

APTRC Strategic Plan - 2021-2026

Context - the Australian processing tomato industry

Production

Tomatoes for processing are grown in Victoria, around Echuca, Rochester, Corop and Boort; and in NSW around Deniliquin, Mathoura, Jerilderie and Griffith. Production peaked in the early 2000s at around 380,000 tonnes. It declined steadily thereafter to an average just under 200,000 tonnes before rising again in 2014/15 and 2015/16. Total industry production fell back again in 2016/17 to 184,000 tonnes (from 15 specialist grower enterprises), when harvest was late due to rain. Production went up in 2018 before dropping slightly in 2019 and 2020. In 2021, there was 233,000 MT processed in Australia from 11 grower enterprises.

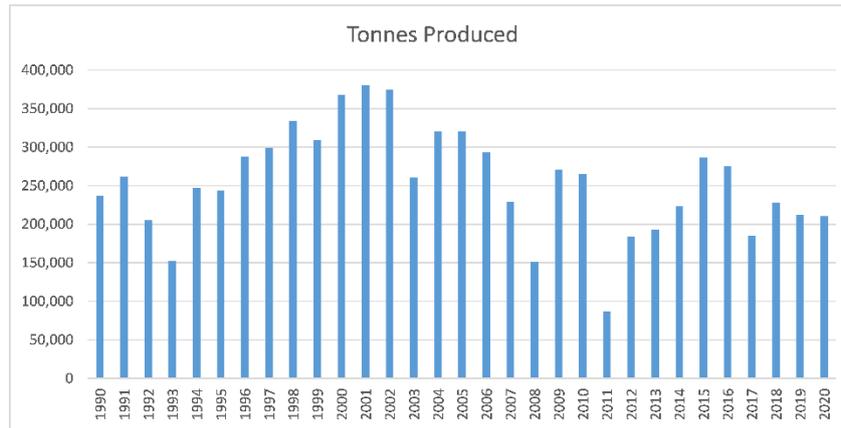


Figure 1. Paid tomato volumes delivered (tonnes). APTRC Industry Survey 2020.

The 2020 APTRC survey indicated that “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”.

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 1: Apparent domestic market demand (equivalent raw tonnes). Source ABARES.

According to World Processing Tomato Council (WPTC) figures, Australia was the 18th largest producer of processing tomatoes during the period 2019-20. The largest producers were:

- USA (average 10,721,000 tonnes/annum);
- China (5,800,000 tonnes); and
- Italy (5,166,000 tonnes).

However, Australia is the third largest Southern Hemisphere producer after Chile and Argentina.

Variations in Australian production from year-to-year have been largely due to adverse seasonal conditions. Severe wet weather during harvest (late January to early April) can severely reduce the crop, as occurred most notably in 2011 when the crop was flooded. Weather poses a particular risk for the processing tomato industry given the confined location of production in Australia.

The decline in production since the early 2000s has been due to a range of factors including increased competition from imports, a strong Australian dollar and increasing input costs reducing profitability.

In 2020, 2215 ha of processing tomatoes was planted, 100% of which was under sub-surface drip irrigation. 89.9% of the planted area was established using transplants (as distinct from direct seed). At the present time, all seed production is done overseas and must pass stringent laboratory viroid analysis prior to exportation to Australia. Once on shore, the seed must pass biosecurity inspection and have the required viroid testing results to meet Australian standards. These protocols are currently the most comprehensive set by any country worldwide. Additionally, all breeding of new varieties is done overseas, so selection of lines best suited to Australian production must be done onshore, by screening/observation trials and then machine harvest replicated trials to determine genetics most suitable to Australia.

Yield averaged 97 MT/ha over the five years to 2020/21, with the highest average yield/ha recorded in 2020/21 at 106.13 MT/ha. Yield has increased significantly over the past 30 years and now rivals that of Californian farms, which in a Tomato News article in 2019, indicated the state-wide average at 106 MT/ha. However, although yields have risen in the long term, the average yields in industry have plateaued in the past 5 years. The challenge for Australian processing tomato growing enterprises is to achieve more yield and more uniformity of yields across the growing regions.

This has become more challenging as the corporate sized growers diversify their growing regions into new regions to accommodate harvest schedules and spread harvest risk geographically.

This is putting the growing systems under pressure in these new regions as a percentage of production has shifted to less suitable soil types with lower quality water supplies. This doesn't necessarily indicate that higher yields aren't possible, but it does mean the agronomic practices need to be updated, especially for irrigation and soil management on these sites.

For the higher quality soil types, which are also affiliated with long established tomato growing enterprises, uniformity of yields across blocks have more to do with seasonal issues, such as wind, heat and rainfall. Also, the longevity of tomato growing history on these soils presents soil borne disease challenges, which brings with it yield variability and yield decline.

The water usage under drip irrigation has been consistent for many years in industry (and higher in the more marginal soil regions), however water prices continue to place pressure on enterprises, especially in high water priced years.

Therefore, the industry needs to make progress to increase yields, ideally with less water.

Growers produce tomatoes for two main processing paths: paste production (by far the largest destination) and peeling. All plant varieties are chosen for yield, extended field storage (i.e., the ability of fruit to withstand deterioration in the field after ripening) and disease resistance. The key price drivers for producers are yield and Brix – i.e., Brix/ha.

There are three tomato processors in Australia:

1. Kagome in Echuca takes approximately 2/3 of the total crop to produce a wide variety of bulk paste, purees and diced product, packaged mainly by secondary processors and sold under a variety of brands.
2. SPC Ardmona in Shepparton process a substantial portion of the total crop, traditionally for whole and diced canned tomatoes in their own branding, but now also processing for more for paste.
3. Billabong Produce in Jerilderie process a small but valuable proportion of the crop under their own brand.

A strategic plan for the APTRC

A workshop was held in Echuca on the 5th May 2021 to review the previous two Research, Development & Extension plans and gather input for an updated plan with prioritised actions. 27 people attended the workshop, with only 2 growers and 1 processor unavailable to attend on the day, providing a complete cross section of opinions and expertise from growers, processors, agronomists, researchers, service industries and industry staff.

Facilitated discussions were had to identify opportunities and threats to growers and the industry and from that to formulate and agree on an industry vision. Strategic goals were then identified and agreed to, based on SMART principles: i.e., goals were Specific, Measurable, Attainable, Relevant and Time-bound. This is, therefore, a plan for the APTRC rather than for the industry, for the simple reason that it will need to be carried out by the APTRC as that is the sphere of control.

Strengths and weaknesses

As the organisation responsible for carrying out this strategic plan, it is appropriate to identify the strengths and weaknesses of the APTRC so that strengths can be built on and weaknesses addressed.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Strong grower interaction and engagement • Strong board and good governance • Experienced, dedicated staff with good staff retention • Retention of corporate knowledge and expertise through long term staff and formal grower/processor networks • Good networks to horticulture industry <ul style="list-style-type: none"> ○ Internationally through WPTC ○ Nationally through HI 	<ul style="list-style-type: none"> • Small and limited funding base – relative to other RDCs • Presently no monitoring or benchmarking framework for assessing progress towards targets • Small number of staff; leaving organisation vulnerable through loss of key staff members • Weak connections with: <ul style="list-style-type: none"> ○ R&D providers and diverse expertise outside the industry ○ Other irrigation industries with similar issues
<ul style="list-style-type: none"> • Strong industry cohesion • Willingness to work together and share information 	<ul style="list-style-type: none"> • Small size • Succession – small pool of expertise • Vulnerability and uncertainty around future, leading to lack of confidence from enterprises to reinvest

Opportunities and threats

The processing tomato industry in Australia is similar to many irrigation dependent industries in that production is inextricably linked to processing and value adding. Both growers and processors need to be profitable, and the level of profitability needs to be sufficient to grow and continue to invest in their businesses in the face of increasing input costs and static commodity prices.

The following matrix (Table 2) outlines the opportunities and threats identified by workshop participants within the profit equation as it applies to producers.

$$\text{profit} = (\text{yield} \times \text{price} - \text{cost}) \times \text{risk}$$

Opportunities are framed around yield, price and costs, while threats are framed around risks to long term sustainability of production and profit.

Table 2. Potential opportunities to improve yields and price and reduce costs, together with threats to those factors that were identified by participants at the Echuca workshop.

	Opportunities	Threats (risks to the industry)
YIELD	<ul style="list-style-type: none"> • Improve yield potential: better varieties • Develop integrated pest/disease management (IPM) to reduce risks and costs, increase yield and yield stability, and potentially increase price (clean-green) • Overcome yield constraints (disease; soils and water) through better rotations and practices • Reduce harvest losses • Improve radiation capture – eliminate canopy gaps 	<ul style="list-style-type: none"> • Complete reliance on overseas seed & genetics • Exotic pests and diseases – e.g., fall army worm; serpentine leaf miner; tomato yellow leaf curl virus • Reliance on Metham sodium for disease and weed control • Weather and climate change risks to yield <ul style="list-style-type: none"> ○ Direct – high temperatures; high winds; rain at harvest ○ Indirect – increase pest/disease incidence • Loss of registration for chemicals (APVMA) – I.e, Metham; Thiomet; Chlorpyrifos
PRICE	<ul style="list-style-type: none"> • Increase domestic consumption – “Buy Australian” • Improve fruit quality, I.e., flavour • Utilise health claims in marketing • Develop new markets and value add to products <ul style="list-style-type: none"> ○ e.g., nutraceuticals; superfoods 	<ul style="list-style-type: none"> • Reliability of supply to existing markets – reputational risk • Processor viability (shrinking Australian consumption) and effect on investment confidence • Overseas markets – access to; competition from; product dumping
COSTS	<ul style="list-style-type: none"> • Use/develop technology to reduce <ul style="list-style-type: none"> ○ Labour cost ○ Energy cost - pumping • Improve input efficiencies <ul style="list-style-type: none"> ○ Water - reduce deep drainage ○ Fertiliser efficiency – reduce deep drainage ○ Chemicals • Reduce capital costs <ul style="list-style-type: none"> ○ Of irrigation systems (e.g. longer life span) ○ Machinery, particularly cost of harvesters 	<ul style="list-style-type: none"> • People <ul style="list-style-type: none"> ○ Lack of availability of skilled, suitably trained workforce ○ Small number of 3rd party growers and farm succession • Water allocations & markets • Effect of regulation (Australia & overseas) on business costs and market access. E.g., use of certain chemicals; burning stubbles; use of diesel; requirement for carbon neutrality. • Fewer pest/disease control options with climate change (e.g., windier) and proximity to urban areas/other crops.

Vision

The vision in 2013 was for the industry to double in size and workshop participants were asked whether this was still the case. Both Kagome and SPC said that it was no longer a goal but added that the industry could not afford to get smaller. It was considered that a “critical mass” was needed for processors to be viable in the longer term, but industry growth depended on growing markets and getting Australian consumers to “buy Australian”. It was noted that just increasing production would not necessarily lead to “competitive, profitable product”, though this part of the 2013 Vision still applied. Processors have worked to improve efficiencies and lower costs as well as to produce higher value products and this will need to continue. **The industry needs to stop shrinking.**

The key point in this discussion was that the industry needed to stop the decline in domestic consumption, turn it around and start to grow. The decline in domestic consumption was mainly attributed to the floods in 2011, which wiped out a large proportion of the crop and this affected the industry’s reputation as a reliable supplier. This is still being felt today and repairing this image and becoming known as a reliable supplier of quality product was seen by the workshop participants as critical to rebuilding domestic market share. **The industry needs to stabilise supply and become known as a reliable supplier of quality product.**

All participants expressed the need for long term viability, as that provides the certainty to invest in tomato production. However, this will require consistent levels of production from the industry to rebuild reputational robustness and, to achieve this, growers will need to obtain robust and consistent yields. The level of profitability for growers will also need to be sufficient to enable them to grow their businesses in the face of increasing input costs and static commodity prices, so yields will need to increase. If all this can be achieved, then the industry will be well placed to be viable over the long term. **Growers and processors want to be viable over the long-term.**

The vision for the Australian processing tomato industry over the five-year period 2021-2026 is to stabilise production so as to guarantee supply to processors and provide certainty to invest for growers.

The Mission for APTRC in the 2018-2023 plan was

To efficiently deliver innovative and effective research, development and capacity building solutions to support a sustainable and profitable processing tomato industry from producer to processor.

Participants at the Echuca meeting felt there was no reason to change this.

Outcomes, strategies and actions

The following two outcomes are those of the 2022-2026 Processing Tomato Fund Strategic Investment Plan (SIP) for Horticulture Innovation (HI):

1. Extension and capability.
2. Industry supply, productivity and sustainability.

Participants at the Echuca workshop discussed the strategies put forward in the 2013-2018 and 2018-2023 Strategic Plans. The following four broad areas for strategic RDE investment by APTRC were agreed on:

1. Skills and capability of growers and staff
2. Capacity and funding of APTRC
3. On-farm profitability and sustainability
4. Processing and marketing

Outcome 1 – Extension and capability

Improved capability and an innovative culture in the Australian processing tomato industry to maximise investments in productivity and demand.

Strategy	Potential benefit or impact	Key performance indicator
Strategy 1 – Build knowledge, skills and capability of APTRC and growers		
1.1. Seek and obtain funding from Horticulture Innovations for the Industry Development Manager and the Trials Manager positions.	<ul style="list-style-type: none"> • Security of tenure to conduct and complete planned program of work. 	<ul style="list-style-type: none"> • Funding obtained.
1.2. Secure funding for an Extension Coordinator position.	<ul style="list-style-type: none"> • Succession planning and better retention of corporate knowledge. • Effective dissemination of R&D findings to industry leading to increased knowledge of current best management practices. 	<ul style="list-style-type: none"> • Funding obtained. • Extension plan created. • Extension delivered.
1.3. Retain membership and participation in World Processing Tomato Council (WPTC).	<ul style="list-style-type: none"> • Knowledge of emerging trends and new developments internationally disseminated to industry 	<ul style="list-style-type: none"> • Reports from WPTC meeting • Attendance and report from World Congress disseminated.
1.4. Fund expert reviews to inform RDE investment into: Physiological yield potential; key factors creating production variability; climate change risks & potential solutions.	<ul style="list-style-type: none"> • Better informed RDE investment decisions to attain greatest net benefit for the industry 	<ul style="list-style-type: none"> • Reviews funded and conducted • Findings incorporated in Plan Reviews (Strategy 3.3) & Extension Plan (Strategy 1.2)

<p>1.5. Fund work to determine business benchmarks for the industry and from this assess and document best management practices.</p>	<ul style="list-style-type: none"> • Better knowledge of business and farming practices that improve profitability and sustainability for existing growers. • Industry information to support promotion of process tomato growing to new growers. 	<ul style="list-style-type: none"> • Work conducted to determine business benchmarks. • Best management practices documented. • Findings incorporated in Plan Reviews (Strategy 3.3) & Extension Plan (Strategy 1.2).
<p>Strategy 2 - Increase capability and funding of APTRC and industry</p>		
<p>2.1. Work with Horticulture Innovations regional coordinator to identify and gain support for RD&E in areas of national importance and to promote domestic consumption.</p>	<ul style="list-style-type: none"> • Increased RD&E capability by partnering in areas of national importance. • Better promotion of products to Australian markets. 	<ul style="list-style-type: none"> • Areas of national importance identified and incorporated in national RD&E plans.
<p>2.2. Establish Industry Working Groups to build relationships with research providers and other irrigation industries to progress priority R&D following PAR principles.</p>	<ul style="list-style-type: none"> • Increase in knowledge capability through collaborative relationships with experts from a range of fields. 	<ul style="list-style-type: none"> • Working Groups established.
<p>2.3. Identify and seek partners with common goals and work with them to gain external funding for identified priority projects.</p>	<ul style="list-style-type: none"> • Greater levels of funding for prioritised RD&E activity. 	<ul style="list-style-type: none"> • Key partners identified. • Discussions around areas of common interest held. • Joint proposals written & submitted.
<p>2.4. Seek partnerships to fund traineeships for industry professionals.</p>	<ul style="list-style-type: none"> • Higher levels of industry employment. • Supported career path for new staff. 	<ul style="list-style-type: none"> • Potential partners identified. • Traineeships funded.
<p>2.5. Promote & support participation by young growers/agronomists in Nuffield program.</p>	<ul style="list-style-type: none"> • Greater level of engagement by next generation growers in the industry. 	<ul style="list-style-type: none"> • Industry applicants called for. • Industry supported applications submitted.
<p>2.6. Fund student projects identified through the Industry Working Groups.</p>	<ul style="list-style-type: none"> • Cost effective increase in research capacity targeted at industry priorities. • Increased opportunities for collaboration with R&D providers. • Better informed and targeted student projects. 	<ul style="list-style-type: none"> • Potential student projects identified by Working Groups. • Project descriptions written and applicants called for.

Outcome 2 – Industry supply, productivity and sustainability

The Australian processing tomato industry has increased profitability, efficiency and sustainability through adoption of innovative R&D and sustainable best management practice (BMP)

Strategy	Potential benefit or impact	Key performance indicator
Strategy 3 – Improve on-farm profitability and sustainability while increasing the reliability of supply to processors		
3.1. Establish and conduct an annual industry monitoring program with key, relevant, easily measured and agreed targets. ⁽¹⁾	<ul style="list-style-type: none"> Clear guidance on whether planned strategies and actions are leading to desired outcomes. 	<ul style="list-style-type: none"> Industry targets discussed and agreed. Monitoring protocols established. Annual monitoring completed.
3.2. Secure funding and partners to conduct R&D into three identified industry priority areas: <ul style="list-style-type: none"> Securing seed supply. Reducing disease risk. Developing sustainable farming systems. 	<ul style="list-style-type: none"> Increased capacity to conduct prioritised R&D leading to shorter timeframe for projects to produce benefits for the industry. 	<ul style="list-style-type: none"> Project proposals written with partners. Proposals submitted.
3.3. Annual review of R&D findings and extension outcomes.	<ul style="list-style-type: none"> Better informed RD&E investment to maximise net benefits to the industry. 	<ul style="list-style-type: none"> Results of monitoring reviewed annually. Plan reassessed in light of monitoring results and information from projects.
Strategy 4 – Work with processors to identify opportunities to increase domestic market share		
4.1. On-going variety trials.	<ul style="list-style-type: none"> Selection from available lines of varieties that meet processor requirements, and which are best suited to Australian conditions. 	<ul style="list-style-type: none"> Working Group meets regularly, and recommendations made. Trials conducted and results fed back to Working Group.
4.2. Identify new market opportunities and communicate to growers.	<ul style="list-style-type: none"> Early identification and uptake of opportunities to increase price or supply. 	<ul style="list-style-type: none"> Opportunities identified and communicated to Working Group.

NOTE (1) Targets to be determined following business benchmarking (Strategy 1.5), but should include variable input costs; yields per ha and per ML; annual industry production per ha and per ML, as well as per biophysical limits (e.g., mm (ET_o – rainfall); growing degree days; total solar radiation).