

TOMATO TOPICS

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**NEWS and INFORMATION
FOR THE PROCESSING TOMATO INDUSTRY**

ISSN 1038-3522

December 2024

VOL. 34 NO. 4

Successful Irrigation Flushing and Chlorination Demo at Lawrence Farms

by Matt Stewart—APTRC

On the morning of Wednesday, 11th December 2024, an insightful Irrigation Flushing and Chlorination demonstration took place at Graeme and Michelle Lawrence's property in Leaghur VIC. The event was held just before the Boort & Boga Tour and saw participation from 14 industry members, along with training staff from Agriculture Victoria and Netafim.

Nick O'Halloran led the discussions, by highlighting the importance of flushing, cleaning and monitoring systems. Peter Henry outlined how to select the appropriate products for various cleaning scenarios and Nick rounded off by explaining how to calculate the correct quantities for injection and how to calibrate the injection pump.



The practical demonstration also featured grower, Graeme Lawrence, who was forthcoming on the wins and losses of his management strategies. Thanks go to Graeme and Michelle Lawrence for volunteering their property and irrigation system to industry for this valuable industry training session.



Key points from the training included:

- **Calibrating the injection pump:** Essential for accurate chemical distribution.
- **Calculating injection rates and run times:** Key to efficient lateral irrigation line cleaning.
- **Calculating required flow rates:** Determining the optimal number of lateral openings for effective flushing.
- **Testing product reach: Ensuring even distribution across lateral lines.**
- **Emitter inspection:** Comparing conditions before and after flushing to assess cleanliness and efficiency.

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Joe Braden and Collette Suter from Agriculture Victoria were also instrumental on the day, assisting Nick throughout the morning with many of the irrigation and flushing demonstrations.



The event concluded at 12:00 pm, followed by a networking lunch.

A copy of the Drip System maintenance and monitoring Ag Note document Nick handed out on the day can be found on the APTRC website here: [Drip-System-Maintenance-and-Monitoring.pdf](#)

BIG Turnout for Annual Bort & Boga Day

On the 5th of December, the Australian Processing Tomato Research Council (APTRC) hosted its highly anticipated annual Bort & Boga Field Day. This event attracted an impressive 45 attendees for the daytime activities and 37 guests for the evening dinner at the Mystic Park Hotel. The day marks possibly the highest turnout ever for a Bort & Boga event—a testament to the strong support from industry members and associated businesses.



The field day commenced with visits to four properties: Sawers, Lawrence, Chirnside, and GoFarm. At Sawers Farms, Manager Hamish Lanyon provided a visual and verbal comparison between direct-seeded and transplanted crops, and also introduced the group to some promising new cultivars.



The attendees then moved to Lawrence Farms, where owner Graeme Lawrence offered a comprehensive overview of the farm's activities to date and engaged in an interactive Q&A session with the crowd.

Next, at Chirnside Farms, David led the group to a problematic area on the property, inviting participants to brainstorm potential causes and solutions for the issue at hand. This collaborative session fostered valuable discussion and shared





insights among the attendees. It would be interesting to know what the problem/solution in this area was? ...Perhaps we'll have an answer by the next Tomato Topics!

The final stop was at GoFarm, where the APTRC machine harvest cultivar evaluation trial site was showcased. This site is also the first trial site OptiAg planted for the APTRC industry program, so it was a great chance for Mark Sargeant to introduce himself to the broader industry and discuss the trials. Here, growers and



processors had the opportunity to observe early-season trial cultivars, providing a first glimpse into some of the newer cultivars in the program.

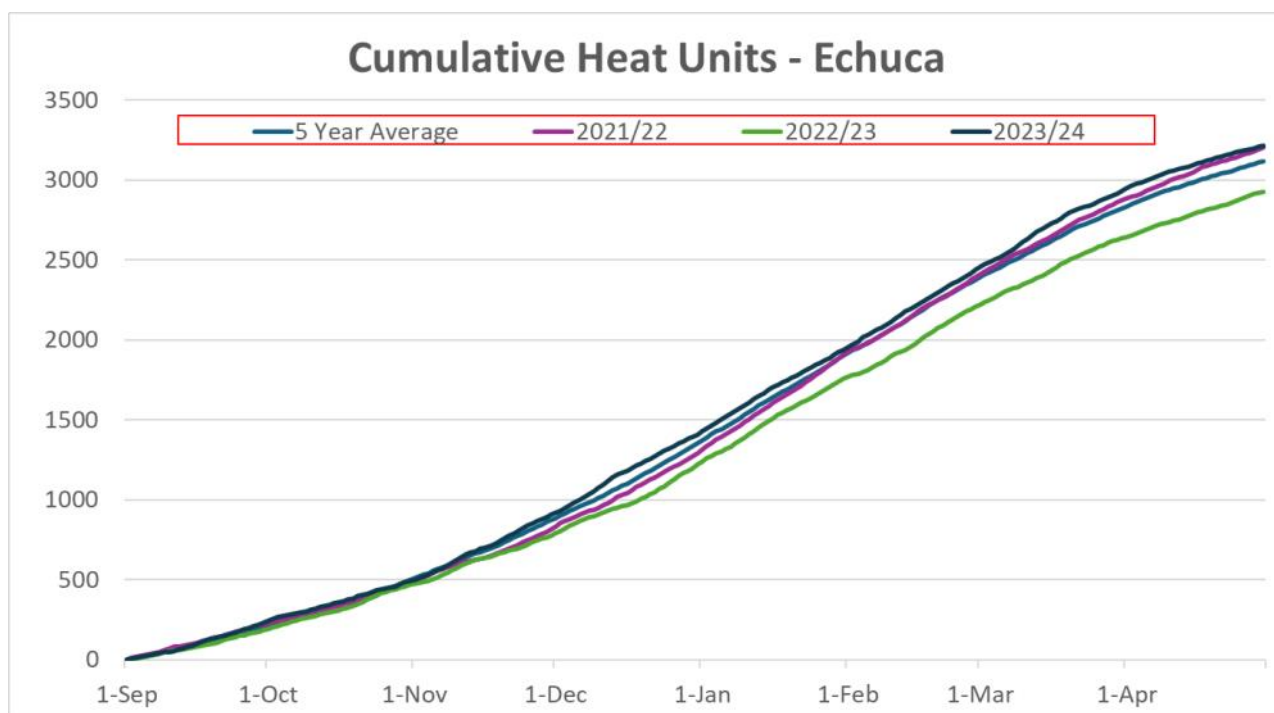
The day concluded with a delightful dinner hosted by the APTRC at Mystic Park, offering a perfect setting for networking and further discussions. The field day and evening event underscored the dedication and enthusiasm of the agricultural community, highlighting the importance of collaboration and continuous improvement in the industry.

Climate Outlook

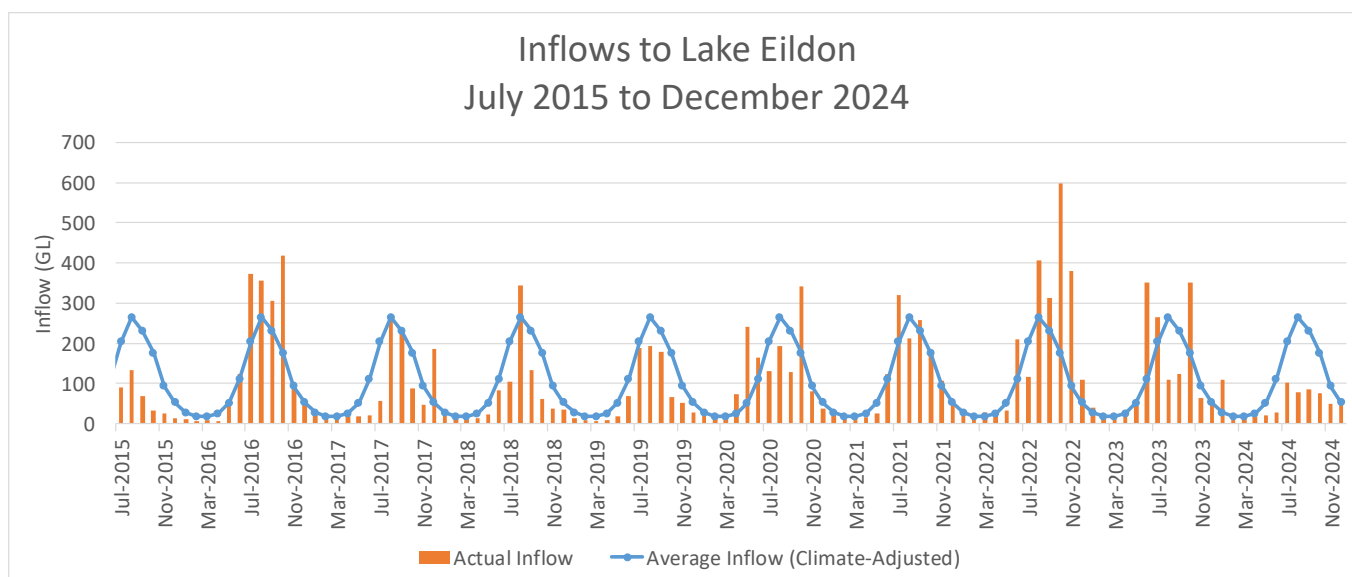
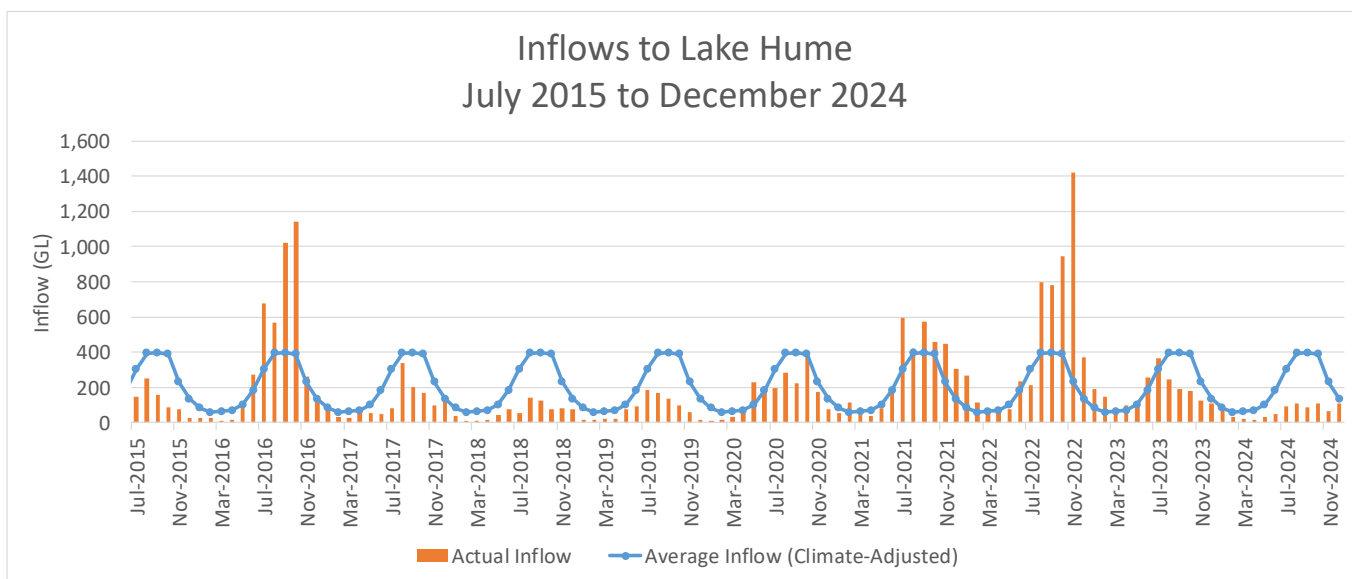
Summer is now upon us, with hot days and nights set to feature over the next few months. The El Niño–Southern Oscillation (ENSO) remains in the neutral range, and Bureau predictions are for it to stay there until April. Sea surface temperatures to the continent’s north-west and east remain at or near record levels, contributing to temperature and rainfall patterns across the country.

Over the next three months, warmer-than-average day and night temperatures are likely across much of the country, with an increased chance of unusually high overnight temperatures. While a wetter than average season is likely for large parts of eastern, western and southern Australia, predictions for tomato-growing areas appear to be generally benign.

Source: Bureau of Meteorology

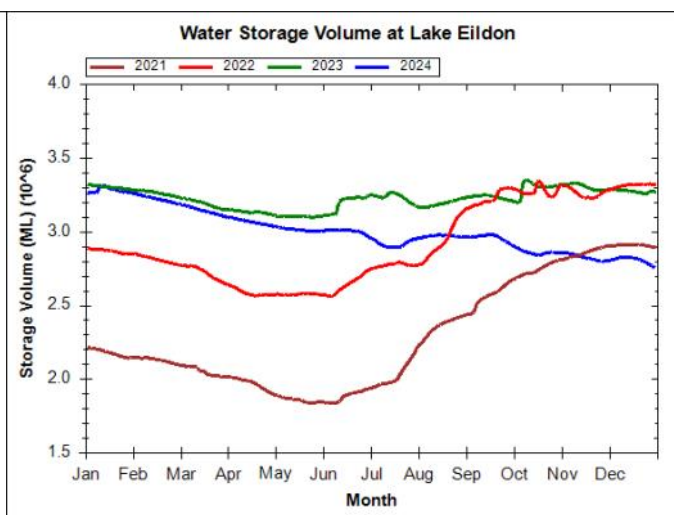
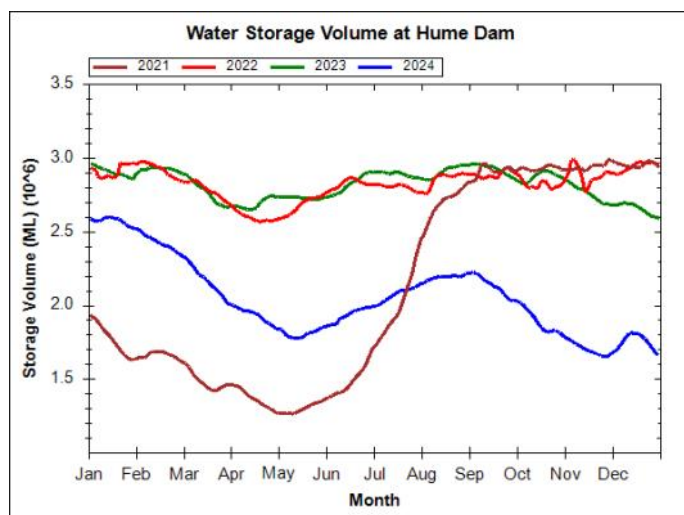


Water Inflows (Supplied by Mark Bailey—Goulburn-Murray Water)



Water Storage Levels to start 2025

Goulburn-Murray Water



Industry Notices

The following Article was prepared for APTRC by the APVMA

FINAL Regulatory decision for chlorpyrifos and diazinon

The APVMA has recently published final regulatory decisions related to the reconsiderations of agricultural chemical products containing diazinon or chlorpyrifos as active constituents. The full text of the decision Notices for [chlorpyrifos](#) and [diazinon](#) is available on the APVMA website. The final Review Technical Reports published on the APVMA's website detail the risk assessments for [chlorpyrifos](#) and [diazinon](#).

These decisions restricted the ways that chemical products containing either chlorpyrifos or diazinon may be used. Use of either chemical in tomatoes is no longer approved by the APVMA and is subject to a 1-year phase-out period.

Agricultural chemical products must be used according to the directions on the label attached to the container. The APVMA has determined that products containing diazinon or chlorpyrifos and bearing the old labels, or previously approved labels, may continue to be supplied for 1 year after the date of the regulatory decision. This means that products containing diazinon may be supplied with previously approved labels until 10 September 2025 and products containing chlorpyrifos may continue to be supplied with previously approved labels until 30 September 2025. After these dates, all products must be supplied with the new approved labels.

The APVMA will update the Maximum Residue Limits for chlorpyrifos and diazinon in the MRL Standard after a reasonable period has passed to allow produce treated with either chlorpyrifos or diazinon to move through the supply chain. Further questions may be directed to chemicalreview@apvma.gov.au.

National Management Group Communiqué: Tomato brown rugose fruit virus – 21 November 2024

The National Management Group (NMG) met on 21 November 2024 to consider the eradication response to tomato brown rugose fruit virus (ToBRFV) in South Australia. The NMG is comprised of all Australian governments and affected industries who are also signatories to the Emergency Plant Pest Response Deed (EPPRD), being **Australian Processing Tomato Research Council Inc.**, AUSVEG, and Greenlife Industry Australia.

The approved ToBRFV Eradication Response Plan (Response Plan) includes agreed measures, including ongoing testing, surveillance and monitoring, to achieve eradication and support a pathway back to the production and trade of tomatoes. The NMG has committed \$5 million to achieve the response objectives. The Response Plan is being nationally cost shared by governments and industry under the EPPRD.

ToBRFV was originally detected in August 2024 on a fresh tomato growing property located in the Northern Adelaide Plains. The virus was detected on two additional linked properties in the same region later that month and no further detections have occurred. ToBRFV is highly transmissible and can be easily spread through human and equipment contact. Control measures have been applied to the three impacted properties to contain and eradicate the virus.

The South Australia Department of Primary Industries and Regions is leading the nationally coordinated and funded response and is working with property owners and industry to undertake appropriate response activities. More information on response activities is available on www.pir.sa.gov.au/tobrfv.

If you suspect the presence of the virus or notice any symptoms, contact the **Emergency Plant Pest Hotline** on **1800 084 881**. You can find out more about how we respond to plant pest and disease incidents at outbreak.gov.au

Source: Department of Agriculture, Fisheries and Forestry

Tomato potato psyllid detection

December 2024

Tomato potato psyllid (TPP) has been detected in a protected tomato cropping facility in the southwest of Victoria, which is the first detection in Australia outside of Western Australia.

CURRENT SITUATION IN VICTORIA

There has been a confirmed detection of tomato potato psyllid (TPP; *Bactericera cockerelli*) in a glasshouse in Victoria's southwest region, which is the first detection outside of Western Australia. Surveillance in the vicinity of the glasshouse has detected TPP at a number of locations within 1.5 km of the glasshouse. This represents a significant extension of geographic range for this pest.

Testing of the insects and plant material has shown **no evidence of *Candidatus Liberibacter solanacearum* (CLso)**, which causes Zebra chip in potatoes. Therefore, Australia remains free of CLso.

Agriculture Victoria is working with the business and stakeholders to ensure the pest is managed effectively. There have been no detections in any other traps in place across the state to date.

INFORMATION YOU SHOULD KNOW ABOUT THE PEST

TPP is a tiny sap-sucking, winged insect that has a large host range and preference for feeding on solanaceous plants, including tomato, potato, capsicum, chili and eggplant. TPP is present in other countries including the USA, Central America and New Zealand, and was first detected in Western Australia in 2017.

TPP causes minor impacts on crops, weakening the plant through feeding activities. The greatest impacts from TPP come from its ability to vector CLso (not present in Australia). CLso can impact the health of plants and make produce unsalable.

TPP can spread through the movement of host plant material and disperse through natural pathways, such as flight, wind, and as a hitchhiker on plant material and equipment. It is important to maintain good hygiene practices when entering or exiting infested properties and ensure all equipment is thoroughly cleaned following use.

Pre-harvest control options are available to assist commercial growers with the management of TPP, including chemical control and Integrated Pest Management.

Further information on TPP can be found on the Agriculture Victoria website: [Tomato potato psyllid](#)

REPORTING SUSPECT TPP

TPP is current an exotic pest under the *Plant Biosecurity Act 2010*. If you suspect TPP may be present on your property, you must notify Agriculture Victoria by either:

Email via: plant.protection@agriculture.vic.gov.au

Lodge a report online via: www.agriculture.vic.gov.au/reportpestsonline

Further information if you make a report to Agriculture Victoria:

Photos are important for staff to help reporters

Helpful photo guide www.agriculture.vic.gov.au/takeaphoto

Agriculture Victoria may contact reporters further to discuss the situation or arrange sample pick up and testing

FURTHER INFORMATION

For further information on the detection, please contact Agriculture Victoria via

market.access@agriculture.vic.gov.au.

Source: Agriculture Victoria

Following from Tomato News

A Proposal to grow tomatoes in space!

A team of Chilean and French scientists are looking for sponsors to grow tomatoes on the International Space Station to better understand how they can adapt to extreme conditions

Under the current scenario of global climate change, the discovery and characterization of plant species adapted to extreme environmental conditions has become increasingly important. Desert plants have naturally evolved to flourish under such conditions. Therefore, understanding the underlying mechanisms for their adaptation can potentially help to ensure food security. These plant species represent an outstanding model system to (i) identify mechanisms for extreme abiotic conditions and (ii) serve to develop new crops for marginal unused soils and/or more adapted to climate change. *Solanum chilense*, which produces a wild tomato fruit in the inhospitable Atacama Desert, is one such species. It will be compared to what we call a sister species: *Solanum lycopersicum* (tomato), a taxonomically close model species, which is not adapted to extreme environments. With the completely different set of extreme conditions encountered in space this is a unique opportunity to speed up our knowledge and unravel the existence of genetic mechanisms involved in plant resistance to stress.

Tomatoes: surviving extreme heat

By studying tomato varieties that produce fruit in exceptionally hot growing seasons, biologists at Brown University identified the growth cycle phase when tomatoes are most vulnerable to extreme heat, as well as the molecular mechanisms that make the plants more heat tolerant.

The discovery, detailed in a [study in Current Biology](#), could inform a key strategy to protect the food supply in the face of climate instability, the researchers said. Agricultural productivity is particularly vulnerable to climate change, the study noted, and rising temperatures are predicted to reduce crop yields by 2.5% to 16% for every additional 1 degree Celsius of seasonal warming.

The scientists took some lessons from evolution to experiment with how best to speed up the adaptation process for varieties of tomato plants. Understanding thermotolerance, or the ability of a plant to withstand extreme temperatures, is a promising strategy to address climate adaptation, said study author Mark Johnson, a professor

of biology at Brown.

The plant reproduction phase has been the focus of research in Johnson's lab for many years. While the scientific literature includes studies of how heat stress affects plant growth in general, or the development of key reproductive structures, there was an absence of work that specifically examined what happens after pollen lands on the stigma during plant reproduction.

Research associate and study author Sorel V. Yimga Ouonkap focused on the pollen tube growth phase of the plant reproductive cycle. He studied different cultivars of tomato plants known for their ability to produce fruit in exceptionally hot growing seasons. The tomato varieties in the study were native to the Philippines, Russia and Mexico and were all grown in the Plant Environment Center at Brown.

Collaborating with scientists at the University of Arizona, Ouonkap studied how heat stress affects the ability of the pollen to grow in the flower of the tomato plant. He focused on how gene expression changes when tomato pollen produced by plants growing in optimal greenhouse conditions were exposed to high temperatures when growing in a petri dish.

The team's partners in Arizona found that exposure to high temperature solely during the pollen tube growth phase limits fruit and seed production more significantly in tomato cultivars that were heat sensitive than those that were heat tolerant. Importantly, Ouonkap found that pollen tubes from the Tamaulipas variety of tomato, known to be tolerant to heat, have enhanced growth under high temperature. His molecular analysis of the pollen tube in these tomatoes allowed the research team to pinpoint the mechanisms that were associated with thermotolerance.

With the right molecular mechanisms now identified, a next step would be determining specific techniques for enabling tomato growth in different climates. In one hypothetical scenario, scientists might develop a small molecule that could prime the pollen in the plants to be able to withstand a heat wave, Johnson explained.

"When the weather forecast showed two weeks of high temperatures during the pollen tube growth phase, the farmer would apply a product to plants that would change the gene expression so that the pollen would be resilient to heat," he said.

While that type of manipulation is still far off in the future, the researchers said this area of research is ripe for exploration.

MasterFoods Australia trials paper tomato sauce packs

MasterFoods™ is trialling Australia's first paper-recyclable single-serve tomato sauce pack – which use 58% less plastic than the original packaging and can be recycled via traditional curbside recycling. The MasterFoods Recyclable Squeeze-On Tomato Sauce packs are made in Mars Food & Nutrition's manufacturing site in Wyong on the NSW Central Coast. This innovation is the result of five years of research and development trials, with AUD 3 million invested in the project so far, further contributing to Mars Australia's aim of creating a circular economy and working towards Australia's National Packaging Targets.

Over 240 million of the company's tomato sauce packs are currently used each year, so the trial is an important part of the company's sustainable packaging initiative.

The trial has been designed in partnership with the Australian Packaging Covenant Organisation (APCO) and will allow MasterFoods to collect important data on the performance of the new pack, including how to best educate consumers to recycle the product after use.

Starting in November 2024, the trial will take place across a variety of locations and should continue through to April 2025. More than a million units of the paper-based packaging will be evaluated by consumers during the trial.

UPCOMING EVENTS

Annual APTRC Netafim Field Tour

When: Friday 17th January, 2025

Field Tour: Bus leaves Kagome 1pm. Visit Gilleston Fresh, Kennedy and Weeks farms.

Family Evening: Rich River Golf Club, Tatalia Function Room 1 & 2. (24 Lane, Moama NSW)

<https://www.trybooking.com/CXXUB>

Annual APTRC Processing Tomato Forum & Dinner

When: Friday 16th May, 2025

Where: Rich River Golf Club, Tatalia Function Room 1 & 2. (24 Lane, Moama NSW)

Hort Connections

When: 4-6 June, 2025

Where: Brisbane Convention Centre

<https://hortconnections.com.au/registration/>

ACKNOWLEDGMENTS:

This project [Australian Processing Tomato Industry Development and Extension (TM20000)] is funded by Horticulture Innovation Australia Limited with co-investment from Australian Processing Tomato Research Council Inc. and funds from the Australian Government.

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Opinions expressed in "Tomato Topics" are not necessarily those of the APTRC unless otherwise stated.