

TOMATO TOPICS

**Hort
Innovation**
Strategic levy investment

**PROCESSING
TOMATO FUND**



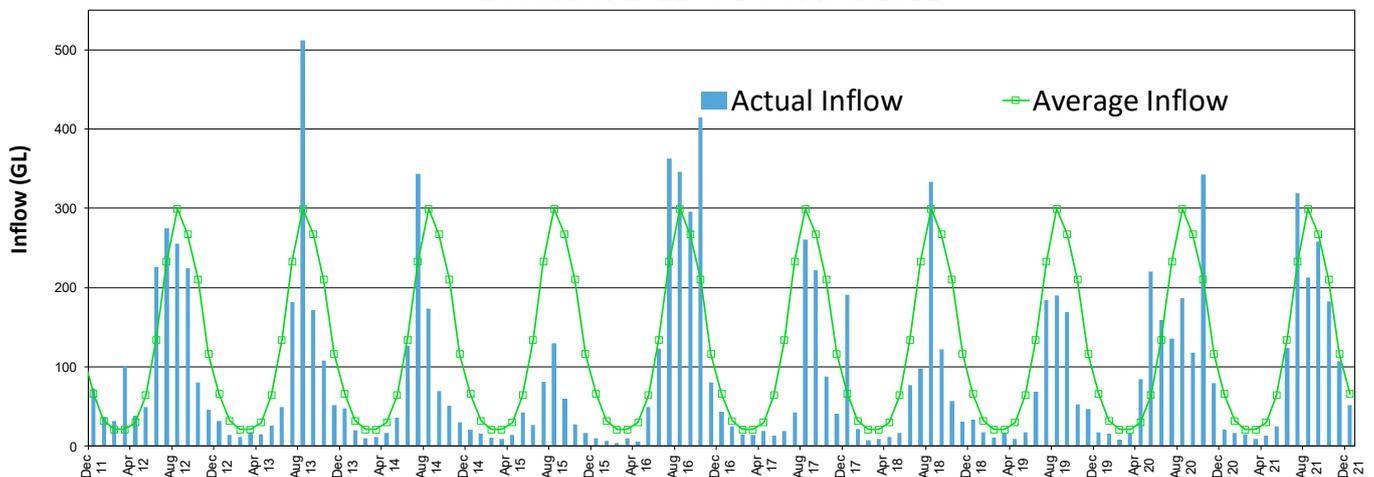
**NEWS and INFORMATION
FOR THE PROCESSING TOMATO INDUSTRY**

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**Inflows to Lake Eildon
December 2011 to December 2021**



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CLIMATE OUTLOOK

A La Nina event was declared in mid-November by the Bureau of Meteorology, suggesting wetter conditions for much of eastern and northern Australia over summer. Indicators now predict that this event will continue through summer and into autumn.

These include cooler waters in the central to eastern Pacific, decreased cloudiness near the date line, moderate to strong positive values for the Southern Oscillation Index and increased trade winds. Rainfall events may be shorter and more intense.

While models suggest that maximum temperatures may be slightly above average for south eastern Australia over summer, there is an unusually strong prediction that minimum temperatures will be higher than the median from January to March.

(Source; Bureau of Meteorology)

Irrigation the theme for Boort & Lake Boga Crop Inspection Tour

This year's Boort and Lake Boga crop inspection tour was organised for December 16th, and once again it attracted strong support from industry members, with 33 in attendance. Five properties were visited, with a catered dinner and social drinks, attended by 21 members at the Boort tennis club to round off the day. The weather gods were kind and IDM Matt Stewart put some structure into the day with a set of pre-prepared questions issued to hosting growers and agronomists, particularly focusing on irrigation and fertigation practices.



Tour visits were hosted by Kilter farms (organic tomato block – Johanna Morgan), Tony and Rowena Henry, Graeme and Michelle Lawrence, Sawers Farms (managed by Hamish Lanyon), David Chirnside and Graeme Lehmann.

Our thanks go to growers and farm managers for their time and willingness to share their knowledge on growing the crop.

Responses to the set questions varied between farms and are summarised below.

How do you estimate weekly irrigation requirements?

A mixture of monitoring and “gut feel” were used across the five farms, but manual soil probing, weather data (ET_o) and spreadsheets were common tools for most.

Remote monitoring of in field soil moisture probes was also mentioned as a backup for field observation and probing; one business used [DJPR's](#) weekly irrigation requirement predictions; another was utilising [IrriSAT](#) technology, which was presented by Sam North (NSW DPI) at last year's Boort Tour.



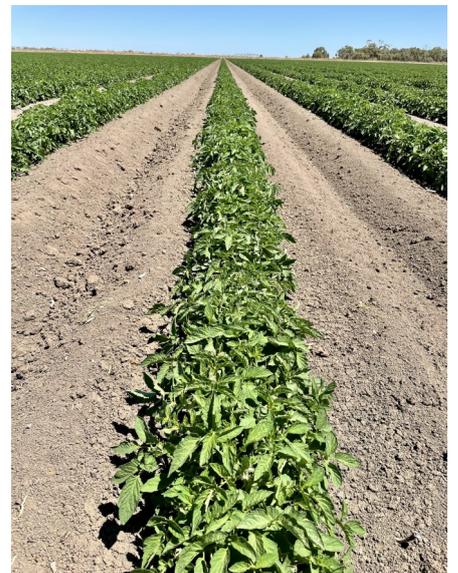
Are you recording run times and water usage and if so, how?

Various recording systems were reported for recording water application, involving metered pumps or outlets. Information is recorded on spreadsheets/databases and compared with historical records.

What are the main irrigation system limitations or issues you experience?

This provoked a wide range of comments, with insects, particularly wireworm and mouse problems mentioned by 4 growers, difficulty in retrieving tape for 1 year systems, leaking lay flat (changing to poly lines) and problems with a controller and in getting labour to fix leaks.

Also, adjusting pressures to allow for variation in wetting down the row and for different channel head pressures, watering up to avoid damping off and controlling weeds was also discussed.





Fertigation – do you follow a set program or is it flexible in-season?

Growers all used a standard base application pre-planting and for in season nutrition; although the fertigation plan was planned prior to the season, it allowed for some flexibility of nutrition, particularly nitrogen. Due to the wetter season, less water had been manually applied, which meant less fertigation could be applied, meaning growers had problems getting enough nitrogen nutrition on early – this was common across all farms, however most had adapted to this by increasing rates of fertiliser via fertigation to ‘catch up’.



General comments

Kilter reported its best organic crop to date (on their block near Kangaroo Lake). For the Boort region growers, although there were many outstanding examples of processing tomatoes, growers expressed varied satisfaction levels with crops, mainly based on planting time and the vagaries of weather experienced around the time of planting or emergence and the negative effect this had on early growth.

There were many specific comments from each grower, with varied opinions on seeding rate. High rates were used to achieve a strong canopy cover and lower rates were used in a bid to encourage less disease in the crop, use less water and make weeding easier. Metham appears to have worked well this season, but some farms were noticing a damping off problem and treating accordingly. Cultivars were also mentioned, as several growers were trying new varieties for the first time. Tony Henry commented that UG16112 lacked early vigour and produced an ugly vine next to H3402, but held very well, had larger fruit and yielded better - Tony added that he thought H3402 appears to tolerate hail damage better.



All in all, there was plenty of food for thought from a day where much information was shared and discussed and participants all agreed it was a very worthwhile event.

Thanks also to our Boort Tennis club hosts, Alistair McDougall for opening the venue and running the bar and to Judy Perryman and her granddaughter Tayla, who did a fantastic job of catering our APTRC event.



Hort Innovation releases Annual Reports

Hort Innovation is the grower owned, not-for-profit research and development corporation for Australian horticulture. As our Strategic Investment Partner, Hort Innovation, reports annually on the work undertaken by the various industries it supports. The processing tomato industry development and extension project (TM20000) is a strategic levy investment under the Hort Innovation processing tomato Fund. This project has been funded by Hort Innovation, using the processing tomato research and development levy and contributions from the Australian Government.

The corporation's Annual Report provides an overview of their achievements over the past twelve months, whereas the Processing Tomato Industry Annual Report focusses on our industry alone. Both are worth a read, and can be found under the Industry Information tab on the [APTRC Website](#) or by clicking on the images provided in this article for a direct link.



Gene editing, the next “Green Revolution” for tomatoes?

Tomatoes are the world's largest horticultural crop, and the market is growing with production increasing by over 30% over the past 15 years. Climate change is one of many threats facing tomato crops (and many others) over the coming years, and scientists are looking to ways of making the crop more resilient. Gene editing, using the Nobel Prize winning Crispr technology is an approach being investigated by scientists around the world. “Crispr is a molecular toolbox scientists have repurposed from bacteria – when bacteria are attacked by viruses, they capture and cut the viral DNA to prevent the aggressor from being able to replicate and so fight it off.”

The technique works like a “*cut and paste*” tool for genetic material and promises to revolutionize agriculture, helping to create crops for the future. Used in plants since 2013, the technique now allows researchers to modify a genome with extreme precision and accuracy to obtain traits they desire. Tomatoes are considered a model crop for this process : fast to grow, easy to breed and relatively simple to manipulate on a genetic level. Problems such as heat, salt and drought tolerance as well as resistance to pests and diseases are already under investigation.

The first step is always to identify the genes that influence these traits, and scientists often make use of the “treasure chest” of genes in wild species, from which our current cultivars originated. For example, one 2021 study looked at the [genome of Solanum sitiens](#) – a wild tomato species which grows in the extremely harsh environment of the Atacama Desert in Chile, and can be found at altitudes as high as 3,300m (10,826ft). The study identified several genes related to drought-resistance in Solanum sitiens, including one aptly named YUCCA7 (yucca are draught-resistant shrubs and trees popular as houseplants).

They are far from the only genes that could be used to give the humble tomato a boost. In 2020 Chinese and American scientists performed a genome-wide association study of 369 tomato cultivars, breeding lines and landraces, and pinpointed a gene called SIHAK20 as crucial for salt tolerance. While this technology holds great promise, market regulations and consumer hesitancy around perceived GM foods currently remain major hurdles to its commercialization.

(Source; Tomato News)

Federal Grant for SLTEC®

Tongala-based Sustainable Liquid Technology – known as SLTEC Fertilizers – has received a \$1 million grant from the Federal Government, one of 27 projects nationally that will share in more than \$33 million under Round 1 of the Supply Chain Resilience Initiative, to help improve Australia’s supply chain resilience.

SLTEC will use its \$1 million grant – an amount which the business must match – to greatly enhance the manufacturing capability, efficiency and quality of its extensive liquid fertilizer range. The project will also enable SLTEC Fertilizers’ to expand its reach in terms of both domestic and export markets, including New Zealand and Asia.



SLTEC MD Jamie McMaster with Federal MP Damien Drum

Damian Drum MP, Federal minister for Agriculture, Fisheries and Forestry, who recently visited the Tongala plant said “This project is incredibly important in our mission to secure Australia’s supply chain resilience and I’m proud SLTEC Fertilizers is doing this work in our local community”. SLTEC Fertilizers managing director Jamie McMaster said that “this



funding will enable the business to rapidly increase its manufacturing capacity and enhance our flexibility to meet the growing needs of the agricultural industry for liquid fertilizers that are of high quality, efficiency and efficacy.”

A Note to Avatar Evo Users (From FMC Australia Pty Ltd)



Please be aware that as the Avatar eVo® formulation is different from Avatar, they have **different volumetric specifications**.

If Growers measure Avatar eVo® with the Avatar measuring cone, they will be under dosing, so it is critical that the correct cone be used.

For further information, contact Greg at FMC via email Greg.Bennett@fmc.com

Two new resources available now! FAW & pest & disease preparedness

A management guide for fall armyworm (FAW) and a manual on farm pest and disease preparedness have been developed by AUSVEG and are [now available online](#).



The [FAW guide](#) discusses pest biology, damage and identification and provides guidance on crop monitoring techniques.

The [pest & disease preparedness manual](#) outlines the 6 main pathways through which pests/diseases spread onto your farm and what measures you can take to reduce any associated risks.

(Source; AusVeg)

Regional Pest and disease information

For regular updates on pest and disease detections in your area, subscribe to the APTRC's Pest and Disease Information Update, a free bulletin compiled with information from Farm Managers and Agronomists from across the growing regions.

To subscribe, contact IDM Matt Stewart via email at aptrc.idm@outlook.com, and don't forget, for all the latest industry news and information; including this newsletter; visit the industry website aptrc.asn.com.au.

- Reports to date have shown that pressures are building for heliothis and bacterial speck, while there have also been instances of chocolate streak (caused by *Fusarium oxysporum*) in plants from southern New South Wales.

- Professor Paul Taylor at Melbourne University isolated and identified the causal fungus, and provided the photo opposite.



UPCOMING EVENTS

Annual January Crop Inspection

— Corop & Rochester Regions

— Thursday 20th January 2022

Contact Matt Stewart to book your spot
Remember for Dinner => Partners & Kids Welcome

The 14th World Processing Tomato Congress and the 16th ISHS Symposium on the Processing Tomato, scheduled to be held in San Juan, Argentina will now be conducted as exclusively ONLINE events due to COVID concerns and travel restrictions.

Organisers are currently finalizing a program of presentations, round-table discussions and videos scheduled from **Monday 21 March to Friday 25 March for the congress and from Monday 28 March to Friday 1 April for the Symposium** which will be livestreamed via the Whova platform so that all participants can interact live with speakers and sponsors for the best possible remote experience. All sessions will also be recorded for catch-up viewing taking account of the different world time zones.

Registrations for the event are now reopened with reduced early-bird rates if you register before the end of January.

You can also keep up to speed with developments and further information at: www.worldtomatocongress.com

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