

**AUSTRALIAN PROCESSING TOMATO
RESEARCH COUNCIL**

ANNUAL INDUSTRY SURVEY

2020



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Executive Summary

During the 2019/2020 season, eleven growers produced 210,477 tonnes of processed tomatoes, a slight decline on the volume grown in 2018/19, and the crop was again processed by three companies.

Some 2,073 hectares were planted, with total use of sub-surface drip irrigation for the second time. The use of transplants declined slightly, but still represented 86% of plantings.

Average yield was 105.1 tonnes per hectare, which was achieved despite a challenging growing season and rains during the final harvest period. The industry record is 106.1 tonnes per hectare. About 97% of planted area was harvested. Comparative data indicates that California continues to lead global field productivity, with a number of producing countries, including Australia, following behind.

Soluble solids averaged 5.15%, continuing outcomes in recent years where solids have been consistently above the 5.00% benchmark.

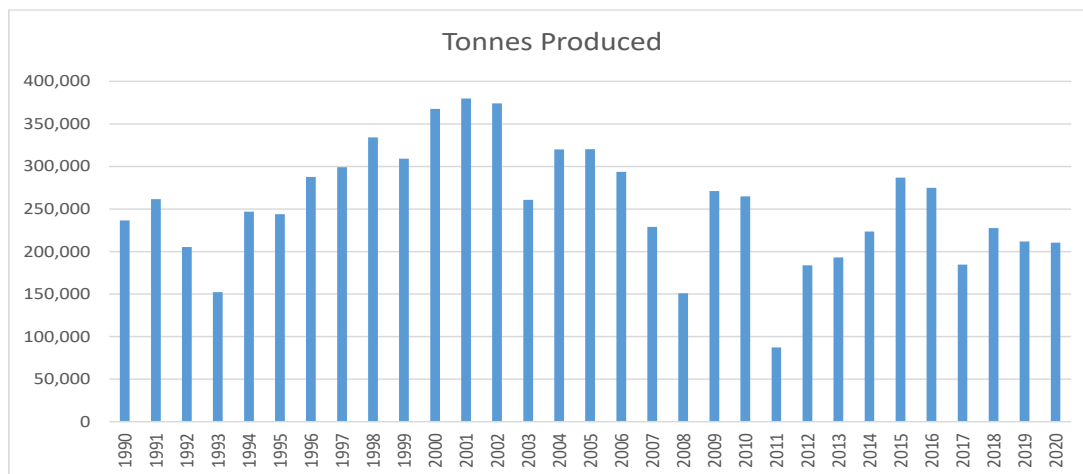
Imports of processed tomato products, in equivalent raw tonnes, declined slightly during 2019 compared to the previous year. Exports also declined slightly, albeit at higher price points for the fourth successive year.

During the last five to seven years, imports have accounted for about two thirds of domestic demand for processed tomato products; prior to this period the ratio was closer to 50%. This change in market proportion may have been influenced by wholesale and retail strategic reaction to poor Australian harvests in 2008 and 2011.

Australians continued to consume an average of about 23 kilograms of processed tomato products, in equivalent raw weight. Therefore, the potential domestic market growth for the Australian industry may be equivalent to the population growth rate of about 1.4% to 1.6% per year.

1 Industry Size

1.1 Volume

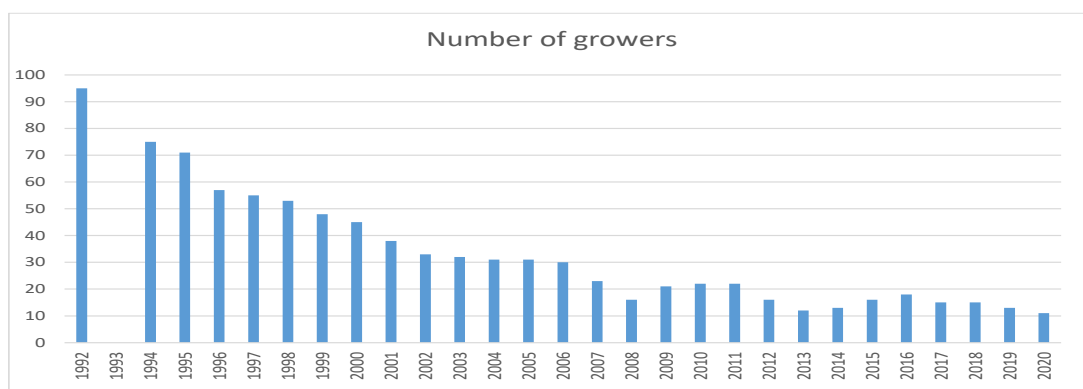


Graph 1-1: Paid tomato volumes delivered (tonnes)¹

Growers produced 210,477 paid tonnes of tomatoes during the 2019/20 season, a slight decrease on the previous year. In addition, 114 tonnes were supplied by fresh market growers.

This was a creditable outcome given challenging weather conditions during the growing and harvesting periods.

1.2 Producers



Graph 1-2: Number of growers¹

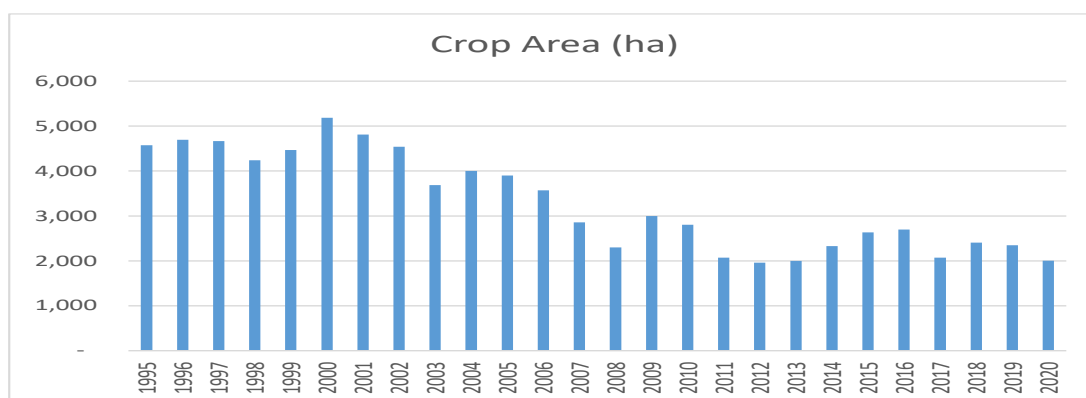
Eleven specialist growing businesses supplied the 2019/20 intake, two less than in the previous season.

1.3 Processors

As in the previous season, the crop was processed by three businesses, with Kagome Foods and SPC Ardmona taking in the majority of the crop.

2 The Crop

2.1 Area and management



Graph 2-1: Planted crop area (ha)¹

Some 2,073 hectares were planted to tomatoes, of which 97% was harvested. The smaller areas planted in recent years are due to a combination of lower processor requirements and higher field yields.

Season	Drip %	Transplant %
1989/90	15%	
1998/99	48%	21%
2008/09	76%	57%
2008/09	76%	57%
2009/10	80%	65%
2010/11	88%	79%
2011/12	90%	81%
2011/13	98.5%	72%
2013/14	95.0%	59%
2014/15	99.9%	68%
2015/16	98.3%	69%
2016/17	99.6%	86%
2017/18	99.3%	88%
2018/19	100.0%	91%
2019/20	100.0%	86%

Table 2-1: Proportions of drip and transplants²

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

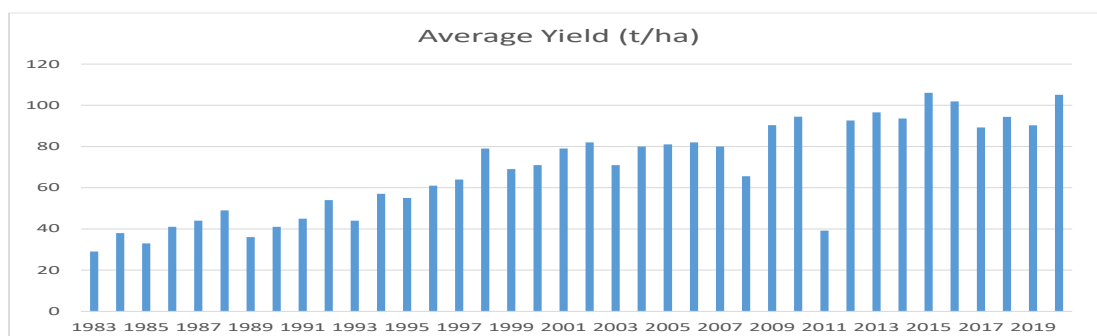
Following a partial break from transplants after 2011/12, recent years have witnessed a growing trend back to transplants.

2.2 Yield

Season	Planted Area	Harvested Area	Harvested Area %	Average Yield (t/ha)		Comments
				Planted Area	Harvested Area	
2010	3443	2806	81%	77	94.4	Wet harvest
2011	2850	2074	73%	28.5	39.2	Flooded crops
2012	2366	1962	83%	76.8	92.6	Wet harvest
2013	1999	1998	100%	96.6	96.6	Wet, late harvest
2014	2386	2330	98%	91.4	93.6	Wet, late harvest
2015	2700	2635	98%	103.5	106.1	Early crop failure
2016	2782	2697	97%	98.8	101.9	Poor crop stand, delayed harvest, over-contract fruit
2017	2183	2071	95%	84.6	89.2	Delayed harvest due to rain Abandoned due to factory power outage and subsequent harvest delay
2018	2457	2407	98%	92.5	94.4	
2019	2347	2347	100%	90.3	90.3	Extreme bacterial speck, high temperatures
2020	2073	2003	97%	101.5	105.1	Hot and windy during growing; late harvest rains

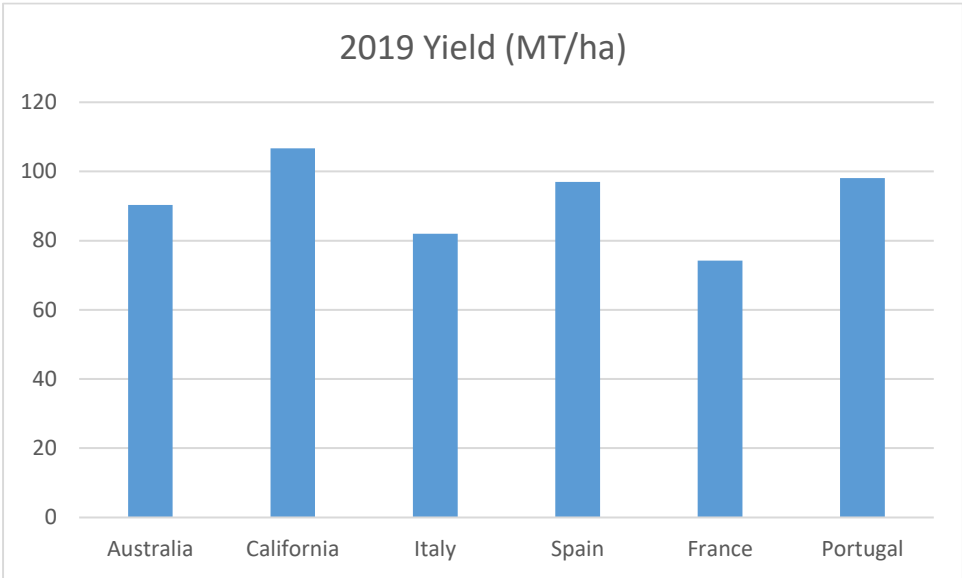
Table 2-2: Average yield, harvest conditions (t/ha)²

Average yield in 2020 was 105.1 t/ha, with 97% of planted area being harvested, and represents the industry's second-best yield outcome. This was a difficult growing season, and later harvesting was disrupted by rain. Given these circumstances, the final yield was creditable.



Graph 2-2: Average yield (t/ha)¹

This season witnessed an improvement in average yield, which is required to keep the industry competitive, and to generate acceptable returns for growers. Background data indicates that higher average yields are very achievable. Current industry R&D is focused on pushing average yields significantly higher, and the Yield Variability Project will provide a better understanding of how field productivity can be raised more broadly across growing regions and soil-types.

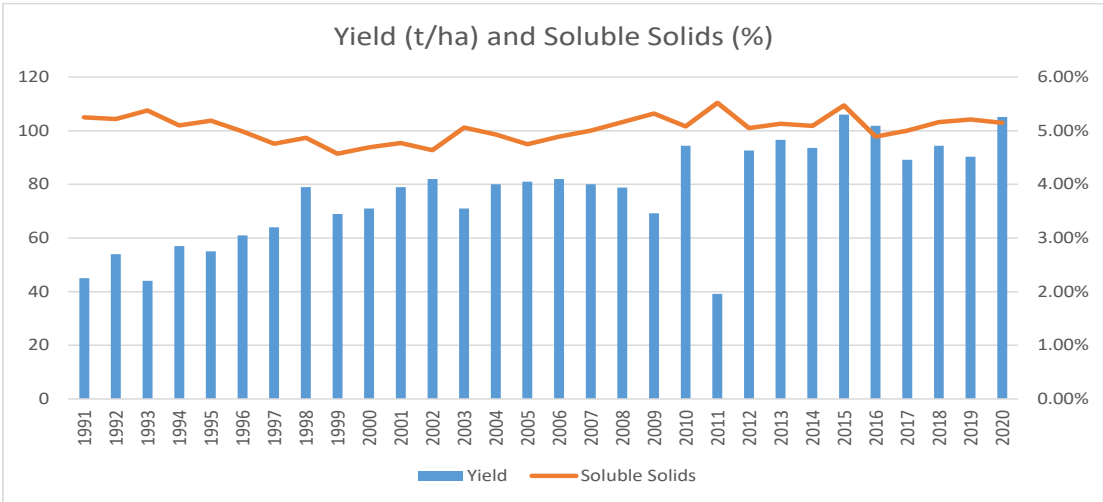


Graph 2-3: 2019 average yield (Mt/ha), by country³

Graph 2-3 presents the 2019 average yields for some countries for which relevant data is available.

California is still the global leader, and other countries have similar average yields to those of Australia.

2.3 Soluble Solids



Graph 2-4: Yield (t/ha) and soluble solids (%)¹

Average soluble solids for the season were 5.15%, 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

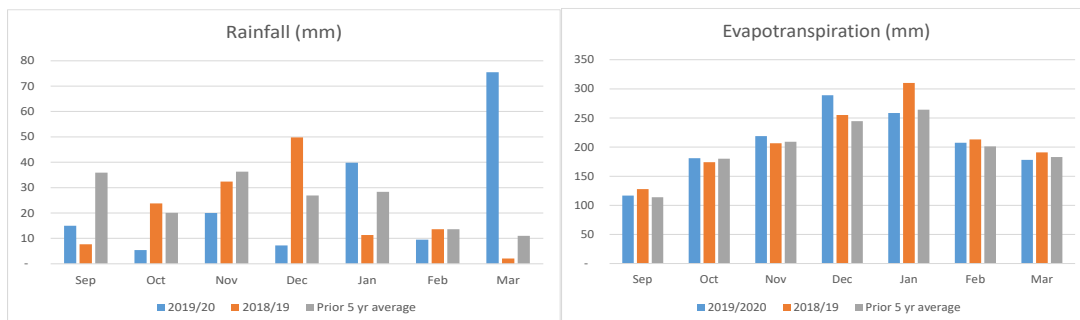
Variety	% of total
H1175Mix	22%
H3402Mix	19%
H1015	11%
H3402	11%
UG19406/18806	10%
UG16112/19406	9%
H1311	5%
H4401	5%
H1311Mix	4%
UG19406	2%
H1301	2%
UG16112	1%
H1307	1%

Table 2-3: Variety by proportion of total area

New factors are beginning to have an influence on variety choice. Customisation of mixes can provide a better-targeted product for some customers, and this can influence more-flexible variety choices.

The industry is also being challenged by seed availability; more so from season 2021. This has arisen because of problems with viroids in seed from some overseas growing locations, and more expensive testing and import-entry protocols.

3 The Season

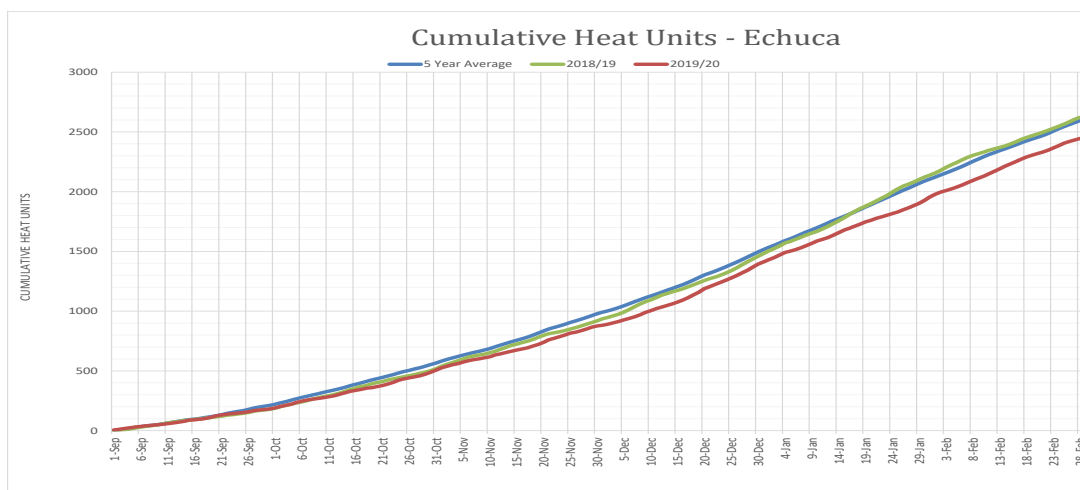


Graph 3-1: Rainfall at Echuca (mm)⁴

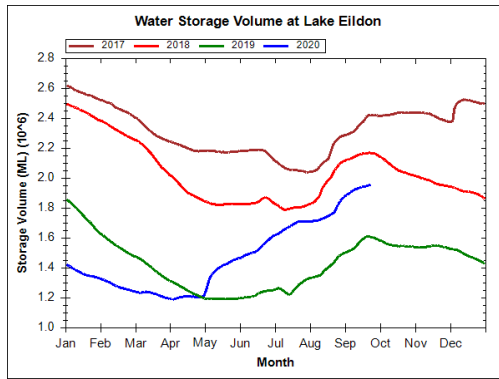
Graph 3-2 Evapotranspiration, Swan Hill (mm)⁴

Planting commenced in late September on the back of an extended dry period. This resulted in initial low soil-moisture levels which caused some difficulty for good ground preparation. However, the comparative lack of rain meant that bacterial speck was not a major issue.

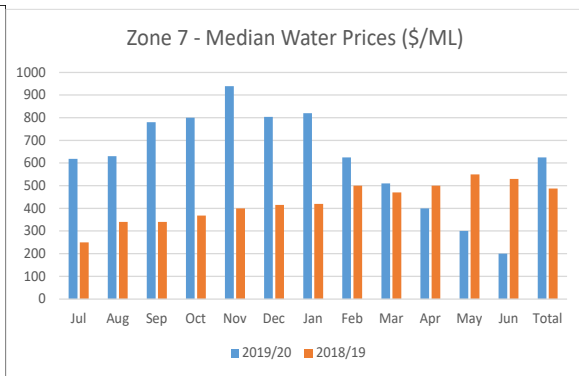
November brought highly variable temperatures and strong winds, setting back planting schedules, slowing the growth of young plants, and setting back the initial harvest dates to mid-February. Of the March 2020 rainfall, 60mm occurred in one event.



Graph 3-3: Heat units – Echuca⁵



Graph 3-4: Storage Volume, Lake Eildon⁶



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

With Eastern Australia in the grip of long-term drought at the start of the season, the regional effect was coming to bear on the industry as temporary-market water prices increased.

Whilst curtailing some harvesting, good rains from March onwards has given regional crops a real boost and has been accompanied by a substantial reduction in the price of temporary-market water. The longer-term outlook is currently for a wetter-than-average spring.

4 Trade

4.1 Imports

Product	Factor	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Dried/powder	20	36,291	54,358	39,155	39,125	35,940	26,875	34,506	37,934	37,660	34,880
Whole/pcs <1.14L	1.1	49,030	50,371	49,173	48,060	42,660	45,222	40,965	43,354	42,683	41,799
Whole/pcs >1.14L	1.1	14,790	19,445	18,661	18,911	28,402	28,088	22,997	24,002	24,275	22,369
Paste/puree<1.14L	6	70,232	64,835	73,484	80,602	83,976	153,210	102,733	107,923	109,578	110,328
Paste/puree>1.14L	6	107,112	242,310	148,728	145,214	109,242	102,866	130,171	140,532	144,906	133,524
Juice [1]	1.1	86	143	264	137	116	75	83	38	75	50
Sauce/ketchup	2	22,314	26,760	28,902	33,633	38,628	39,276	38,462	45,705	45,946	47,050
Total Tomato		299,855	458,222	358,367	365,682	338,964	395,612	369,917	399,488	405,123	389,999

NB. Conversion factor for paste/puree was changed from 5.5 to 6.0 in 2010

Table 4-1: Imports of Tomato Products⁸ (equivalent raw tonnes)

The volume of imports reduced slightly compared to 2018.

Italy supplied 98% of whole/pcs<1.14L, 97% of whole/pcs>1.14L, and 81% of paste/puree<1.14L. The USA supplied 43% of paste/puree>1.14L, with China and Italy each supplying about 23% of that category. Italy supplied 48% of the sauce/ketchup category, with New Zealand being the next largest supplier at 17%. Italy improved its proportion of imports during 2019.

At 71% of total volume, Italy remains, by far, the dominant source of imported processed tomato products into Australia.

Product		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Dried/powder		5.37	3.88	5.11	5.37	5.77	6.39	5.63	5.81	5.86	5.69
Whole/pcs <1.14L		1.31	1.11	1.07	1.10	1.26	1.25	1.29	1.14	1.19	1.26
Whole/pcs >1.14L		0.90	0.83	0.82	0.92	1.07	1.06	0.97	0.92	0.99	1.00
Paste/puree<1.14L		1.51	1.25	1.20	1.26	1.47	1.45	1.41	1.32	1.29	1.40
Paste/puree>1.14L		1.14	0.97	0.97	0.96	1.14	1.36	1.20	1.12	1.17	1.24
Juice [1]		1.14	1.60	1.13	1.01	1.32	1.65	0.93	2.45	1.82	1.87
Sauce/ketchup		1.57	1.28	0.56	1.60	1.76	1.83	1.83	1.81	1.81	1.91
Total Tomato		1.34	1.26	1.03	1.21	1.38	1.40	1.38	1.30	1.34	1.42

Table 4-2: Average import prices (\$/kg), at 2019 monetary value⁸

Except for dried/powdered products, there is generally a weak statistical correlation between imported volumes and price. That is, the variability in imported volumes does not appear to be price-driven – although each price point can still be lower than that at which Australian processors can supply product. There is also a weak correlation between imported volumes and the USD exchange rates across these years. A possible implication of these factors is discussed under Market Demand, below.

4.2 Exports

Product	Factor	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Whole/pieces	1.1	956	1,035	1,581	1,075	2,552	746	461	133	62	139
Paste/puree	6.0	3,900	3,248	11,492	14,987	33,800	43,747	104,518	21,852	16,402	11,695
Sauce/ketchup	2.0	10,532	9,334	4,134	3,218	3,524	8,196	4,039	8,799	11,636	13,227
Juice [1]	1.1	47	201	237	224	195	131	57	50	80	106
Total Tomato		15,435	13,818	17,444	19,504	40,070	52,819	109,075	30,834	28,180	25,167

NB. Conversion factor for paste/puree was changed from 5.5 to 6.0 in 2010

Table 4-3: Exports of tomato products⁸ (equivalent raw tonnes)

The volume of exports declined from that of 2018, with the further increase in sauce/ketchup products not compensating fully for the continuing reduction in paste/puree products.

In the paste/puree segment, there were substantial reductions in exports to New Zealand and Vietnam. In the sauce/ketchup segment there were significant increases in exports to China, Japan and Vietnam.

Product	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Whole/pieces	4.71	3.18	2.97	3.33	1.31	4.12	5.11	6.65	4.74	2.60
Paste/puree	1.92	2.17	1.41	1.40	1.40	1.28	0.99	1.18	1.40	1.78
Sauce/ketchup	2.58	2.54	2.88	2.76	2.63	2.59	2.72	1.94	1.98	2.02
Juice [1]	1.28	1.21	1.46	1.22	1.24	1.28	1.60	1.13	1.73	1.04
Total Tomato	2.78	2.56	2.35	2.17	1.60	1.88	1.26	1.67	1.82	1.97

Table 4-4: Average export prices (\$/kg), at 2019 monetary value⁸

Unlike import prices and volume variability, there is an expected strong statistical correlation between average export price and volume variability. This applies to total volume and also to the majority of categories. Australian exporters have been endeavouring to export higher-value products and the trend of increasing real average prices during the past four years may be indicative of that strategy. There is some, but not a strong, correlation between export volumes and the USD exchange rates across these years.

4.3 Market Demand

Calendar	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 Yr	7 yr
Imports	299,855	458,223	358,367	365,682	338,964	395,613	368,918	399,488	405,123	389,999		
Net Australian	249,543	71,465	179,090	171,491	181,561	234,007	165,773	153,848	199,456	185,310		
Dom Demand	549,398	529,688	537,457	537,173	520,525	629,620	534,691	553,336	604,579	575,309		
Imported %	55%	87%	67%	68%	65%	63%	69%	72%	67%	68%	68%	67%
Local %	45%	13%	33%	32%	35%	37%	31%	28%	33%	32%	32%	33%
Per capita (kgs)	25	24	24	23	22	26	22	22	24	22	24	23

Table 4-3: Apparent domestic market demand² (equivalent raw tonnes)

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.

Table 4-3 presents the information relating to apparent Australian market demand for processed tomato products; net Australian production equates to tomatoes processed less exports. The following may be considered;

- Prior to the flood season of 2011, imported and local products provided a more even proportion of apparent demand. However, after 2011, the proportion of demand moved decidedly in favour of imported product. Looking at five and seven year intervals, after 2011, imported product has provided two thirds of Australian apparent demand. Data for 2008 presents another year when Australian production declined dramatically (Graph 1-1). One conclusion is that Australian secondary processors (and retailers), suffering a second reduced year of supply from the local industry in 2011 decided there would have to be a higher imported buy in order to guarantee supply to their customers, and this decision would be a longer-term one;
- It was previously noted that there was a weak statistical correlation between imported volumes and average prices, and between imported volumes and the USD exchange rate, over time. These outcomes may be influenced by the apparent long-term policy whereby secondary processors and retailers would strategically depend less on Australian production;
- As previously noted at 4.1, Italy is the dominant source of imported tomato products. This might be because their prices are more competitive than those of other countries, or because Australian customers prefer Italian tomato products; and
- Regardless of annual variability in Australian consumption of tomato products, the longer-term data indicates that local per capita consumption has remained stable, at about 24 kilograms of equivalent raw tomatoes. (By comparison, in 2019 US consumption was about 25 kilograms and EU consumption was about 20 kilograms). Given stable per capita consumption, the industry might expect market demand to increase at the same rate as population growth, typically about 1.4% to 1.6%⁹.

It will be interesting to see what effect the COVID-19 pandemic might have on the 2020 trade data when that is considered in next year's report.

5 Global Production and Outlook

5.1 Production

In 2019, recorded global production totalled 37.383 million tonnes, an increase of 7.4% compared to 2018. It is anticipated that production will increase in 2020 by about 2%, meaning successive years of increased global production since 2017.

In 2000, Australia contributed 1.35% of global production. By 2019, Australia contributed 0.57% of global production and maintained its recent ranking of 20th in industry volume.

The WPTC crop update of 4 September notes the following about 2020 production:

- Yields in southern California are performing below contract levels. Northern yields are on contract;
- Northern Italy has again experienced wet conditions during harvest and yields are currently less than planned. Southern Italy produced more than 400,000 tonnes in week 34. Overall, the forecast for Italy has been increased, depending on good weather;
- The Chinese harvest is being hit hard by rainfall, but total yield is not expected to be less than that of 2019;
- Spain and Portugal are experiencing lower yields than planned;
- Turkish production will remain similar to that of 2019; and
- Australia is anticipating a modest rise in 2020 production; with the most recent estimate of around 250,000 tonnes.

Country	Season	2018	2019	% change		Ranking	% total
				2020E	2019-20	2019	2019
USA	Jul-Dec	11,547	10,514	10,792	3%	1	28.13%
Italy	Jul-Dec	4,650	4,801	5,100	6%	2	12.84%
China	Jul-Dec	3,800	4,600	5,500	20%	3	12.31%
Spain	Jul-Dec	2,800	3,200	2,800	-13%	4	8.56%
Turkey	Jul-Dec	1,300	2,200	2,300	5%	5	5.89%
Iran	Jul-Dec	750	1,650	1,300	-21%	6	4.41%
Portugal	Jul-Dec	1,198	1,410	1,200	-15%	7	3.77%
Brazil	Jul-Dec	1,400	1,200	1,180	-2%	8	3.21%
Chile	Jan-Jun	1,211	1,100	907	-18%	9	2.94%
Tunisia	Jul-Dec	618	815	915	12%	10	2.18%
Algeria	Jul-Dec	500	800	1,000	25%	11	2.14%
Ukraine	Jul-Dec	735	720	850	18%	12	1.93%
Russia	Jul-Dec	495	552	530	-4%	13	1.48%
Canada	July-Dec	451	434	426	-2%	14	1.16%
Egypt	Jul-Dec	400	400	420	5%	15	1.07%
Greece	Jul-Dec	320	400	440	10%	16	1.07%
Argentina	Jan-Jun	427	395	454	15%	17	1.06%
Thailand	Jan-Jun	260	260	260	0%	18	0.70%
Dominican Republic	Jul-Dec	258	258	181	-30%	19	0.69%
Australia	Jan-Jun	228	212	210	-1%	20	0.57%
Israel	Jul-Dec	200	200	200	0%	21	0.54%
Poland	Jul-Dec	200	175	175	0%	22	0.47%
France	Jul-Dec	139	154	155	1%	23	0.41%
South Africa	Jan-Jun	135	140	150	7%	24	0.37%
Morocco	Jul-Dec	130	130	100	-23%	25	0.35%
India	Jan-Jun	130	130	130	0%	26	0.35%
Hungary	Jul-Dec	106	100	85	-15%	27	0.27%
Peru	Jan-Jun	100	100	100	0%	28	0.27%
Senegal	Jan-Jun	53	61	61	0%	29	0.16%
New Zealand	Jan-Jun	50	50	50	0%	30	0.13%
Syria	Jul-Dec	42	42	42	0%	31	0.11%
Mexico	Jan-Jun	40	40	40	0%	32	0.11%
Bulgaria	Jul-Dec	30	40	40	0%	33	0.11%
Japan	Jul-Dec	28	27	25	-7%	34	0.07%
Czech Republic	Jul-Dec	25	25	25	0%	35	0.07%
Venezuela	Jan-Jun	20	20	20	0%	36	0.05%
Slovakia	Jul-Dec	20	20	20	0%	37	0.05%
Malta	Jul-Dec	7	8	8	0%	38	0.02%
Total		34,803	37,383	38,191	2%		

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

6 References and Sources

1. Previous survey data, B Horn and L Mann
2. Previous survey data, L Mann
3. World Processing Tomato Council
4. Bureau of Meteorology
5. Bureau of Meteorology, and previous survey data, L Mann
6. Goulburn-Murray Water
7. Victorian Water Registry
8. Australian Bureau of Statistics, and previous survey data, L Mann
9. Australian Bureau of Statistics