	<b>233</b>	<b>11%</b>	<b>18</b>	<b>0.55%</b>
Israel	Jul-Dec	200	200	200	0%	19	0.52%
Dominican Republic	Jul-Dec	258	181	227	25%	20	0.47%
Poland	Jul-Dec	175	175	175	0%	21	0.46%
India	Jan-Jun	154	152	155	2%	22	0.40%
South Africa	Jan-Jun	140	150	125	-17%	23	0.39%
France	Jul-Dec	154	136	164	21%	24	0.35%
Morocco	Jul-Dec	130	100	100	0%	25	0.26%
Peru	Jan-Jun	100	100	120	20%	26	0.26%
Hungary	Jul-Dec	100	82	90	10%	27	0.21%
Senegal	Jan-Jun	77	73	73	0%	28	0.19%
New Zealand	Jan-Jun	50	50	50	0%	29	0.13%
Syria	Jul-Dec	42	42	40	-5%	30	0.11%
Thailand	Jan-Jun	43	40	40	0%	31	0.10%
Mexico	Jan-Jun	40	40	40	0%	32	0.10%
Bulgaria	Jul-Dec	40	40	40	0%	33	0.10%
Czech Republic	Jul-Dec	25	25	25	0%	34	0.07%
Japan	Jul-Dec	27	23	30	30%	35	0.06%
Venezuela	Jan-Jun	20	20	20	0%	36	0.05%
Slovakia	Jul-Dec	20	20	20	0%	37	0.05%
Malta	Jul-Dec	8	8	8	0%	38	0.0%
<b>Total</b>		<b>37,206</b>	<b>38,402</b>	<b>38,711 E</b>	<b>1%</b>	<b>38</b>	<b>100.0%</b>

Table 4-1a: World Production by Country ('000 tonnes)<sup>3</sup>



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## 6 References and Sources

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2. Previous survey data, APTRC
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4. Bureau of Meteorology
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