



TOMATO TOPICS



Know-how for Horticulture™

NEWS and INFORMATION
FOR THE PROCESSING TOMATO INDUSTRY

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2007/08 Processing Tomato Season

Each season appears bring a new set of challenges. Following a dry July and August the irrigation allocations on the Goulburn on the 15th August 2007 were at 15%, while the Murray allocation for the first time opened at 5%. This resulted in temporary water being traded at around \$850/ML at the end of August on both the Goulburn and Murray irrigation systems.

As a result of both the low irrigation allocations and high price for temporary water both growers and processors began to consider what their options were for this current processing tomato season.

Once again a number of growers decided that they would reduce their area planted to processing tomatoes while others made the decision not plant any and leave their ground fallow for this season. As a result it is expected that this season will see the lowest number of tonnes processed for over 16 years.

In December Lake Eildon was at 23.83% full compared to 12.5% full at the same time last year. Water allocations are now higher than last year and the price of temporary water has dropped to around \$500/ML.

Due to the low water allocations and a reduction in total tonnes processed the Research and Development levy collected by the industry was predicted to be significantly reduced. As a result

of this a subcommittee of the APTRC has met to determine what cuts can be made to both this season's and next season's research and development program. As a result of this the budget for the Technology Transfer project has been reduced for the current season and the Soil Health project conducted by the University of Melbourne has been terminated.

Projects funded by the industry for this current season have now been reduced with the APTRC now only funding 3 projects in conjunction with Horticulture Australia Ltd. These projects are:

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TM06004 - Nutrition and soil management for high yielding high soluble solids processing tomatoes (Doris Blaesing, Serve-Ag Pty Ltd)

TM07001 – Cultivar Evaluation (Mike Titley, AHR)

TM05007 - Technology Transfer

The APTRC subcommittee has also suggested a number of additional cuts to the research and development program for the 2008/09 season to enable to budget to be reduced inline with the reduction in total tons for the current season.



2007/08 Soil and Nutrition Trials

Calcium Fertigation Trial

SS Farms has this year established a block with 2 separate sub-mains to enable the comparison of 2 different fertigation programs in a replicated fashion.

This trial is being conducted with assistance from Doris Blaesing as part of the project TM05003. The fertiliser applied pre-plant and at planting was standard fertiliser. During the season 2 different rates of calcium will be trialled to determine the impact on yield and soluble solids.

Phosphorus Trial

A replicated trial has been established by SS Farms to determine the appropriate maintenance rate of P which is required to maximise yield and solids.

Pre plant 3 different rates of P were applied to the soil:

Treatment 1 – Control

Treatment 2 – 20kg P

Treatment 3 – 50kg P

Treatment 4 – 100kg P

This trial has been incorporated into the project TM05003 managed by Doris Blaesing, with SS Farms contributing additional funds to the project.

In both of these trials soil tests were conducted prior to the trials being established. During the season plant tissue and /or sap testing is also being

conducted. Doris will be assisting in the interpretation of the data obtained from both trials.

Preliminary results are presented on Page 3 of this newsletter. Full results will be provided to the industry at the completion of the season.

Soil Compaction

During this season Doris Blaesing as part of the project TM05003 is investing the impact of soil compaction on yield and solids in processing tomatoes. To do this an instrument called a Penetrometer is used.

Soil strength is an important characteristic affecting many aspects of agricultural soils, such as the performance of cultivation implements, root growth, least-limiting water range and the trafficability. The strength of soil results from cohesive forces between soil particles and their frictional resistance to sliding past or over one another. Characterisation of soil strength is usually made by measuring the response of a soil to a range of applied forces. Penetrometers are widely used to measure the soil resistance to penetration, for estimating resistance to root growth in soil, and may also be used for detecting layers of different soil strength.

A selection of tomato paddocks with different cropping histories over the past 3 years have already been assessed using the penetrometer. In early January further paddocks will be assessed. At the time of using the penetrometer a soil sample is also being taken for further analysis, including an assessment of soil moisture content.

Results from this work will be provided to the industry at the end of the season.

Soil Health Project (TM05001)

As a result of the current drought and the reduction in both the tonnes of processing tomatoes grown and subsequent research and development levy the decision was made by the APTRC to terminate this project. This was done in agreement with the University of Melbourne, the research provider. Ken Young the project leader has now left the University of Melbourne to take up a position in Canberra with the APVMA.

Preliminary Results from the Phosphorus Trial

This trial indicates that the young growing plant does not have the ability to take up phosphorus from band placed fertiliser. This is due to the phosphorus being relatively immobile in the soil and having very limited contact with the growing plant roots. This is evident as the higher pre-plant applications do not result in a higher level of phosphorus in the sap. Possible suggestions to increase the phosphorus level early in the life of the plant would be via the use of a “popup” fertiliser at transplanting or via fertigation.

Low potassium levels are typical of high sodium

levels in the soil or irrigation water. To combat this it would be best to apply calcium to displace the sodium ions from the soil. Potassium could also be applied to the crop via fertigation. Potassium is important as it helps size the fruit and assists to improve the plants overall water use efficiency.



Drought Information Delivery for Horticulture

The “Drought Information Delivery for Horticulture” project is funded by the Australian Government and is being delivered by Horticulture Australia Limited (HAL). Alison Turnbull is the HAL manager responsible for the project and RMCG has been appointed as National Coordinator with Charles Thompson as project manager.

During the coming months activities will be conducted across the Murray Darling Basin to assist both annual and perennial irrigators to effectively manage the impact of drought.

Phosphorus (ppm)

Growth stage	GS	upper level	lower level	Control	20 kg/ha	50 kg/h	100 kg/ha
1-Seedling	1.0	459	374				
2-vegetative	2.0	408	323				
3-Flowering	3.1	340	272	149	117	133	128
3-Flowering	3.2	340	272	219	189	202	220
3-Flowering	3.3	340	272				
3-Flowering	3.4	340	272				
3-Flowering	3.5	340	272				
4-Fruit Set & Growth	4.1	289	221	131	137	145	161
4-Fruit Set & Growth	4.2	289	221				

Potassium (ppm)

Growth stage	GS	upper level	lower level	Control	20 kg/ha	50 kg/h	100 kg/ha
1-Seedling	1.0	5400	4300				
2-vegetative	2.0	5400	4300				
3-Flowering	3.1	5400	4300	2447	2232	2210	2819
3-Flowering	3.2	5400	4300	2376	1989	2086	2267
3-Flowering	3.3	5400	4300				
3-Flowering	3.4	5400	4300				
3-Flowering	3.5	5400	4300				
4-Fruit Set & Growth	4.1	5350	4300	3372	3721	3325	3331
4-Fruit Set & Growth	4.2	5350	4300				



2007/08 Cultivar Evaluation Trials

NSW, Seed and Furrow

Early Machine and Observation trials

Jim Geltch, Darlington Point

Two trials sown approximately 2 weeks apart. First harvest will be around the end of January 2008.

First field day 29th January 2008, Contact Tony Napier 0427 201 839 for more information

Victoria, Transplant and Drip

Early Machine and Observation trials

John & Pat Kennedy, Corop

Harvest estimated to be mid February 2008

Mid Season Machine and Observation Trials

SS Farms, Rochester/Echuca Region

Two plantings for the observation and one planting for the machine harvest

Cumulative Heat Units

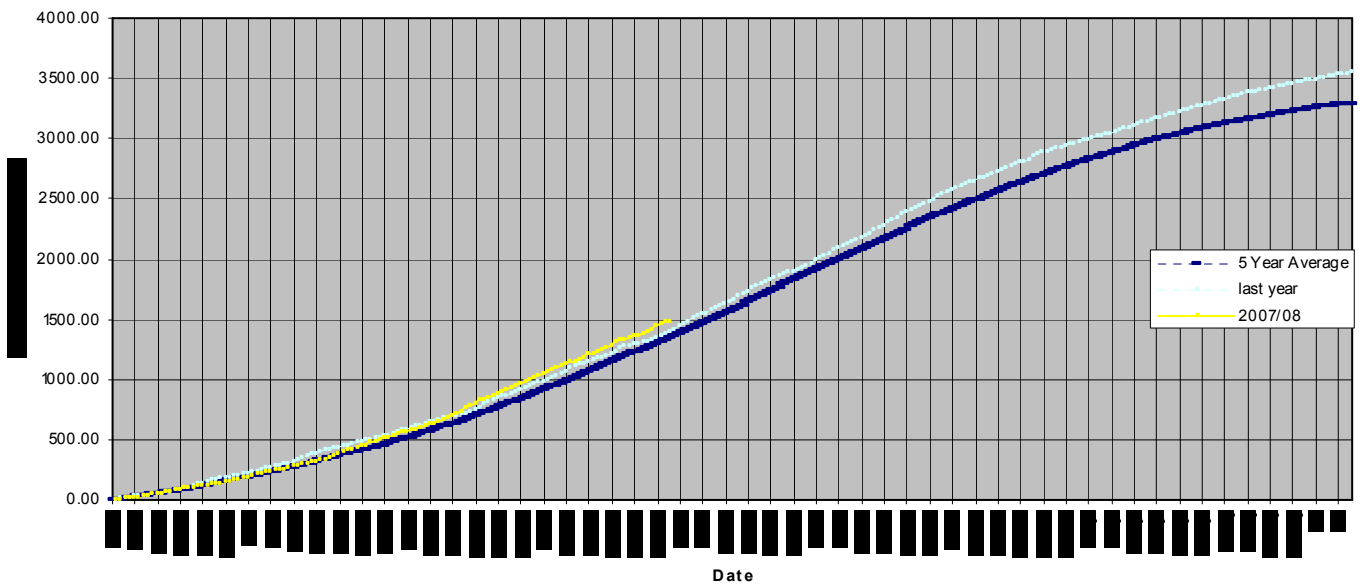
Daily heat units can be calculated by keeping a record of daily minimum and maximum temperatures, determining the mean and subtracting the base temperature, which in the case of tomatoes is 6°C. The daily heat units are then added up to obtain the cumulative heat units.

Heat units can be used to estimate crop development and predict harvest dates. The number of cumulative heat units required for tomatoes to reach certain stages of development has been determined.

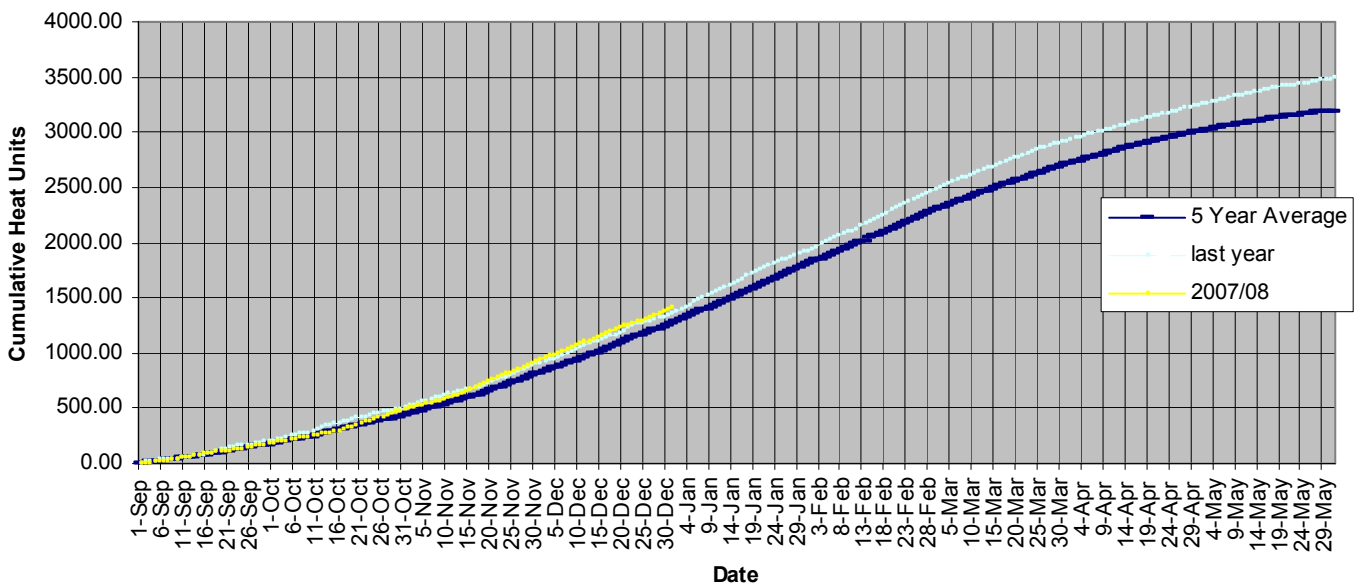
From seedling to 85% ripe approximately 2060 heat units are required.

From the graphs below it can be seen that the daily heat units from mid to late November 2008 were higher than in previous years. This has caused the cumulative heat units to be higher than in the previous year and also higher than the 5 year average. If high temperatures continue over the coming weeks the higher heat units may result in an earlier processing tomato harvest.

Cumulative Heat Units - Echuca



Cumulative Heat Units - Shepparton





UPCOMING EVENTS

Processing Tomato Industry Dinner

At 555 Cosgrove-Caniambo Rd (turn towards Cosgrove from the Shepparton-Benalla Rd/
Midland Hwy) in the garden on the edge of the Dookie Hills (Liz's home)

Catering provided by Truffles

Friday 1st February 2008,

7:00pm

BYO drinks

RSVP by the 28th January (lizmann@aptrc.asn.au or 0427 857 578)

Nuffield Australia Tour

“Head for the Hills”

in 2008 on the Autumn Tour of the Goulburn Valley and North East Victoria

28th February - 2nd March, 2008

RSVP Required by Friday 1st February 2008

Form available at www.nuffield.com.au

Mail: PO Box 1385 Griffith NSW 2680

Telephone: 02 6964 6600

Fax: 02 6964 1605

Email: enquiries@nuffield.com.au

Outlook 2008

4-5th March 2008

Canberra

www.abareconomics.com/outlook

For further information contact Angela Ellerman on allerman@abare.gov.au or

ph:02 6272 2303 or 02 6272 2000

8th World Congress and 11th ISHS Symposium on the Processing Tomato

8th - 13th June 2008, Toronto, Canada

www.worldtomatocongress.com

Financial assistance is available for current processing tomato industry levy payers to attend this congress. Please contact Liz Mann for further information.

Irrigation Australia 2008 Conference and Exhibition

Melbourne, 20th-22nd May 2008

www.irrigationaustralia.com.au

Current Funding Opportunities

National Program for Sustainable Irrigation

The National Program for Sustainable Irrigation (NPSI) is calling for proposals for research, development and extension projects which will generate long-term production, environmental and community benefits for the Australian irrigation sector.

The call has two stages: a short 1st round application (no more than 3 pages) to outline ideas for projects; and then following assessment of the EOIs by NPSI, a short list of projects will be invited to prepare a detailed 2nd round application. The call will be undertaken during December 2007 through to mid January 2008. Second round applications will be sought in January/February 2008 with the intent of new projects being contracted during March/April 2008. Funding is available for the financial years of 2007/08, 2008/09 and 2009/10.

Examples of the types of projects that may be considered under Theme 1 include those that

- irrigated plant water use, farming systems and/or farm management options that maximise water use efficiency on the farm;
- activities, methods and tools which work with irrigators to increase the adoption of currently available technology to improve water use efficiency;
- the development of tools and techniques to improve the resilience of Australian irrigation to drought and climate change and variability;
- options to maximise water use efficiency at a delivery system scale and the integration of delivery systems;
- the environmental benefits of shifting water out of production and the social and economic implications of this shift;
- water quality;
- Alternative water sources such as recycling and desalination
- Options to maximise water savings from delivery systems and storages including cost effective options for reducing evaporation;
- how the irrigation sector could include climate change in planning decisions; and/or

- the potential affects of policy changes on the irrigation sector to inform planning. These may include water entitlements, water trading, environmental water management and climate change policies.

For more information please visit: http://www.lwa.gov.au/Apply_for_Funding/NPSI_Call_for_Expressions_of_Interest/indexdl_8062.aspx

Or contact Liz Mann if you have a project idea.

National Landcare Programme Sustainable Practices

NLP Sustainable Practices (formerly known as Community Support) will fund activities that significantly increase the uptake of sustainable production and other NRM practices, enhance the knowledge and skills of natural resource managers and improve integration of NRM into management practices at the enterprise level. The activities funded must be consistent with priorities in regional NRM plans. NLP Sustainable Practices will fund large scale, strategic on-ground activities that allow for participation by landcare and industry groups with the capacity to undertake larger projects.

For funding in 2008-09, projects will need to be developed and submitted on the project application form to the relevant regional organisation in each state and territory by COB 25/2/2008.

Possible ideas for projects include:
Water use and nutrient management on farm projects

For more information please visit:
<http://www.daff.gov.au/natural-resources/landcare/national-landcare-programme/sustpracs>
Or contact Liz Mann if you have a project idea

NB: Individual or groups of growers may suggest a project which they would like to see conducted on their own farm. Please contact Liz to discuss possible ideas.

Air Injection Explored in Organic Crop Trials

Scientists with the Centre for Irrigation Technology (CIT) at California State University, Fresno are expanding their research in the use of air injection as a means of enhancing soil properties for crops.

The AirJection® Irrigation system uses high-efficiency venturi injectors to mix microscopic bubbles of air with the water inside the drip line. The air permeates the soil along with the water during irrigation and helps to aerate the soil.

Recent and ongoing research has shown that AirJection® Irrigation can increase root zone aeration and add value to grower investments in subsurface drip irrigation systems. So far the technology has been tested on conventionally grown bell peppers, fresh market tomatoes, cantaloupes, honeydews, broccoli and sweet corn.

In the summer of 2004, a study on a 20-acre cantaloupe plot revealed a 13-percent increase in the number harvested and an 18-percent increase in the weight of melons in plots treated with AirJection® Irrigation.

The work conducted to date has been aimed at evaluating AirJection® Irrigation using conventional farming methods. In a new phase of research, research will be focussed on the impact of nitrogen on the yield and quality of bell peppers grown organically using the AirJection® irrigation.

Initial measurements revealed that both AirJection® Irrigation and N rate had a significant effect on plant transpiration rate, Reddy reported. Nitrogen application rates also had a significant effect on stomatal conductance and water use efficiency.

Soil samples taken before and after the cropping season will be used to assess the impact of AirJection® Irrigation on soil fertility. Yield data, tissue analysis, and plant biomass data also will be determined.

The increase in yield and improvement in soil quality associated with the root zone aeration augers well for the adoption of AirJection® Irrigation, primarily as tool for increasing crop productivity.



Exceptional Circumstances Assistance

Irrigation Management Grant (\$20,000)

- This grant is available to all processing tomato growers provided that the total off-farm assets of all members of the farm enterprise does not exceed \$750,000

Professional Advice and Planning Grant (\$5,500)

- This grant is available to processing tomato growers to provide assistance in developing a drought management plan (financial or management focus) providing the total off-farm assets of all members of the farm enterprise do not exceed \$750,000

Interest Rate Subsidy

- This subsidy can provide upto 80% of your interest bill to a maximum cap of \$100,000. The subsidy will only be paid to get you back to a zero point for the 2007/08 financial year estimate (does allow for a nominal amount to cover living expenses). The total off-farm assets of all members of the farm enterprise must not exceed \$750,000.

Drought Assistance - Income Support

- A fortnightly payment to assist with household expenses. The first \$20,000 of off farm income is now excluded.

If you would like assistance in accessing any of the Exceptional Circumstances packages please contact Liz Mann. It is important that you do not self access, a number of processing tomato growers have already qualified for a number of the assistance packages listed above.

Centrelink Enquires

The Centrelink contact for Horticulture is David Green. He can be contacted every Tuesday and Thursday at the Horticulture Australia Council (HAC) on (02) 6273 8115 with an answering machine available to take calls on the other days.

Carry Over Water

Carryover of irrigation water will continue with the same rules that applied in 2007.

Under these rules, irrigators can carry over a volume of water up to 30 per cent of their high reliability and low reliability entitlements to next year.

All water carried over will be credited first to customers' high reliability accounts. Water carried over plus next season's allocations must not exceed 100 per cent of the customer's entitlement.

It is suggested that irrigators contact their local water authorities for a detailed explanation of the rules and conditions for carryover

The Department of Sustainability and Environment will continue to review the rules particularly to reduce the risk of water being lost if allocations return to 100 per cent.

Consultation will begin with stakeholders when allocations reach 80 per cent or greater on either the Murray or Goulburn system, in time to put any amendments in place for the following year.

Chemical Record Keeping

From July 2007 records must be kept of all agricultural chemicals used. These records must be made within 48 hours of using the chemical and must be kept for 2 years.

The following must be recorded for all sprays being applied to paddocks:

- The product trade name
- The date the product was used
- The application rate
- The crop that was treated or the situation in which the product was applied
- The extent of use (area of land treated)
- The location where the product was used
- The name and address of the applicator or supervisor
- The name and address of the person for whom the application was carried out.
- The wind speed and direction at the time of application.

A record keeping template to meet these requirements can be obtained from:

<http://www.dpi.vic.gov.au/dpi/nrenfa.nsf/Link-View/496AE21A8490AA72CA256C76001BEB810A6892BB00DFD98CA256C3800190CCA>

ACKNOWLEDGMENTS:

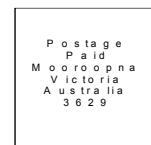
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Opinions expressed in "Tomato Topics" are not necessarily those of the APTRC unless otherwise stated.

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