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NEWS and INFORMATION
FOR THE PROCESSING TOMATO INDUSTRY

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BUDAPEST: 15th World Processing Tomato Congress & 17th ISHS Symposium on Processing Tomato

Article by Matthew Stewart ***Photos Credit WPTC***

The 15th World Congress and 17th International Society for Horticultural Science (ISHS) Symposium on Processing Tomato recently took place at the Hilton Hotel in Budapest from June 9th to 12th. The event brought together tomato industry experts, processors, growers, researchers, and business owners from around the globe. Here are the highlights:

Jason Fritsch presenting awards at the Congress

Strong Australian Representation:
Australian delegates made their mark at the event, including farmers Louis & David Chirnside and Tony & Ann Sawers from Boort, APTRC Chair Charles Hart (accompanied by wife Lesley), Jason Fritsch (accompanied by wife Kelly), Chris Taylor, and Brad Free from Kagome, Jordan Jamieson of SPC, Hanyue Feng from The University of Melbourne, former Unilever employee Tim Dyer (accompanied by wife Annmarie), and myself.

The Australian contingent participated in sessions, panel discussions, and networking opportunities aplenty.

Congress Kick-off:
The Congress began on a social note with a Sunday evening networking event. Past acquaintances reconnected, and new connections were forged.

On Monday morning, Jason Fritsch (then WPTC President) opened the Congress session, followed by my moderation of the first session of the ISHS Symposium.

Diverse Program:
Over the next three days, the Congress and Symposium ran concurrent programs.

In this edition:

Delegates had the option to attend cutting-edge scientific ISHS presentations or explore more global, industry-related topics through presentations or expert panels.

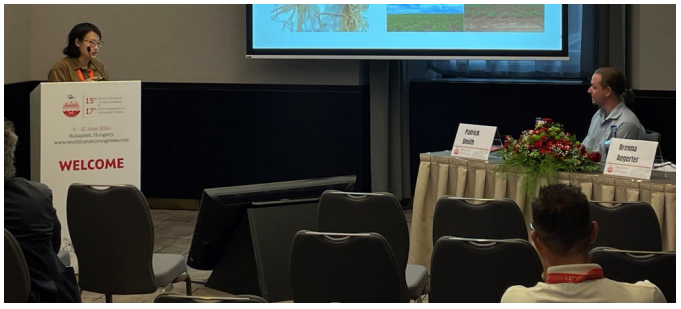
Australia's Role:
Jason, then President of WPTC presided over various parts of the congress, and gave the opening and closing addresses. As president of the Research Commission, I presented a synopsis of the key ISHS Symposium R&D findings to the Congress audience. For the APTRC, the Congress and ISHS Symposium were a fantastic source of

Networking Night

Congress Venue

new information, contacts and learning. Also, in league with Zach Bagley (CTRI), we hosted a meeting with research leads from around the globe to discuss potential future R&D collaborations.
Chris Taylor later took to the stage and engaged in a panel discussion on Climate Change and Melbourne University PhD student Hanyue Feng showcased her Fusarium disease research, attracting attention from fellow international researchers.

ISHS Venue



Hanyue Feng—University of Melbourne

Cultural Experience:
Tuesday evening saw delegates boarding the Riverboat "Europa." Against the backdrop of Budapest's Danube River, traditional Hungarian dancers and artists entertained while networking ensued.

Looking Ahead:
Jason concluded the formalities by announcing Manuel Vazquez of CONESA, Spain, as the new WPTC President. The next Congress and Symposium are scheduled for June 2026 in Monterey, California, USA.

Post-Congress Exploration:
Delegates embarked on a tour to Kecskemét, visiting a model farm and tomato factory.
The factory, comparable in capacity to Kagome Australia, showcased robotic packing lines of value-added produce. The model tomato farm exhibited cultivars from all major seed suppliers, similar to our APTRC screening trial sites, where several promising cultivars caught our attention for future trials in Australia.

Louis Chirnside socialising on the welcome evening

Kelly Fritsch with Tim & Annmarie Dyer

Members on the Accompanying Persons Program. Ann Sawers, Shirley Scriven, Lesley Hart, Annmarie Dyer and Barry

Brad Free navigating the streets of Budapest

Global Research Lead Meeting, orchestrated by Zach Bagley (CTRI) and Matt Stewart

Traditional Hungarian dancers aboard the riverboat

Onboard the Gala Dinner on the 'Europa' Riverboat

Matt Stewart with congress/symposium organiser, Sophie Colvine (WPTC) overlooking Parliament

Chris Taylor networking with congress delegates

Jason Fritsch moderating sessions during congress

Matt Stewart presenting at Congress on R&D

Chris Taylor taking part in Climate Panel Discussion

Jordan Jamieson (SPC) and Alistair Blake (AMITOM)

David & Louis Chirnside at the Univer Trial Site

Charles & Lesley Hart on the Post Congress Tour

Hungarian Horseman at Post Congress Dinner Event

Australian Processing Tomato Forum 2024: Key Insights

The Australian Processing Tomato Forum, held on May 10th, 2024, at the Rich River Golf Club, brought together industry experts, researchers, and stakeholders. The event garnered positive feedback from participants. Here's an overview of the presentations and discussions:

APTRC Chairman's Report by Charles Hart:

Charles highlighted the impact of extreme weather during a critical three-week period—from Christmas Eve to January 8th. While the entire industry suffered damage, some individual enterprises were hit harder than others. With favourable harvest conditions however, the industry still managed to process 213,000 tonnes.

APTRC IDM Report by Matt Stewart:

Matt provided updates on ongoing research, including investigations into effects of Hot Water Treatment on seeds and Melbourne University's soil disease studies. Global topics, such as a potential Portugal study tour and Matt's recent nomination and acceptance as the president of the Research Commission on the World Processing Tomato Council were noteworthy.

APTRC Cultivar Development Program by Ann Morrison and Bill Ashcroft:

This season saw more successful trial results, with minimal losses due to extreme weather events. Ann's yield/brix scatter plots were revealing and promising as they highlighted cultivars that consistently outperformed baseline varieties like Heinz 3402 and Heinz 1015.

California Study Tour Insights:

Participants from the USA study tour shared their experiences from the August 2023 trip. Presentations focussed on how the tour provided valuable industry relationships and insights into alternative practices.





GMW Water Update by Mark Bailey:

Mark was back again to deliver news of high reliability water share being almost certain and gave a snapshot of what the various weather models were predicting for pre-season rainfall in the catchments.

Our Climate Now and Beyond by Dr. Linden Ashcroft:

Dr. Ashcroft explained the erratic weather patterns of late and discussed cutting-edge predictive climate tools. Climate change implications for our region were also considered.

University of Melbourne PhD Update by Hanyue Feng:

Hanyue outlined how F. sp. *lycopersici* (Fol) isolates primarily belong to Fol race 3, which is crucial knowledge for varietal selection. Additionally, Hanyue's study of common rotation crops can also enhance our understanding of better rotation practices, especially in breaking F. *oxysporum* disease cycles.

Bayer/Seminis Seed Presentation by Darren Wood:

Darren delved into the seed supply chain, emphasising the arduous two-year seed supply timeline and how breeding innovations aim to match yield performance with disease resistance to meet global grower requirements.

SPC Update by Neil Brimacombe:

Neil highlighted how Aussie tomatoes face pressure from imported counterparts and how SPC are focussing on branding and product innovation to secure future success.

Think Agri: Crops, People, Money, and You by Dr. Kate Burke: Dr. Burke explored turning uncertainty into opportunities and using tools to validate intuition.

VFF Horticulture Update by Nathan Free: Nathan provided insights into planning, lobbying, and advocacy activities of the VFF.

Accessing Presentations: All presentations will be available on the website later this year under "Information for Industry" and the "Industry Forums" tab. Stay informed and engaged as we continue to shape the future of processing tomatoes in Australia!

Tony Henry receives John Clifford Award

Using extracts from Charles Hart's Speech

The Australian Processing Tomato Forum recently celebrated an industry icon—Tony Henry. Tony & Rowena's contributions to the tomato industry have been exceptional, and the John Clifford Award bestowed upon him is our recognition to his dedication and impact.

For over 28 years, Tony has been an integral part of the APTRC committee. As vice president during Charles's tenure as APTRC Chair, Tony consistently demonstrated unwavering commitment. Despite the geographical challenge—committee meetings held in Echuca while Tony farms in Boort—he never missed a session. His analytical mind and inquisitive nature have enriched both the committee and his own farming enterprise.

Tony and Ro's Farm stand out for their consistently exceptional tomato yields. Their pursuit of excellence extends beyond the field. Tony's engagement with Melbourne University on soil-borne diseases and the quest to understand why repeated tomato cropping in the same paddock leads to reduced production remains a critical endeavour. This pursuit—the holy grail of tomato cultivation—has driven innovative research, assisted by Tony.

Tony's influence extends beyond traditional boundaries. Oxygenating soil through drip irrigation and gasifying tomato residue are just two examples of his forward-thinking approach. His impact isn't limited to research; it's personal. Tony's personable character and unwavering support have made him a trusted sounding board for all of us.

As Tony steps back from active roles, he leaves a void that won't easily be filled. His legacy will continue to inspire future generations. We thank him for his service, dedication, and contributions. To Tony and Rowe, we wish you all the best in your ongoing farming endeavours.

APTRC 2023-2024 Cultivar Trials

Ann Morrison, APTRC Field Trial Manager

The 23-24 growing season started well, with four early season and nine mid-season machine harvest trials successfully planted as well as six screening trials. Unfortunately, widespread rain at the end of the year resulted in crop losses in some areas with corresponding reductions trial yields or complete trial losses.

Early Season Machine Harvest Trials

This season there was a greater emphasis on early season varieties with six new cultivars included in the machine harvest trials and two in screening trials. In addition, six cultivars (including commercial standards) underwent ongoing assessment.

All four early season transplant trials were successfully harvested, although the impact of wet conditions during the growing season could be seen in the yields, with trial averages ranging from 65 to 82 t/ha.

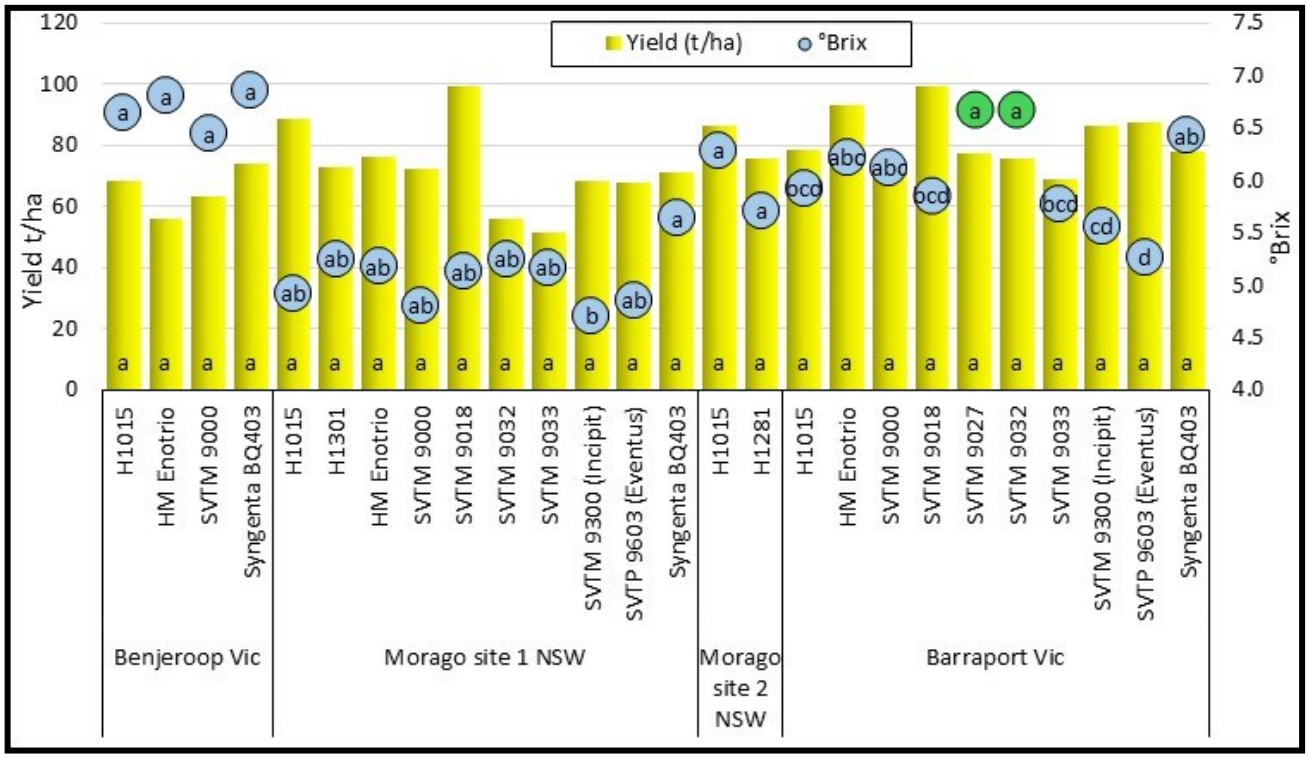


Figure 1. Early season yield and brix

Comments:

There were no significant differences in yields between cultivars in any of the trials. However, SVTM 9018 was the highest yielding cultivar at two trial sites with yields over 99 t/ha, whilst BQ403 was highest yielding at Benjeroop with 73.7 t/ha and H1015 at Morago with 86.4 t/ha (Figure 1).

The only significant differences in raw fruit brix from that of H1015 (the commercial standard) occurred in the trial at Barraport, where both SVTM 9027 and 9032 had significantly higher brix.

Figure 2 shows yield and brix as a percentage of H1015 values (black diamond in centre of cross hairs). Three cultivars, HM Enotrio, SVTM 9018 and BQ 403 all had higher yields and brix than H1015 in a least one trial, although these differences are not significant.

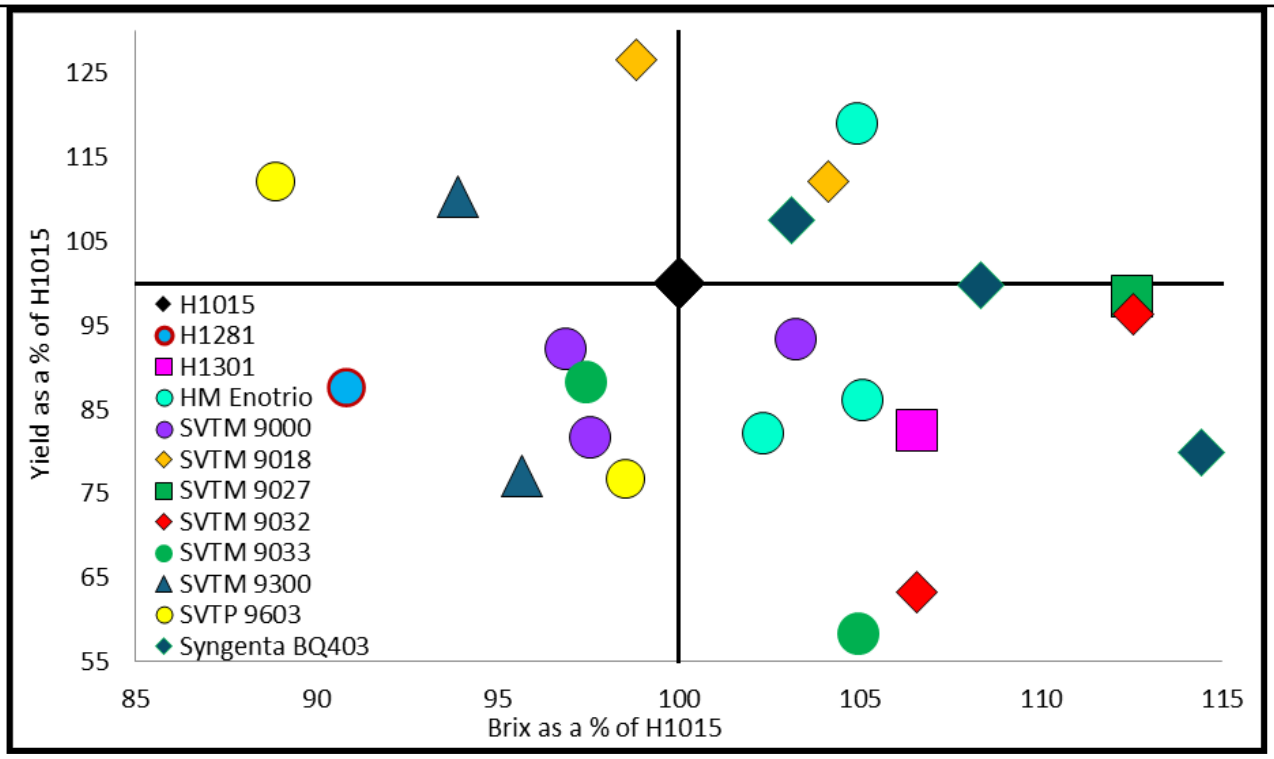


Figure 2. Early season cultivars as a percentage of H1015

Mid-Season Machine Harvest Trials

Nine machine harvest mid-season trials were established, six transplant and three direct seeded. One of the nine trials was a full row replicated trial using H1311 as the control rather than H3402 (these results are shown in figure 5).

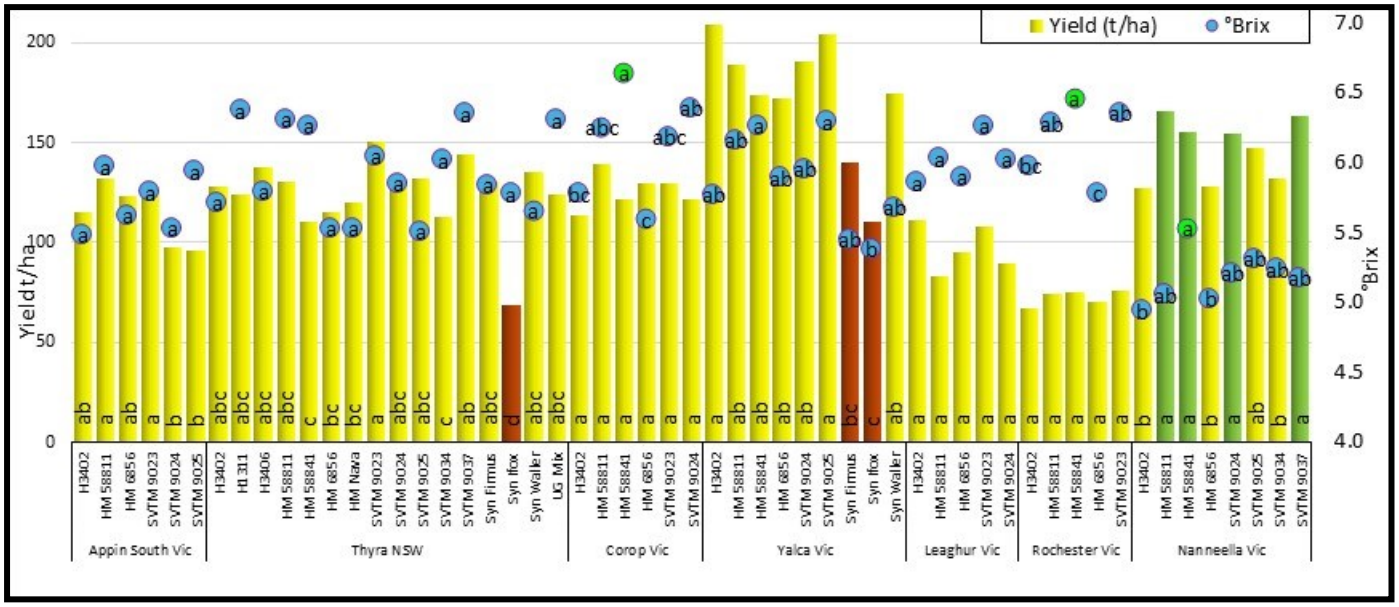


Figure 3. Mid-season yield and brix

There were four new cultivars to the assessment program this season (Syngenta Firmus, Ifox & Waller and Seminis 9037), and twelve varieties undergoing further assessment.

Average trial yields ranged from 72 to 174 t/ha, once again reflecting the adverse effects of the major rain event on yields in some locations.

Comments:

There were significant differences in yields compared to H3402 in the trial at Nanneella where HM 58811, 58841, SVTM 9027 and 9037 all had significantly higher yields (green bars in Figure 3).

Syngenta Ifox had significantly lower yields in the two trials it was in and Firmus had a lower yield in one trial (red bars in Figure 3). These varieties appeared to mature earlier and had significant fruit breakdown and vine collapse by the time harvest occurred. We plan to try these varieties in early season trials next season.

In the highest yielding trial at Yalca, H3402 produced an impressive 208 t/ha, closely followed by SVTM 9025 with 204 t/ha.

HM 58841 also had significantly higher brix than H3402 in 3 of the trials (green circles in Figure 3).

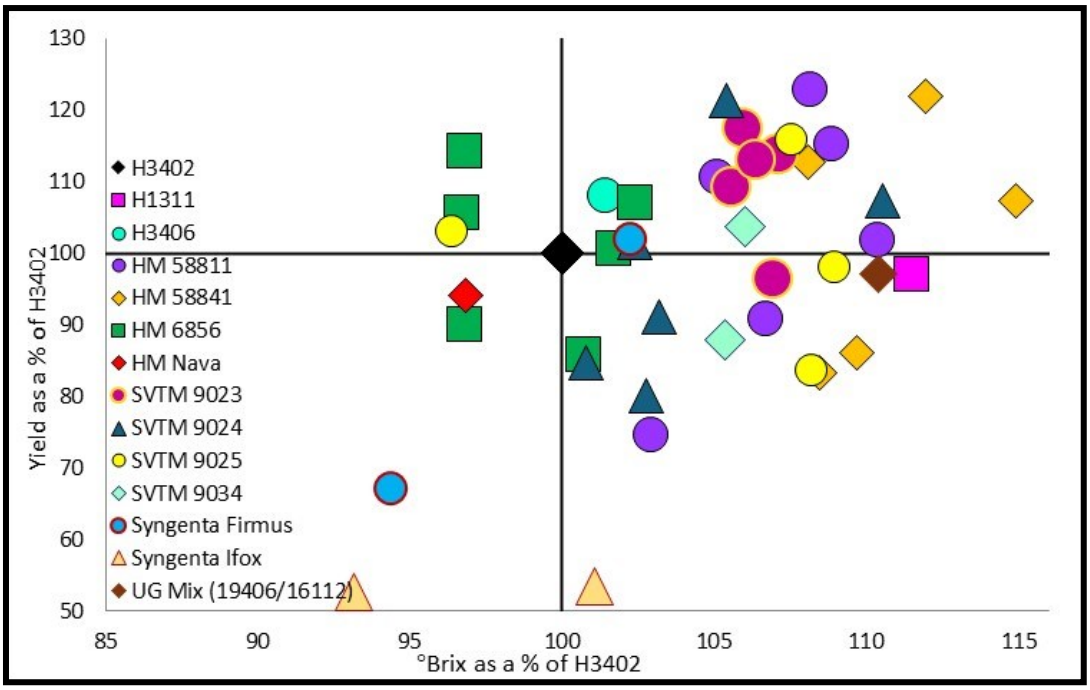


Figure 4. Mid-season cultivars as a percentage of H3402

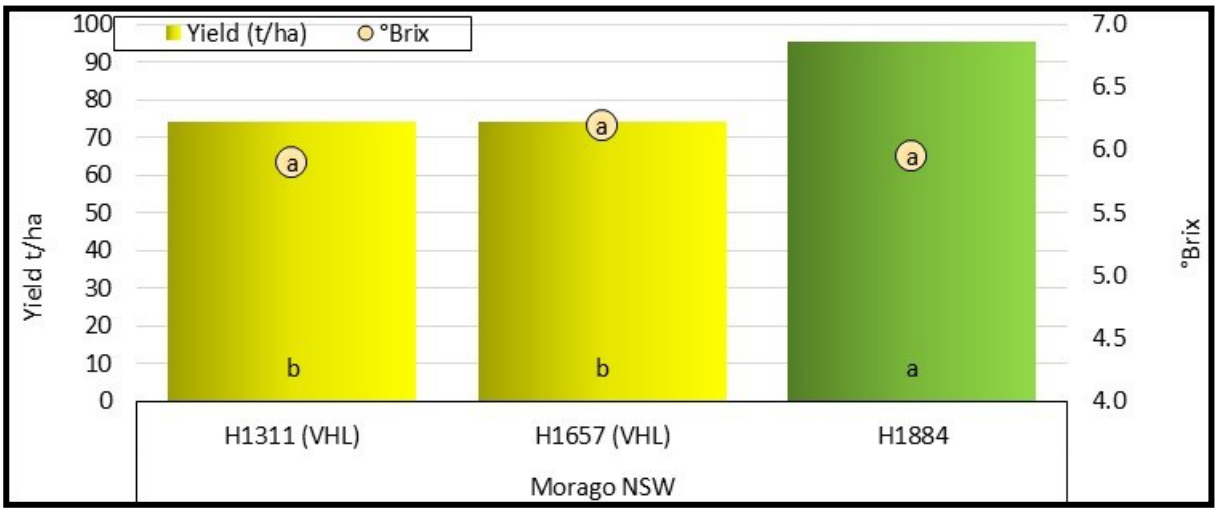


Figure 5. Mid-season H1311 comparison

Figure 4 shows yield and brix as a percentage of H3402. There are nine cultivars with both higher yields and brix than H3402 in at least one trial (the upper right quadrant on the graph), although these differences are not necessarily significant.Figure 5 shows the results of a multi-row replicated trial comparing H1311, a high lycopene variety, with another high lycopene variety H1657, as well as a standard lycopene variety H1884.

High lycopene varieties tend to suffer a yield penalty compared to standard cultivars, and this can be seen in this trial where H1884 had a significantly higher yield (by more than 20 t/ha) than the other two cultivars. There were no differences in brix.

Tomato Cultivar Observations

Table 1 (next page) is a summary of the visual assessment of cultivars trialled during the 23-24 season by Bill Ashcroft, Cultivars were given a score out of 10 based on a range of vine and fruit characteristics. Varieties receiving a score of six or more will be considered for further testing.

Table 1. Tomato Cultivar Observations

Cv	Comments - Early Cultivars (single site observations)	Score
Heinz 1301 (Std)	Medium/vigorous, on the bed. Firm blocky plum-egg fruit of small-medium size. Bit of bleach and core but colour ok. Holding and yield looks good.	7 (smalls)
Hz 1015 (Std)	Sprawling vine but on the bed. Medium size generally but a few smalls. Good yield. Firm fruit, colour ok. Bit of bleach and breakdown.	6.5
Syn BQ 403	Vigorous dark vine spreading but lacking yield. Firm blocky egg- plums with thick walls. Size a bit variable but most ok. Some very good colour. Concentration ok but a few greens. Holding.	6
HM Enotrio	Medium vine on the bed. Good yield for vine. Medium blocky plums, medium size, firm. Good conc. Colour ok although a bit for core and puffiness. Holding.	6.5
SVTM 9000	Medium/vigorous vine with dark foliage, looks later. Very firm blocky plum-eggs of good size. A bit puffy with exposed fruit showing sunburn, but otherwise holding. Good conc. Colour just ok and yield ok also.	7
SVTM 9018	Darker m/v vine looks a bit floppy. Very firm blocky eggs of good size. Good colour, conc. and yield ok. Some bleached/ sunburnt fruit suggesting breakdown. Earlier?	6
SVTM 9027	Medium/vigorous vine sprawling vine with light foliage, bit floppy. Fruit plum, firm, medium sized. Colour only ok. Yield?	6.5
SVTM 9032	Medium/vig. vine on the bed – most leaves gone. Bleach and cooked fruit evident. Fruit plum-round, firm with some dimpled, mainly medium sized. Poor colour, yield ok, good conc. Early.	6 (col?)
SVTM 9033	Medium/vigorous spreading vine opening up a bit. Very firm medium sized egg-plums. Some good colour although a bit puffy. Quite a bit of breakdown and scorched fruit. Lacking yield for vine.	5.5
SVTM 9300 (Incipit)	Medium/low vine looks early, with good conc and leaves all gone. Firm, medium-sized blocky plums. Colour ok and yield ok for vine size. Bleach and cooked fruit suggest past harvest.	6.5
SVTP 9603 (Eventus)	Medium/vigorous sprawling vine a bit floppy. Firm, elongated fruit of good size. Medium colour and yield ok. Some bleach and breakdown again so over-ripe? Worth another look.	6
Observation lines		
LV TOP 9687	Med/vigorous vine spreading on the bed. Medium blocky plum-egg fruit – a few dimples. Medium firm and colour ok. Conc good and generally holding. Yield ok for vine but looks a bit down. Worth another look.	6
LV TOP 96879	Taller more vigorous vine with dark foliage and secondary growth on top. Firm blocky egg-plums, good size. Colour ok. Some breakdown in exposed fruit and yield again lacking.	5.5

Cv	Comments - Mid-Season (Combined site observations)	Score
H1015 (1 site)	Medium-vigorous vine on the bed with good yield although quite a few smalls. Firm blocky plum fruit with good concentration and colour.	7.5
H1281 (1)	Medium-vigorous vine on the bed in a patchy stand. Medium sized blocky elongated fruit to pear shaped. Firm with good colour although a bit of core. Yield ok.	7
H1311 (2)	Vigorous vine, dark foliage, may open up a bit. Egg shaped, variable size. Some good yield and colour but concentration variable. Very firm.	6
H1657 (1)	Medium-tall vine, a bit floppy with dark foliage. Medium sized plum- egg fruit with some dimples. Very firm with excellent colour. Good concentration and holding but yield medium. Grow for colour?	6.5
H1884 (1)	Medium-vigorous vine on the bed with good yield and fruit size. Foliage med-light. Very firm egg-plum fruit with good colour. Good concentration but a hint of bleach.	7
H3402 (Std, (3)	Medium-vigorous spreading vine on the bed. Good yield, colour ok, not much bleach, a few smalls and greens but most of good size.	8
H3406 (1)	Sprawling vine into gutters a bit but on the bed. Light foliage. Yield and colour ok-good, some small fruit.	7
Syn Firmus (2)	Medium/vigorous, tall and opening a bit. Dark foliage. Firm fruit. Good size, yield ok for vine. Some good colour.	6
Syn Ifox (2)	Compact vine, rolled leaves, on bed. Looks early, losing cover but holding so far. Good yield for vine, colour ok, medium firm.	7 (early)
Syn Waller (2)	Vigorous upright vine on the bed, dark foliage. Very firm, good colour but may have variable size and yield / concentration issues.	7/5.5
HM Nava (1)	Medium vine on bed, dark foliage. Good cover. Fruit firm, good size, colour ok. Yield ok.	7
HM 58811 (3)	Vigorous vine may open up a bit. Good size, medium colour, very firm. Bit puffy. Yield and concentration may be issues.	6
HM 58841 (3)	Vigorous spreading vine - looks later. May be floppy. Med-large fruit, very firm, colour and yield ok, bit of bleach. Old ground.	7
HM 6856 (3)	Medium-compact vine, early. Blocky plum-round fruit. Firm, med colour, medium sized. Yield good for vine. Bit of bleach. Breakdown?	7 (early)
SVTM 9023 (1)	Medium-vigorous vine, opening a bit but on the bed. Very firm fruit of good size, colour ok. Yield and concentration not bad either.	7
SVTM 9024 (3)	Medium/vigorous vine on the bed with light foliage. May open up a bit. Good fruit size, very firm, medium colour and yield ok.	6
SVTM 9025	Vigorous spreading vine opening up a bit. Fruit very firm, colour ok – good. Yield ok-good for vine size. Poor at one site a/c vine & concentration.	6.5

SVTM 9034	Erect vine, dark foliage, a bit floppy. Bad for mites. Fruit very firm, colour ok, good size. Yield medium, vine the main issue.	5.5
SVTM 9037	Vigorous-medium spreading vine on the bed. Very firm fruit of good size. Medium colour but yield not bad.	6.5
UG mix	Medium-vigorous on the bed. Yield ok-good. Fruit firm, good size, colour ok. (Mix is 16112/19466)	7

Observation lines (single site)		
SVTM 9334	Low, compact vine with good yield for vine. Small-medium sized round-plum fruit. Medium firmness and colour ok. All ripe, with a bit of bleach and breakdown.	6.5 (early)
LV TOP	Medium-vigorous vine providing cover still. Fruit firm with good size and colour (for site). Good concentration. also. Yield ok? Re-test.	7
LV TOP 96878	Medium-vigorous vine on the bed. Size variable, most ok. Medium colour but yield looks ok. Some breakdown evident. Try early?	5 (b/d)

Seed Sources: H – Heinz, HM – HM Clause, LV – Lefroy Valley, SVTM – Seminis, Syn – Syngenta, UG – United Genetics

KEY: *lines for further trials – Early, Intermediate, Full Season*

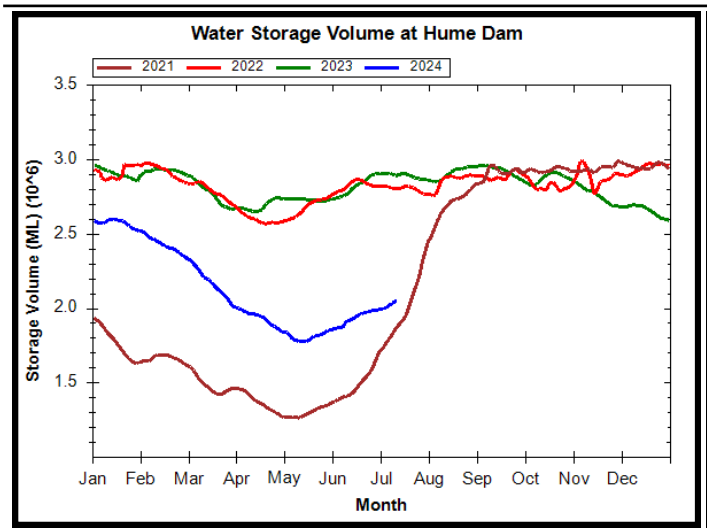
Climate Update

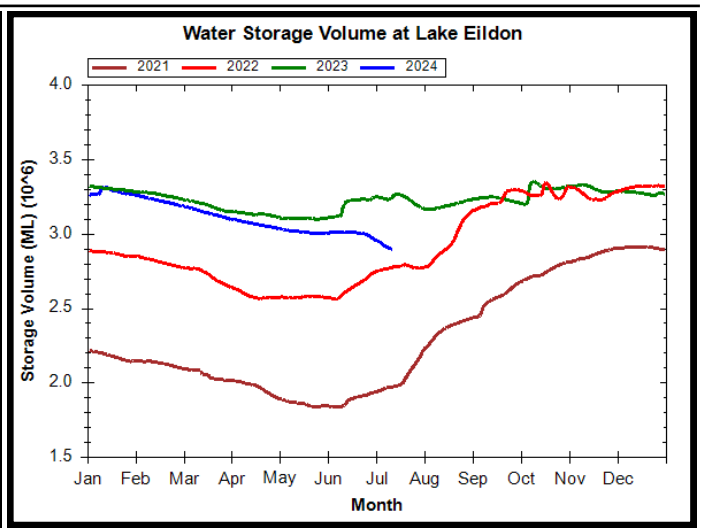
As we shiver through the first few weeks of winter, you will be pleased to know that current predictions are for above-average temperatures – both maximum and minimum - for the period from July to September. Rainfall for eastern Australia is likely to be in the "typical range" over this period.

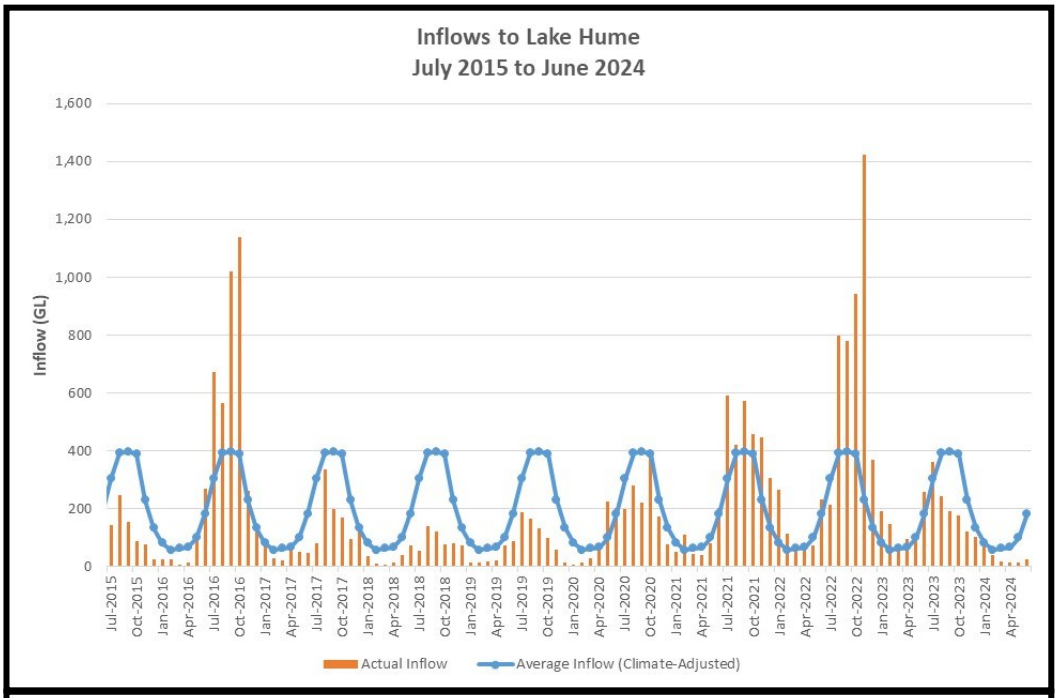
Climate models remain largely neutral, although with cooling sea surface temperatures across the central tropical Pacific, several are leaning towards the formation of another La Niña weather event. The Weather Bureau has declared a "La Niña Watch" but it is too early to say at this stage.

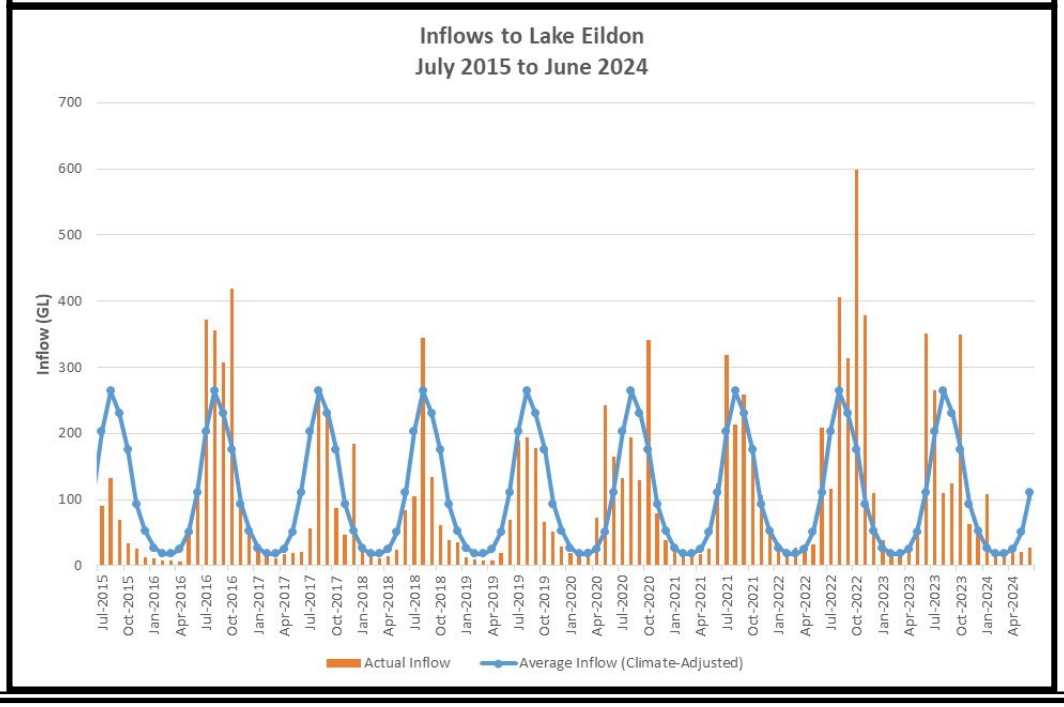
It should be noted that a La Niña Watch does not guarantee La Niña development, only that there is about an equal chance of either neutral ENSO conditions or a La Niña developing in the outlook period. Early signs of La Niña have limited relevance to Australia, and better reflect conditions in the tropical Pacific.

However, as our recent experience shows, La Niña events can produce higher rainfall across south-eastern Australia during our growing season.


Water Storage Volume at Hume Dam
2021
2022
2023
2024
Storage Volume (ML) (10^6)
3.5
3.0
2.5
2.0
1.5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Month


Water Storage Volume at Lake Eildon
2021
2022
2023
2024
Storage Volume (ML) (10^6)
4.0
3.5
3.0
2.5
2.0
1.5
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Month


Inflows to Lake Hume
July 2015 to June 2024
Inflow (GL)
1,600
1,400
1,200
1,000
800
600
400
200
0
Jul-2015 Oct-2015 Jan-2016 Apr-2016 Jul-2016 Oct-2016 Jan-2017 Apr-2017 Jul-2017 Oct-2017 Jan-2018 Apr-2018 Jul-2018 Oct-2018 Jan-2019 Apr-2019 Jul-2019 Oct-2019 Jan-2020 Apr-2020 Jul-2020 Oct-2020 Jan-2021 Apr-2021 Jul-2021 Oct-2021 Jan-2022 Apr-2022 Jul-2022 Oct-2022 Jan-2023 Apr-2023 Jul-2023 Oct-2023 Jan-2024 Apr-2024
Actual Inflow
Average Inflow (Climate-Adjusted)


Inflows to Lake Eildon
July 2015 to June 2024
Inflow (GL)
700
600
500
400
300
200
100
0
Jul-2015 Oct-2015 Jan-2016 Apr-2016 Jul-2016 Oct-2016 Jan-2017 Apr-2017 Jul-2017 Oct-2017 Jan-2018 Apr-2018 Jul-2018 Oct-2018 Jan-2019 Apr-2019 Jul-2019 Oct-2019 Jan-2020 Apr-2020 Jul-2020 Oct-2020 Jan-2021 Apr-2021 Jul-2021 Oct-2021 Jan-2022 Apr-2022 Jul-2022 Oct-2022 Jan-2023 Apr-2023 Jul-2023 Oct-2023 Jan-2024 Apr-2024
Actual Inflow
Average Inflow (Climate-Adjusted)

Source: Tomato News articles originally prepared by François-Xavier Branthôme

AI: big data comes to dinner

Artificial intelligence is already changing how people work, communicate online, create art and manage businesses. Now the technology is being used in every aspect of our food systems: from seed to plate, artificial intelligence is transforming how we grow and eat.

AI holds the promise of making agriculture more efficient and sustainable, yielding healthier food with less impact on the planet, according to Ilias Tagkopoulos, director of the Artificial Intelligence Institute for Next Generation Food Systems, or **AIFS**, at UC Davis.

Take the humble tomato, for example. In California, where some **13 million tons** of the fruit were harvested last year, researchers from UC Davis and other institutions are using AI to reduce loss of tomatoes as they are trucked from field to cannery. AI can help us develop new tomato varieties adaptable to a changing climate and screen fruit for quality in the processing plant.

AI algorithms can make predictions and recommendations based on very large amounts of data. Pacific Coast Producers cannery in Woodland, California, uses data every step of the way including sorting the fruit — and AI can lead to even more efficiency, said Dan Vincent, who retired last year after 19 years as cannery CEO. "*We're already using 'I,' in AI. The 'I' are people, and they do a very good job, but they're overwhelmed with data. So can AI help those people do their jobs better?*" Vincent said.

AI is essentially a set of tools that creates decisions from data, said Tagkopoulos, who is also a professor in the UC Davis Department of Computer Science and Genome Center. Those tools can support human decision-making as our systems become more complex. "*The more complex the system becomes, the more the analysis of data and finding the best point of operation becomes difficult. And the food system is really, really complex*," he said.

In its first three years, the institute has funded research projects on AI technology across the food system, from cheaper sensors for agricultural production to digital simulators to manage indoor farming and technology to predict the nutritional content of food. As large-scale data collection and AI become routine at different steps in the food supply chain, those steps can themselves be integrated by AI. "*Where the opportunity lies is in integration — connecting the dots throughout the supply chain*," Tagkopoulos said. For example, information gathered by AI about crops growing in a field can be integrated with the AI for plant breeding. That integration up and down the supply chain is a key goal for the AIFS as it enters its fourth year, Tagkopoulos said.

Note: this is an extract—the original article provides many more examples of the use of AI in the tomato production chain.

Californian Farmers look to automate transplanting

With farm labour costs increasing and worker availability shrinking, growers continue to look to automation and robotics to do jobs traditionally done by people.

In vegetable farming, equipment commonly used to plant delicate seedlings still requires a crew. Manufacturers of fully automated transplanters want to change that, and early adopters say the machines are ready to go, though

they may be cost prohibitive for some farms.

Yolo County farmer Ray Yeung was the first in California to acquire the Agriplanter by the Belgium company Agriplant after seeing a Facebook post about it three years ago. The machine has been around for 20 years but it did not debut on American soil until 2019. There are now 31 Agriplanters in the U.S., with 13 in California.

Other automated transplanting systems being used on Californian farms include Ferrari Growtech's Futura from Italy (no relation to the sports car) and PlantTape, owned by Salinas-based vegetable producer Tanimura & Antle.

Yeung, who specializes in tomatoes and also operates a custom transplanting business, said his move to automate planting was driven by need. He said hiring enough employees willing to work on a planter has become increasingly difficult, especially during the early days of the pandemic due to social-distancing requirements.

As with other fully automated transplanters on the market, the Ferrari Futura requires only one operator to feed the machine with trays. The planter can adapt to most trays available on the market, according to the company. Photo/Courtesy of Brad Strock

Fully automated transplanters on the market tend to run several hundred thousand dollars (US), which may not be feasible for small and medium-sized farms.

Some farmers remain unconvinced the new machines perform as well as more traditional planters, with concerns that savings in labour will not offset yield losses, said Patricia Lazicki, a University of California vegetable crops advisor. She started a study last year comparing the Agriplanter, a finger planter and carousel planter. With funding from the California Tomato Research Institute, she plans this year to compare the finger planter, the Ferrari F-Max carousel planter, the Agriplanter, the Ferrari Futura and the PlantTape, so called because the transplants are sown between two strips of biodegradable tape.

Questions remain about the various automated planters' effects on yield, Lazicki said. What's the survival rate of the plants? Are there more skips in planting going more than 3 miles an hour? In manual systems, skips are filled in by people walking behind the planter. During last year's trial, Lazicki said long skips tended to be due to misalignment or cracks in the tray. "*The most important piece of infrastructure to the planter's success is good-quality trays*," Puehler, the Agriplanter dealer, said.

Yeung and Tony Turkovich, a Yolo County farmer who started using the Agriplanter for processing tomatoes last year, agree that problems related to skips have more to do with the condition of the transplants. Plant uniformity and size—ideally 6 to 8 inches tall—remain key. If the plants are too small, they can get buried. If they're too big, the leaves start to tangle with each other, which can cause the machine to grab multiple plants. Overgrown plants can also plug up other components of the machine.

Sources: agalert.com, California Farm Bureau Federation, hortidaily.com

California: the end of free groundwater?

A Californian farming area in the Central Valley has been placed on probation over declining groundwater and sinking land as large farms have depleted the groundwater. Now, they'll have to pay. Regulators have now imposed unprecedented fees on water usage in the state's agricultural heartland.

For the first time, Californian water regulators are cracking down on one of the state's major farming regions for failing to take steps to curb growers' excessive groundwater pumping, which has sent water levels into rapid decline and is causing the land to sink. The State Water Resources Control Board voted unanimously on April 16, 2024 to place the Tulare Lake sub-basin on "*probationary*" status for failing to adopt sufficient measures to address chronic over pumping.

Falling groundwater levels have caused the ground to sink as much as 6 feet (2 m) in parts of the area over the last decade, and state officials have determined that a local plan for managing groundwater would allow the free fall to continue. They say that without stronger measures, hundreds of household wells are at risk of running dry.

Ground Water Recharge Pump Terranova Ranch USA

Study Tour Group inspecting Tulare Lakes in flood in California 2023

UPCOMING EVENTS

Irrigation Farmers Network—Irrigation Insights: 24 Wednesday 24 and Thursday 25 July Rich River Golf Club, Moama

For more information, please visit https://irrigationfn.com.au/2024-irrigation-insights-conference/
Book Tickets Now https://events.humanitix.com/irrigation-insights-2024

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