



TOMATO TOPICS



NEWS and INFORMATION
FOR THE PROCESSING TOMATO INDUSTRY

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Will Industry Research Continue into the Future?

The APTRC is funding a small number of research projects this season. These include:

- TM98011 Cultivar Evaluation with Bill Ashcroft
- TM02010 Solids and Nutrition with Doris Blaesing
- TM01001 Technology Transfer Project with Liz Mann

In addition the industry is a minor contributor to the Western Flower Thrip project to maintain industry access to pesticides (HG00015).

Over the last 12 month period a number of research projects have been presented to the APTRC for funding. The majority of these projects have been unsuccessful in obtaining industry funds. Projects presented to the APTRC during this period include:

- Cultivar Evaluation – initial application was not approved, budget was reduced and some optional features were omitted. *The revised project was approved for 12 months.*
- Vegetable Disease Management, Bion – rejected, cost/benefit analysis was not good.
- WFT and Chemical efficacy, *project approved but budget was required to be reduced.*
- Drip irrigation proposal to improve solids – rejected, this is a very difficult project, growers have tried for a number of years but the incidence of summer rain fall is too high.
- Precision Farming in Horticulture – rejected, member felt that growers are already utilising some of the new technology that is available, a technology tour visit to inspect Beeline GPS navigation system had already resulted in some growers either purchasing the system or employing a contractor to prepare beds etc.

- Tomato extract potentiate the anti-aggregatory effects of omega-3 fatty acids in NIDDM patients – rejected, industry had previously opted to observe international research projects in the tomato and health area
- Solids and Nutrition Project – *approved for a 12 month period.*
- New Products and market opportunities based in tomato byproducts – rejected after circulation to processors for comment
- Developing Insect resistant varieties – rejected, we have a small industry and did not feel it would provide a great cost benefit.

All industry research is funded through the Research and

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Development Levy withheld from crop payments. Your levies are then matched dollar for dollar by the commonwealth government through Horticulture Australia Limited (HAL). The levy is currently 45 cents per tonne from both growers and processors. Not all growers contributed last season and questions have now risen regarding the future of the levy.

There are strong opinions that all growers need to contribute levies if our R&D program is to continue. At the moment it is felt that some growers are receiving tangible benefits from the R&D levy although they have opted not to pay the levy. These benefits may either be directly by participating in either research project conducted by Bill Ashcroft or Doris Blaesing, attending any industry field day, discussion group meeting or dinner/social event, or indirectly through talking to growers who are involved in research projects and then making decisions based on the results. An example of this may be selecting next seasons cultivars based on what cultivars a grower involved in industry research is successfully growing.

A series of meetings were held with industry members on March 2nd. At these meetings, program managers from Horticulture Australia were present to explain the change in priority to access matching federal government dollars for research. Due to the limited research dollars being allocated to Horticulture from the federal government, gaining access to competition for these funds is getting increasingly competitive and difficult. Projects will be approved and funded from industry in the following order:

1. "A Class" members (An "A Class" member is an industry based group with a statutory levy).
2. "B Class" members (A voluntary levy from an industry group, e.g. APTRC).
3. "C Class" members (any other research proposals from individuals, small portions of industry groups, or industries that don't fall into the previous classes).

To help assist Horticulture Australia to manage the allocation of funds, A and B Class members must forward an annual investment plan to them by the 31st March. C Class members or any other voluntary contribution from a portion of an industry group must forward their proposals to HAL by the 15th May.

Following the meetings recently held with groups of growers and/or processors to discuss the future of processing tomato industry research and development, and the last APTRC meeting on the 16th March, the decision was made not to fund new industry based research and development for 2004/05. Since this meeting APTA have agreed to provide funding to APTRC to continue funding the following projects for the 2004/05 season:

- Cultivar Evaluation (Program Leader: Bill Ashcroft)
- Solids and Nutrition (Program Leader: Doris Blaesing)

These projects will now be included in the annual industry

investment plan to be forwarded onto HAL by the 31st March.

In addition the future of the Technology Transfer project (with Liz Mann) was discussed at the APTRC meeting on March 16th. Due to the financial position of the APTRC, along with decision already made by some growers to opt out of funding research, this project will not be funded by the APTRC for the 2004/05 season. This position will still continue into the 2004/05 season utilising some residual funds within the current project budget, and then will continue to be supported by a number of growers who chose to be involved for the remainder of the season. Although this project will continue, the structure and format will greatly change. Activities will no longer continue on an industry level. Only growers who have contributed a fair portion to the support of this project will be involved. If industry members are interested in supporting this project please ensure that you contact Liz Mann ASAP.

Due to the change in funding arrangements for the Technology Transfer project the following industry wide activities will (unless current issues are resolved) cease:

- Discussion group meetings
- Tomato Topics newsletters
- Annual Australian Processing Tomato Grower magazine
- Industry coordinated training
- Web based spray record diary
- Annual processing tomato forum and industry dinner
- Annual pre-harvest social dinner
- Local or overseas study tours
- Coordinated demonstration trials with support service personnel

The 6th World Congress and 9th ISHS Symposium will still be held in Melbourne in November 2004, providing an opportunity for the Australian processing tomato industry members to work together. Organisation of this event is primarily through the APTG.

The APTG is currently proposing to hold meetings at the end of this season to consider what options are available regarding industry research for the 2005/06 financial year. This will provide an opportunity for all growers to comment on what they would like included in industry research in future years. Without an industry research program the Australian processing tomato industry may not remain viable into the future.

If you feel you would like to reconsider the current situation of industry research and ensure your continued involvement please contact either Liz Mann, Dennis Moon or Peter Gray

Cultivar Improvement: Seasonal Progress Report

Bill Ashcroft, DPI Tatura and Tony Napier, NSW Ag

Victoria

After a late start, this season's trials have been coming in thick and fast over the past few weeks. All except one should be harvested before Easter. Despite some early fears, yields have been moderate to high at all Victorian sites, and our thanks go to all participating growers.

Detailed results will be available when all numbers are statistically analysed - in time for the Tomato Forum in May.

Trials harvested to date suggest the following lines have performed well this season:

	<u>High Yielding Replicated lines</u>	<u>Promising New Lines</u>
Early Trials		
Boort	SPS 4599, Heinz 8704	Sun 642, TSH 18, C250, SPS 5179
Undera	Hz 8704, Hz 3002, ES 2100	AP957, Davo, TSH 18
Full Season Paste (only one trial harvested so far)		
Rochester (whole row)	Davo, Hz 9614, Hz 9035	Hz 3402, U941
Full Season Whole-Peel		
Rochester	RG 31, Falcorosso, Hypeel 696	FG 9944, OX 329, Sun 6340
Corop (Whole Row)	TOP 3929, ES 96-100, Hz 9509	

NSW

Unfortunately due to herbicide damage, the NSW early season variety trial was not harvested.

NSW whole peel variety trial

Barooga, harvested on the 9th of March 2004. There was a light infection of sclerotinia through the trial but this had little effect on the final results.

High Yielding varieties: FG-9936 closely followed by SPS-7491 and Hypeel-696.

The best "all round" looking variety in the trial was Heinz-9509 with a bush that sat nicely on top of the bed producing firm, good sized fruit.

Mid season paste variety trial

Jerilderie, harvested on the 23rd March 2004.

High Yielding varieties: industry standard, Heinz-9035 closely followed by an experimental line of TOP 3929. Both these varieties also recorded lower than average brix levels.

Heinz-4401 recorded the highest brix level for this trial but was also the lowest yielding variety in the trial.



Managing Western Flower Thrips & Tomato Stopped Wilt Virus in Vegetables

At the completion of the National strategy for the management of western flower thrips and tomato spotted wilt virus a CD Rom was produced to help growers identify and manage this pest and disease. Copies of these CD's have been handed out at the last discussion group meetings. If you have not received a copy of this CD, and wish to receive one please contact Liz Mann as a few copies are still available in the APTRC office.

Demonstration of improved irrigation practices to the processing tomato industry

The Australian processing tomato industry is currently investigating a more efficient method of irrigation for crop establishment. Funding has been provided by Campaspe Irrigation and the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF), through the Natural Resource Innovation Grants.

Currently processing tomato crops are established using either direct seed or transplants. Irrigation occurs via two methods, 62% of the processing tomato region is sub surface drip irrigated and 38% furrow irrigated. At the crop establishment stage growers currently wet up the crop using their existing irrigation system. Peak water consumption for both systems occurs during this phase. Establishing transplanted and especially seeded crops, using sub surface drip that is 20-25cm below the surface means that the profile has to be saturated before water moves upward, where it is needed. This may require up to 30-40% of the total annual water consumption, especially after a dry winter.

To help increase water use efficiency and overcome other negative aspects of saturating the soil profile the processing tomato industry is investigating the option of using a low pressure overhead irrigation system during the crop establishment stage. After this stage the crop would be irrigated using the drip or furrow system. For overhead irrigation to be an option during crop establishment the following requirements were necessary:

- Low cost, able to operate utilising existing irrigation infrastructure
- Low labour requirement for set up
- Easily moved from paddock to paddock
- Capacity to irrigate freshly planted ground without delay
- Low droplet size

The idea of a suitable overhead irrigation system arose out of a Nuffield Scholarship. Dennis Moon who recently undertook a Nuffield Scholarship observed an over head irrigation system that appears to meet all the above requirements in Ontario, Canada irrigating processing tomato crops. This irrigation equipment consisted of an 80m+ boom irrigator attached to a hard hose reel.

This boom irrigator and hard hose reel will be leased by the Australian processing tomato industry over the next 12 months. During the coming autumn and winter months processing tomato growers will need to adapt their current irrigation system to enable the use of the boom and hard hose. If the irrigator is delivered in time growers will also be given the opportunity to utilise this equipment for establishment of winter crops and lucerne. Once the processing tomato planting season begins in September the boom irrigator and hard hose reel will be moved throughout the re-

gion enabling growers to conduct their own on farm demonstrations/trials. It is envisaged that with these trials a number of benefits will be demonstrated to the industry, including the potential water savings, reduction of negative effects on the environment, ease of crop establishment and improved crop productivity. When utilising this irrigator for crop establishment during the next season it will be necessary to continue irrigating some blocks via the conventional method to allow a comparison to occur. Once next season commences a series of field days will be held in the major processing tomato production regions.

The boom irrigator and hard hose reel will require the following:

- 50 psi pressure at the main line (a booster pump may be available if your system can no supply this)
- Hard hose reel length of 400 m
- Ability to connect to the first hydrant in a block at 36m, and then every 72m across the block
- Growers involved in the trial will be required to assist with the transport of the irrigator between farms (may be towed using a small truck or tractor), but the irrigator will be loaned to individual growers at no cost for a short period during the season.

The aim during the next processing tomato season will be to share this irrigator amongst as many growers as possible, all current research and development levy payers will have first priority. If you are interested in trialing this system please contact Liz Mann (0427 857 578) before the end of June 2004 to ensure your name is on the list. After this date there may be no guarantee that time will be available to include additional growers in the trial. The aim will be to allocate the irrigator to specific regions depending upon planting schedules.

The ability to obtain funding through the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF), to support this project has been made possible due to the current funding of the industries Technology Transfer project (Liz Mann), through the Processing Tomato R & D levy.





UPCOMING EVENTS

Discussion Group Meetings

The last discussion group meetings to be organised across all industry are planned for the week beginning 19th April 2004. Doris Blaesing (Serve Ag) and Bill Pritchard (see page 6 of this newsletter) will be in attendance at these meetings to discuss current projects.

Boort: 12:30 (incl. Lunch) **Monday 19th April** - Commercial Hotel
 Colbinabbin 7:00pm **Monday 19th April** - Colbinabbin Hotel
 Jerilderie 12:30 (incl. lunch) **Tuesday 20th April** - Colony Hotel

Irrigation Australia 2004: Conference & Exhibition Adelaide, May 11th –13th 2004

Due to the interest currently shown by a number of growers to attend this event an industry tour is currently being finalized. Current plans are:

Tuesday May 11th Depart Melb 10:40 am
 Arrive Adelaide 11:30 am
 Noon - Travel to Northern Adelaide Plains
 Afternoon - Visit Reclaimed Water Recycling Plant (Currently Largest Plant in the Southern Hemisphere)
 Vinery visits
 Stay Barossa Valley

Wednesday 12th Vinery tour around Barossa
 Attend Exhibition late Avo, exhibition drinks at 5:00pm
 Stay Adelaide

Thursday May 13th Attend irrigation exhibition
 Optional: Vegetable Irrigation workshop (9:00am-12:00 noon)
 Attend exhibition
 Stay Adelaide

Friday May 14th Return to Melbourne (am)

Cost per participant: airfare approx \$300 per person + accommodation and meals

NB. If you have participated in an Industry overseas study tour (USA 2000, WinHort SE Asia 2001, Istanbul 2002) then sufficient funding may be available to cover your airfare. (If you have participated in each of these overseas tour then you may be eligible to have 3 airfares covered) Please contact Liz if you are not sure if this included you.

RSVP: required by Thursday April 15th at the latest, to ensure airfares and accommodation can be booked.

Diploma of Agriculture Rural Business Management

The current season is coming to an end, hence part 2 of this program will commence. The first day will be the Rural Business Planning unit review and tutorial for all those people that undertook part 1 of this subject last August. This tutorial will assist you to complete your assignment that is necessary to successfully pass this subject. This day will also include a planning day for the remainder of the Diploma, to pick dates suitable to complete the remaining subjects.

Wednesday 19th May, Echuca DPI 9:30 am—3:30pm Tutorial to complete the assignment from Part 1: Developing a Business Plan

Annual Processing Tomato Forum

Thursday 27th May, 2004
 Quality Inn, Port of Echuca
 Followed by an Industry Dinner

Spray Sense—information for users of agricultural chemicals

(taken from *VegeLink NSW*)

Spray Sense is a series of leaflets which focus on providing up-to-date information on a range of pesticide issues. Everyone who is involved in the manufacture, sale, distribution, use and provision of advice is encouraged to use this information to apply pesticides more effectively.

The *Spray Sense* series was first developed as an initiative of the Pesticide Project Team, comprising NSW Agriculture Horticulture Extension Officers and industry representatives located in the Greater Sydney Basin. The series has been expanded over the years to take into account new issues and now has a State-wide focus.

Leaflets are available on the following topics:

- How to calibrate hand operated sprayers
- Testing for chemical residues
- How to calibrate airblast sprayers
- How to prevent and treat pesticide poisoning
- Storing pesticides safely on the farm
- Using fungicides correctly
- Safe disposal of empty pesticide containers
- The role of the EPA pesticide inspectors
- How to read and understand Pesticide labels
- Transporting farm chemicals
- Spray water quality
- How to calibrate boom sprayers
- Managing chemical spills
- How to choose the right pressure gauge
- What pesticides can I use?
- Keeping pesticide records
- Assessing spray coverage with water sensitive spray cards.

The leaflets are available at the NSW agriculture website at www.agric.nsw.gov.au/reader/spray-sense



Nuffield Farming Scholar Report by Dennis Moon

Alternative Rotational Crops and New Crop Options for the Australian Tomato Growers, Precision Agriculture and its Application in the Tomato Industry

If you would like a copy of this report please contact either Liz Mann or Dennis Moon



Californian Tomato Research

The 2003 Annual Project Report for the Californian Tomato Research Institute is now available. If you would like to borrow this annual report please contact Liz Mann

Research Study into Family Farming in the Processing Tomato Industry

Participant Information Statement

You are invited to take part in a research study into family farming in the Australian processing tomato industry. The object is to investigate farm business structures, in order to assess how the restructuring of the past few years has affected the role of 'family farming' in the industry.

The study is being conducted by Bill Pritchard and David Burch. Bill Pritchard teaches economic geography at the University of Sydney. David Burch teaches science and technology studies at Griffith University, Queensland.

Many of you will know Bill and David from their study of globalization in the processing tomato industry, and from their attendance in previous industry forums and events.

If you agree to participate in this study, you will be asked to complete a short questionnaire which will be distributed at the post-harvest meetings organized by the Australian Processing Tomato Research Council (APTRC). Most of the questions require you to tick appropriate boxes, however there is also a section that will require the researchers to write down some information based on face-to-face discussion.

It will take you no longer than ten minutes to fill out the parts of the questionnaire that require the ticking of boxes. The length of time required for the face-to-face discussions will depend upon how much you want to say, but for most participants we imagine it will take no longer than ten minutes.

All aspects of the study, including results, will be strictly confidential and only the investigators' names above will have access to information on participants. A report of the study will be prepared for publication and provided to APTRC, but individual participants will not be identifiable in such a report. Note that this study is being conducted independently by the researchers, and is not an APTRC-funded project.

Participation in this study is entirely voluntary: you are not obliged to participate and - if you do participate - you can withdraw at any time.

If you would like to know more at any stage, please feel free to contact the researchers:

Dr Bill Pritchard: phone 02 9351 3309

or b.pritchard@geography.usyd.edu.au

Professor David Burch: phone 07 387 57223

or d.burch@griffith.edu.au

Any person with concerns or complaints about the conduct of a research study can contact the Manager for Ethics Administration, University of Sydney on (02) 9351 4811.

Soil Moisture Monitoring Comparative Demonstration Trial

Liz Mann (APTRC Inc) and Mike Shulz (Serve Ag)

There are a number of methods that are currently utilised to determine the water requirements of a processing tomato crop. These may be based on an estimate (appearance of crop and appearance and feel of the soil), through to a range of soil moisture monitoring equipment and evapo-transpiration gauges (Et gages).

The use of soil moisture monitoring equipment is encouraged across the industry for several reasons, including:

- Provision of a quantitative measure of the amount of water required by a crop.
- They allow you “to see” what is happening with the soil moisture at depth without disturbing the soil profile.
- Some equipment provides continuous logging.
- They can be used to indicate over irrigations and water wastage as well as under irrigation.
- They therefore assist in ensuring efficient utilisation of nutrients as well as water.

Different types of soil moisture monitoring equipment measure soil moisture in different ways; these are soil moisture content or soil moisture tension.

Soil moisture content provides information about how much water is in the soil. The units of measure are % or m^3/m^3 . With this type of measurement the higher the percentage, the greater the volume of water existing in the soil. After calibration, this type of equipment can be used to calculate how many millimetres of water are held within the soil at any given time, and how many must be added to supply the plants requirements. . In most situations the equipment is used without calibration, and the relative changes with time provide sufficient scheduling information.

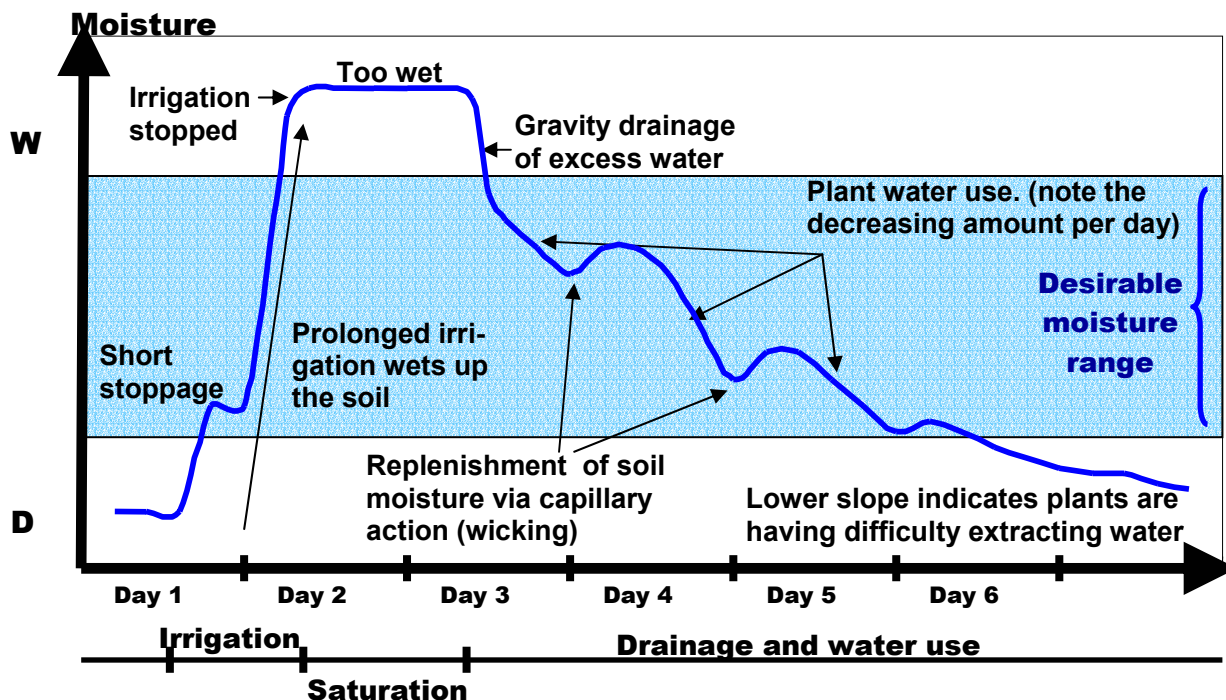
Soil Moisture tension is a measure of the energy a plant must apply to the soil in order to extract the available moisture. The unit of measure is the kPa (kilo Pascals). With this type of measurement the higher the value the harder the plant must work to extract the moisture. This is directly related to the physiology of the plant, hence the sensors do not need to be calibrated to the soil type.

Regardless of the measurement unit, the use of devices with automatic logging ensures that invaluable information continues to be collected even when your other commitments demand your attention and time. Many types of soil moisture monitoring equipment are able to present the obtained data in graph format, but how is a graph interpreted? Figure 1 details the main points of significance over a 6-7 day period.

Data collected from the Processing Tomato Soil Moisture monitoring demonstration is currently being compiled into a report that will be available to industry members. The key points at this stage are:

- Very little water was extracted from the 50cm depth until irrigation cut off.
- Sensors located at the depth of 15cm, midway between emitters and at emitters showed very little difference in soil moisture. Early in the season the sensors located mid way did not seem to get as wet, very little difference was seen mid season, and at the end the midway sensor became the driest.
- Different types of soil moisture monitoring equipment appeared to have shown a similar wetting and drying pattern.

Figure 1: How to interpret a generalised soil moisture graph.





Young Irrigation Network in the Goulburn Murray Region

A group of young Victorian irrigators and employees of irrigation-associated industries is seeking to expand the Young Irrigation Network (YIN) to the Goulburn Murray region.

The Young Irrigation Network was established in New South Wales in 2001. YIN now has almost 600 members across Australia, focusing on young irrigators and young people involved in associated industry, such as government departments, rural finance organisations, irrigation suppliers, research and agri-business.

The network targets 18 to 35 year olds and assists in leadership skill development, peer support, enhanced understanding of relevant issues, networking and informal mentoring. Past activities co-ordinated by YIN include a workshop and dinner, tours of the Snowy Hydro Scheme, Hillston olive, cotton, potato and cherry enterprises, Murray irrigation operations and Murray River tour.

The Goulburn Murray YIN is co-ordinating a workshop to be held in May 2004. The purpose of the workshop is to identify the issues and interests of young irrigators in the region. Results from the workshop will ultimately establish an activity plan for the future. The workshop is open to all irrigators and employees of associated industries.

Interested persons are encouraged to register with YIN to be part of any upcoming regional activities, or to be part of the

regional committee. Registration is free and forms can be accessed by contacting Heidi Pinnuck on (03) 5871 0100 or by visiting www.youngirrigation.org.



Processing Tomato Industry Success Stories

Geraldine Chirmside has recently won the 2004 Australian Institute of Company Directors course scholarship, an initiative of the Department of Agriculture, Fisheries and Forestry and Horticulture Australia. Geraldine won the award representing Horticulture across Australia. Through this award she joined women from other rural industries to participate in a 5-day residential Company Directors course in Canberra.

Marilyn Lanyon was awarded this years Victorian Rural Women's Award. Her project over the next 12 months will be to continue marketing her "Simply Green Tomatoes" into Asia. She has already sent a number of small shipments into this region and will use this award to personally follow up on these. Since winning this award Marilyn has received increased orders for her product along with increased interest in bus tours to visit her kitchen on the farm. Both Marilyn and Ian have found themselves very busy supplying these increased orders. Please visit the website www.simplytomatoes.com.au for additional information. Through this award Marilyn was also able to join Geraldine in Canberra and participate in the 5-day residential Company Directors course.

Congratulations must go to both Geraldine and Marilyn for helping raise the profile of the Australian Processing Tomato Industry.

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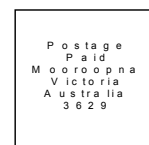
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