

EYES ON POTATOES

A U S T R A L I A N P O T A T O I N D U S T R Y C O U N C I L N E W S L E T T E R

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Main Photo: 3rd Australian Potato Tasting Championship. Leprechauns (L to R): Kirstie Scott, Libby Selby and Nicole Weir preparing for the 'Potato Person' Competition.

Tater tastin' at Crookwell

Potato tasting, competitions, humour and good fun were all the go on the 28 March when the Crookwell Potato Association Inc. held the Third Australian Potato Tasting Championships.

Invited to test their potato tasting skills were three "judges" including Neil Whittaker who is the Executive Director of the National Rugby League and whose home town is Crookwell, Sue Dodd who is the Promotions Manager of Sydney Markets Ltd and Jim Bain who is the Commercial Development Manager for Great Southern Energy, the company who supplies energy for all the Crookwell potato growers.

The first test was a visual appraisal where the judges had to examine five varieties, including *Granola*, *Ruby Lou*, *Nadine*, *Pontiac* and *Sequoia*. The judges were blindfolded and given a variety to name, based on characteristics such as skin texture, eye depth and shape.

The second test involved identifying by taste the variety of a portion of mashed potato and lastly the judges had to identify an unpeeled boiled potato.

The winner was Sue Dodd with Neil and Jim a close equal second.

Another competition involved making a "potato person" out of items (including

a potato) provided on a plate. As you can see from the photo a few stray leprechauns had a lot of fun with this one.

The fun night included a buffet meal, complete with laminated placemats featuring potato recipes on one side and a Technico promotion on the other.



Mr Kim Weir, President, Crookwell Potato Association Inc. presenting the perpetual trophy to the winner of the 3rd Aust. Potato Tasting Championship, Ms Sue Dodd, Promotions Manager, Sydney Market Ltd.

Welcome...

to another issue of Eyes on Potatoes. Our editorial team was delighted to hear that our March story on Trevor Donovan's experiences with using tensiometers had stimulated a few growers to find out a bit more about their use and even to try them out for themselves.

This was exciting for us and we hope that the information in this newsletter will stimulate you to think about the options.

For anyone interested, information on how to install and use tensiometers can be found on the Internet at <http://www.dpif.tas.gov.au> (look under Land and Water and then Irrigation). Alternatively the same information can be sent to you in booklet form by contacting Bill Cotching of the Department of Primary Industry and Fisheries, Tasmania on (03) 6421 7653.

Due to the AUSVEG Potato Group and APIC committee meetings being held in

late May we have not been able to include any outcomes in this edition.

Sadly Bruce Beattie will be ending his input into the production of both *Eyes on Potatoes* and *Potato Australia*, with his retirement in July. The editorial team wish to thank Bruce for his significant role in the production of both these publications over the last five years and wish him well for the future.

Editor

Eyes on Potatoes is produced by the Department of Primary Industry and Fisheries, Tasmania, on behalf of the Australian Potato Industry Council.

EYES ON POTATOES



Editor

Nathalie Jarosz
Department of Primary Industry & Fisheries
PO Box 303
Devonport TAS 7310
Ph : (03) 6421 7637
Fax : (03) 6424 5142
E-mail: Nathalie.Jarosz@dpif.tas.gov.au

Assistant Editor

Leigh Walters
South Australian Farmers Federation
PO Box 6014
Halifax Street
Adelaide SA 5000
Ph : (08) 8232 5555
Fax : (08) 8232 1311
E-mail : lwalters@saff.com.au

Production Assistant

Helen Sims
Department of Primary Industry & Fisheries
PO Box 303
Devonport TAS 7310
Ph : (03) 6421 7601
Fax : (03) 6424 5142

Advertising Manager

Any advertising enquiries direct to :
Peter Banks
Primary Outcomes
39 Lynne Grove Ave
Corinda QLD 4075
Ph/Fax: (07) 3379 2440
Mob: 0412 226 940
E-mail: pbanks@netspace.net.au

Advisory Group

The advisory group provides editorial support in identifying issues, organising content and ensuring the newsletter meets grower needs.

Stephen Wade (NSW)
NSW Agriculture
Ph : (03) 5883 1644
Fax : (03) 5883 1570
E-mail: stephen.wade@agric.nsw.gov.au

Steven Harper (QLD)
Department of Primary Industries
Ph : (07) 5462 1122
Fax : (07) 5462 3223
E-mail : harpers@dpi.qld.gov.au

Ben Dowling (SA)
Technico Pty Ltd
Ph/Fax : (08) 8725 2688

Bruce Beattie (TAS)
Department of Primary Industry & Fisheries
Ph : (03) 6421 7640
Fax : (03) 6424 5142
E-mail : Bruce.Beattie@dpif.tas.gov.au

Andrew Henderson (VIC)
Department of Natural Resources and Energy
Ph : (03) 9210 9222
Fax : (03) 9800 3521
E-mail : hendersona@knoxy.agvic.gov.au

Peter Dawson (WA)
Agriculture Western Australia
Ph : (08) 9892 8461
Fax : (08) 9841 2707
E-mail : pdawson@albany.agric.wa.gov.au

Distribution

The following people are responsible for sending out the newsletter in their state and maintaining grower mailing lists. Mailing lists for government and agribusiness are maintained by the Assistant Editor. Please send any corrections to mailing lists to the Assistant Editor.

Stephen Wade (NSW)
NSW Agriculture
Ph : (03) 5883 1644
Fax : (03) 5883 1570

Sue Dillon (QLD)
Queensland Fruit & Vegetable Growers
Ph : (07) 3213 2414
Fax : (07) 3213 2480

Michael Cain (SA)
South Australian Farmers Federation
Ph : (08) 8232 5555
Fax : (08) 8232 1311

John Rich (TAS)
Tasmanian Farmers & Graziers Association
Ph : (03) 6331 6377
Fax : (03) 6331 4344

Tony Pitt (VIC)
AG-Challenge
Ph : (03) 5623 4788
Fax : (03) 5623 4596

Tom Cairstairs (WA)
Potato Growers Association of WA
Ph : (08) 9481 0834
Fax : (08) 9321 3204



Eyes on Potatoes is distributed free of charge to all participants of the Australian Potato Industry with assistance from the Horticultural Research and Development Corporation and the Potato Levy.

An exporter's experience with potatoes into Asia



Ross Sheppard is the Director of Food Link Asia, a Ballarat-based company which has as one of its major shareholders Greenlands Co-operative Ltd, the largest potato grower co-operative in Victoria. Ross has 15 years' experience in export trading, having been the export director for a major winemaking company, and has travelled extensively around overseas markets. He has also worked with Agriculture Victoria's Agribusiness Unit in evaluating export opportunities.

Since my days in the wine industry, I had looked for the chance to trade in food products, because it was clear that the enormous size of the market meant many opportunities for Australian exporters.

I saw potatoes as a good option because of the high percentage growth in consumption in the nearby Asian countries, especially for snack and fast-foods. In fact, my previous experience told me that the situation for potatoes was very similar to that of the wine industry in the late 1970's - "a boom waiting to happen". I still believe that this is so and that the great attraction of exporting is the potential to use many markets.

Food Link Asia exports both seed and fresh potatoes to countries such as the Philippines, Indonesia, Thailand and Papua New Guinea. We also trade in buckwheat, onions, carrots and wine.

Although the export potential is definitely there, some changes need to be made for us to take full advantage. I feel

that we underestimate the importance of international competition and this can lead to isolation from the market. We need to promote our products better against those of our competitors. We also tend to fix prices according to what we think the market will bear, rather than targeting the competition. The industry generally needs to adapt to the changing markets of their products, both domestically and overseas.

To export successfully, it is vital to build relationships with overseas clients and understand their cultural and business environments, preferably by visiting the countries in question. I also believe that we need guidelines on the handling of potatoes for export (such as the correct temperatures and container types), so that all exporters know what is required. These could also act as a marketing tool, to reassure clients that we are looking after their purchases.

Another way of reinforcing client relationships is through market servicing, where we can show clients how to get the

most out of our products (for example by improving crop yields). This is where we can involve agencies such as government departments, who can advise clients on (for example) the best way to grow exported seed. Agriculture Victoria did some of this work in the Philippines last year.

Although some people have been sceptical about exporting, this attitude is changing and I am optimistic about the future, despite some setbacks arising from the Asian currency crisis.

I think that we need to look at value-adding in our potato products, especially for markets such as Japan. We also need the industry and government to form partnerships (as is done in Asia), to provide a complete service to our clients.

I would like to see potato exports develop on a statewide or national basis, because in the long run this may be necessary to meet demand. Once a few big contracts have been secured, I believe that exporting potatoes will become an established and profitable business.



“...my previous experience told me that the situation for potatoes was very similar to that of the wine industry in the late 1970's - “a boom waiting to happen””

ViCSPA Annual General Meeting & VCSPGC Workshop

The Annual General Meeting of the Victorian Seed Potato Authority (ViCSPA) will be held on Wednesday, September 16 at 9.30 am at "Balnagowan" in Colac.

The AGM will be followed by a one-and-a-half day workshop run jointly by ViCSPA and the Victorian Certified Seed Potato Growers' Committee (VCSPGC).

The itinerary will include a bus tour of the Otways, visiting seed growing farms and other venues of interest to the potato industry. On the Wednesday night a dinner will be held, with an after-dinner speaker. Emphasis will be upon bringing growers up to date with the latest information in our rapidly-changing industry.

We are fortunate to have persuaded Dr Stuart Wale to be our special guest. Stuart is the Head of the Crop Biology Department at the Scottish Agricultural College in Aberdeen. Stuart's expertise in the potato industry is wide-ranging, with special interest in crop and store hygiene, as well as many of the diseases which we are familiar with, eg. gangrene, dry rot, skin spot, silver scurf, blackleg, powdery scab and Rhizoctonia.

This event is not just for seedgrowers. All our friends from other sectors of the industry are most welcome to attend. Further details will be available soon. If anybody would like more information, please contact the VCSPGC Executive Officer at PO Box 571, Warragul, Vic 3820;

☎ (03) 5622 3025.

Benefits of *Nadine* over *Delaware* at Manjimup

The variety, *Nadine*, has proved popular with the potato industry in Western Australia. It was first grown at Perth where its resistance to potato cyst nematode was useful in eradicating this pest. It also has some useful tolerance to powdery scab - an important consideration for the Perth winter croppers. *Nadine* also has good boiling quality, very even tuber size and shape with high yields..

It is at Manjimup/Pemberton where *Nadine* has really taken off. The quality of *Delaware*, the major variety prior to *Nadine*, was poor in this area with long, bumpy, blemished tubers. *Nadine's* more attractive tubers with even shape, shallow eyes and a marked reduction in blemishes from black dot and silver scurf soon found favour in the market. This, along with higher yields of later plantings and a

better pack-out than *Delaware* means that growers continue to increase plantings of *Nadine*.

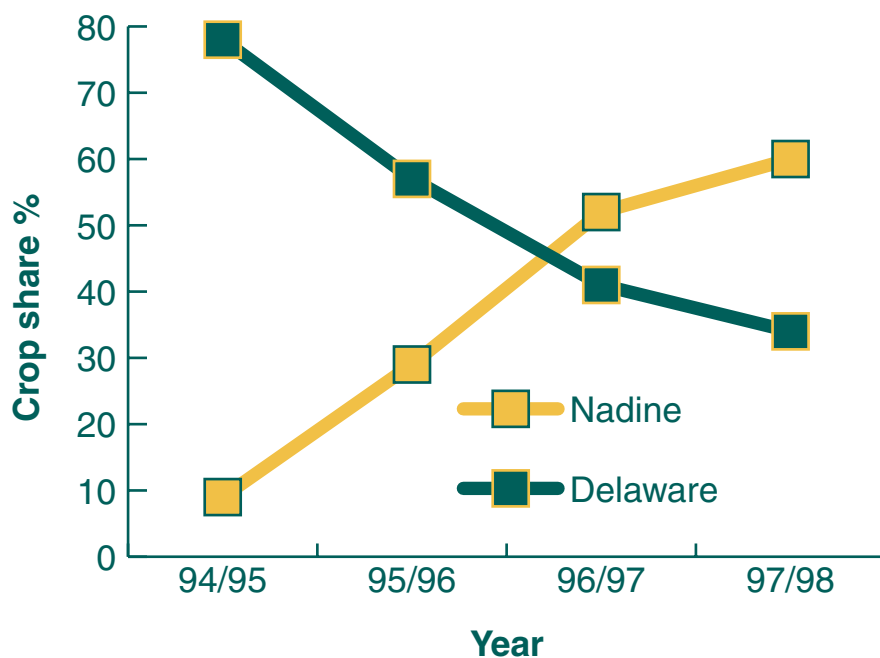
Two seasons ago growers were producing too many large *Nadine* tubers which were hard to sell because of poor frying quality. Now growers have reduced tuber size and *Nadine* is expected to fill 70% of production at Manjimup/Pemberton next season.

Nadine was imported and evaluated through the NaPIES program. *Nadine* is protected by Plant Breeder's Rights and the Australian agents for Caithness Potato Breeders Ltd are L&J. Eldridge (WA), Elders (NSW & SA) and BGP (Victoria).

Peter Dawson
Development Officer, Horticulture
Agriculture Western Australia
☎ (08) 9892 8444

Production share of Delaware & Nadine at Manjimup for years 1995 to 1998.

(Data supplied by The Potato Marketing Corporation of WA.)



Potatoes feature in *Choice*

An article on potatoes is coming out in the June edition of *Choice*. For those not familiar with *Choice*, it is the magazine of the Australian Consumers Association. It will be interesting to see what they have to say about our product.

AUSVEG BRIEFS

Potato Marketing and Promotion Levy

A submission for the introduction of a Fresh Potato Marketing and Promotion Levy was put to the Australian Horticultural Corporation Board and strongly supported. The submission has now been given to government for consideration and approval.

Facilitating a consistent approach to QA and food safety

Consumers expect a good quality product that is safe to eat. Supermarkets are now formalising the process through the introduction of QA and Food Safety programs. The supermarkets need to be sure they are receiving what they expect. Food safety scares in recent years have reinforced this need.

One of the problems with the introduction of QA and Food Safety programs has been the lack of a consistent approach by companies which has resulted in considerable confusion and difficulty for growers in dealing with different buyers.

To address this problem AUSVEG has initiated a project that will involve working with all sectors of the vegetable industry to establish a framework for Quality Assurance and Food Safety. The aim will be to develop a consistent approach by establishing a basic set of

requirements for the adoption of QA and Food Safety programs. Companies wanting to add additional value to their product can then build on these requirements. Ultimately the goal will be to make it easier for people in the vegetable industries to meet QA and Food safety requirements and thereby facilitate efficient trade.

The project will initially involve defining the issues with each of the industry sectors and state governments which will be the basis of discussions at a national workshop to be held later this year.

Dealing with the problem of minor use chemicals

Minor use chemicals are those that chemical companies consider not profitable to register because sales are unlikely to cover the costs. For many farmers this reduces the number of chemicals they can legally use.

A workshop funded by AUSVEG, Horticultural Research and Development Corporation (HRDC) and the Rural Industries Research and Development Corporation (RIRDC) was held in Melbourne at the Institute for Horticultural Development in March to initiate the formulation of a proposal to develop a national program for the approval of minor use chemicals.

The Vegetable R&D Committee has approved a project to develop and staff a system to ensure the rapid and efficient registration of minor use chemicals prioritised by industry. The project will be jointly funded by HRDC, RIRDC and the chemical industry.

Brian Newman
Executive Director, AUSVEG
☎ (03) 5790 5247

National Competition Policy & Fresh potato marketing in WA

In order to meet its National Competition Policy obligations the Western Australian state government has been undertaking a review of the Marketing of Potatoes Act which influences the operation of the Potato Marketing Corporation of Western Australia (Western Potatoes). This may result in changes to the way potato marketing is carried out in Western Australia.

Under the National Competition Policy state government businesses must comply with the Trade Practices Act 1974. To ensure this occurs state legislation must be reviewed in a time and manner acceptable to the National Competition Council (NCC).

When legislation has been reviewed the NCC makes recommendations to the Federal Government on payments of competition grants to the states. If Western Australia meets the requirements of the NCC right across government, it can expect to receive \$1.4 billion in grants.

The submission period for this review has now closed but the outcome of the review will not be known for some months. When available the results of the review will be reported in Eyes on Potatoes.

However we can show what is involved in the review process.

- Firstly any legislative restriction is assessed to determine whether it is anti-competitive.

If not then...

- a Public Benefit Test is applied where the costs and benefits of the legislation are considered. If the costs exceed the benefits then the legislative restriction is repealed.

If the benefits outweigh the costs then...

- less restrictive ways of delivering the benefits are considered and implemented if possible.

If less restrictive changes cannot be made then retaining the restriction may be justified by its benefits to the public or an exemption may be granted which allows restrictions in legislation to remain.

Peter Dawson
Development Officer, Horticulture
Agriculture WA
☎ (08) 9892 8444



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Metham sodium

for control of whitefringed weevil

Whitefringed weevil is a serious soil pest in several potato growing regions in Australia. One of the worst-affected regions is the Manjimup-Pemberton area in Western Australia.

Its occurrence in a crop is unpredictable and low populations can cause heavy damage. Control methods need to be preventative, as there is no method that is effective during crop growth.

In the field metham sodium is more effective than the insecticide chlorpyrifos, when applied in a similar way. This suggests that metham sodium may disperse more effectively in the soil.

Metham sodium has been widely adopted by growers at Manjimup-Pemberton to protect against attack by whitefringed weevil. Being a soil fumigant, it also controls other soil-borne problems such as nematodes and diseases.

Application initially involved the incorporation of the chemical into the soil before planting using a boom spray on the front of a rotary hoe. Other methods such as a dribble bar in front of a rotary hoe have been tested in experiments and trials by growers.

Methods that inject the chemical at depth, and rely on the gas from the chemical spreading out through the soil, include nozzles attached to standard tines or to duck-feet tines, and blade ploughs (a v-shaped metal blade that is dragged horizontally through the soil).

All the methods described appear to provide acceptable weevil control. Implements that inject metham sodium into the soil are considered to be safer to use as they reduce exposure to the chemical and seem to be preferred by growers. Most growers make their own applicator rigs.

While metham sodium is effective for whitefringed weevil control, it is more costly than insecticide and needs to be applied carefully and under appropriate soil conditions to achieve the best results. To avoid damage to crops there needs to be sufficient time left before planting for the metham sodium gas to leave the soil.

As history has shown, with all effective pesticides there are dangers in becoming over-reliant on a single product for control of soil-borne pests.

At this stage, I am not aware of any reports of pests becoming resistant to metham sodium. However, the application of the product too frequently to the same area of land can result in enhanced biodegradation. This is where microbes in the soil adapt to using the chemical as a food source and break it down so fast that it can fail to be effective against soil pests.

John Matthiessen
CSIRO Entomology
☎ (08) 9333 6641



At the Adelaide Market - Kerry Hauzer, Mr Cannizaro (produce merchant), Graeme Windolf and Shane Litzow.

QA growers journey south

In March a group of potato growers from the Lockyer Valley visited South Australia and Victoria looking at seed production, marketing, retailing and packing operations.

The growers funded the trip themselves and tied it in with the work they are doing as a pilot group for a national HRDC project developing QA and marketing systems for the potato industry.

The purpose of the trip was to gain a better understanding of what growers need to do in order to be recognised as approved suppliers by washers, packers and merchants who have implemented QA systems.

The findings of this trip are now being combined with the work already done by the pilot group working on the project to give other growers around Australia a better understanding of QA in our industry and what needs to be done.

After talking to a number of packers and merchants in SA the Lockyer growers went to Vic and met up with a group of growers from the Atherton tablelands and visited seed producers, a variety trial at Thorpdale and a number of machinery dealers and retail outlets. The tour culminated in a visit to the Melbourne markets where interesting talks were held with a number of merchants and buyers.

The trip confirmed the need for a simple approach to QA. The work done so far by the pilot group was well received and fits into most of the QA systems examined. It provides a useful framework for growers wishing to become an approved supplier to these systems.

Eric Coleman
Senior Development Extension Officer
☎ (07) 5466 2222

New biofumigation products

Two new biofumigation products have been released in limited quantities this year by Wrightson Seeds. The two products, BQMulch™ and BioQure™ are blends of brassicas and are based on work carried out in New Zealand and Australia.

Biofumigation involves the use of brassica plants that naturally produce chemical compounds similar to the fumigant metham sodium and which suppress soil borne pests and diseases.

Commercial enquiries can be directed to Rod Way at Wrightson Seeds' Melbourne office : ☎ (03) 9360 9910 Fax : (03) 9360 9940.

How good is your operation?

Farmers have the responsibility of ensuring that food produced on their farm is safe. The Food Safety Checklist is the first step towards putting in the necessary practices to prevent a food safety problem from developing on the farm. It may not include all the precautions that need to be taken but it is an important starting point. For a full list of actions, a *Hazard*

Analysis needs to be carried out by an authorised consultant. They will assist you in the identification of hazards, some which may be unique to your farm.

This checklist has been prepared with the assistance of potato growers working on the HRDC funded Australian Potato Quality Assurance Project.

✓ ✓ ✓ Food Safety Checklist for Potato Production ✓ ✓ ✓

Chemical contamination

✓ Yes X No

I have removed all chemicals including fertilisers from sheds where potatoes are graded and stored.	<input type="checkbox"/>	<input type="checkbox"/>
Chemicals and fertilisers have been properly stored and not left in the paddock where leaks and spills can contaminate soil and crops.	<input type="checkbox"/>	<input type="checkbox"/>
Anybody who uses chemicals (ie. fungicides, pesticides, herbicides) on my property has been accredited. (eg. Farmcare or Chemsafe course.)	<input type="checkbox"/>	<input type="checkbox"/>
My spray equipment is regularly maintained and calibrated <u>at least</u> once every season.	<input type="checkbox"/>	<input type="checkbox"/>
Bins used for seed are not used for fresh potatoes, or if they are, they are washed to prevent contamination from seed dressings.	<input type="checkbox"/>	<input type="checkbox"/>
Records of all chemical applications are kept which include date of application, chemical used, rate and person who applied the chemical.	<input type="checkbox"/>	<input type="checkbox"/>
Trucks are always checked prior to loading to ensure fresh potatoes are not transported with anything toxic such as fuels, chemicals or fertilisers. If necessary, trays are cleaned down prior to transport.	<input type="checkbox"/>	<input type="checkbox"/>
Pallets are inspected prior to use to ensure they are free from chemical contaminants and fertiliser.	<input type="checkbox"/>	<input type="checkbox"/>
Packaging is stored in a manner to prevent contamination from fertilisers and chemicals.	<input type="checkbox"/>	<input type="checkbox"/>
Pallets of <u>packaged</u> potatoes are not top stacked this prevents dirt contaminated with fertiliser or chemicals falling in with the potatoes.	<input type="checkbox"/>	<input type="checkbox"/>
Bulk bags are inspected before filling for chemical and other contaminants. If necessary bags are cleaned or new bags are used or a plastic liner is inserted to prevent contamination.	<input type="checkbox"/>	<input type="checkbox"/>
Harvesters and graders are checked prior to use for any oil leaks that could contaminate the potatoes. Any leaks are fixed before machinery is used.	<input type="checkbox"/>	<input type="checkbox"/>
Food grade grease is used on rollers and on any points requiring grease where <u>potatoes may come into contact</u> .	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium is monitored and controlled to ensure potatoes meet food standards for maximum permissible levels. (See the leaflet - Managing cadmium in potatoes for quality produce.)	<input type="checkbox"/>	<input type="checkbox"/>
A trace back system is in place so that bags with contaminated produce can be traced back to the paddock of production. This may include things like a packaging record and a packed on date.	<input type="checkbox"/>	<input type="checkbox"/>
Only registered chemicals are used in wash water and the levels are closely monitored.	<input type="checkbox"/>	<input type="checkbox"/>

continued over page...

Food Safety Checklist for Potato Production

Physical contamination

- All glass lights directly above grading equipment and stored bins have covers in case globes or tubes shatter.
- Paddocks beside roadways are inspected before working the ground or harvesting to remove glass bottles.
- Pallets are inspected to ensure they are free of foreign bodies such as glass and metal shavings before use.
- Bulk bags are inspected before filling for foreign objects. If necessary bags are cleaned or new bags are used or a plastic liner is inserted to prevent contamination.
- Pallets of packaged potatoes are not top stacked, this prevents bits of wood and other physical contaminants from falling in with the potatoes.
- A trace back system is in place so that bags with foreign objects can be traced back to the paddock of production. This may include things like a packaging record and a packed on date.

Microbiological contamination

- A pest control program has been established in packing and storage sheds.
- Animals, like dogs and birds are prevented from entering packing sheds.
- Toilet, hand washing and lunch facilities are located away from grading, packaging and storage areas.
- All packaging is stored in a vermin/pest free environment.

Checked by _____ on ____/____/____

Reminders on anything that needs to be addressed

APIC Potato Publication schedule

The Australian potato industry enjoys a regular communication forum with an annual magazine (*Potato Australia*) with all the latest developments in the industry. This is complemented by three editions per year of *Eyes on Potatoes*.

Publication Date
Eyes on Potatoes
March, June,
December
Potato Australia
September

HOT TIP

Any weed potatoes present in a paddock cancel out the effectiveness of the rotation in preventing disease and pest survival and build up.

NIVAA Netherlands

For a country smaller than Tassie and production six times the size of Australia the Netherlands is a significant player in the world potato industry. The Dutch are also very active in marketing seed potatoes worldwide and carrying out research projects in developing countries. It is therefore useful to see what information they have to offer.

NIVAA is the information and promotion organisation of the Dutch potato and onion industries. It is a non-profit organisation that promotes the Dutch seed and ware potatoes on domestic and overseas markets.

The main objectives of NIVAA are to improve potato production and stimulate the introduction of Dutch potato cultivars worldwide by providing free information on a wide range of topics related to potato production.

NIVAA puts out two free newsletters in English - *NIVAA News* and *Potato Leaves*. They also have a range of leaflets, booklets and videos on potato growing and diseases.

NIVAA News focuses on seed potato research and development. Articles in the last edition included Sustainable Production & Quality Management, the NAK's inspection requirements; stringent requirements and Value, Cultivation and Use Trials performed by the NAK since March '97.

As the title suggests this publication is more suited to those in research and development but at times may have articles of more general interest.

Potato Leaves is a more general newsletter focusing on a worldwide audience. Articles in the September edition included Global food supplies threatened by water shortages, The many aspects of quality, A favourable aphid year and Brown rot (ed. bacterial wilt) measures taken in the Netherlands in 1997.

The newsletter is aimed at seed growers but has many issues relevant to all potato producers. Growers looking for new approaches or how seed growing is done



in the Netherlands will hopefully pick up a few good ideas.

Two other publications of possible interest are the *Netherlands Catalogue of Potato Varieties* and *Potato Diseases*. The first is free while the latter costs 60 Guilders (about \$47).

The Catalogue of Potato Varieties contains information on varieties from Dutch seed companies and a comment on their value. Some of these varieties we are starting to see in Australia such as *Desiree*, *Mondial* and *Symfonia* so the more we know about their management the better off our industry will be.

Potato Diseases contains information on fungal diseases, bacterial diseases, virus diseases, mycoplasma and viroids,

nematodes, insects, other animal pests, deficiencies and non-parasitic defects. This is fairly new and neither of us have seen the book.

The book can be obtained by sending an international bankers cheque (obtainable from your local bank and similar to a bank cheque) made out to NIVAA with your address details and a request for a copy of *Potato Diseases*.

Copies of NIVAA's publications can be obtained from :

NIVAA, Postbus 17337
2502 CH Den Haag, Netherlands

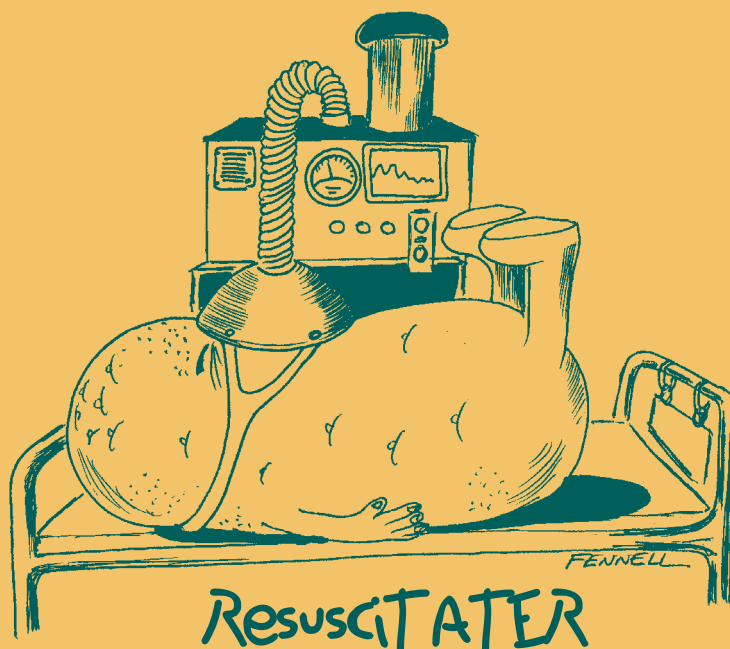
Versions of the newsletters and the seed catalogue are also on the NIVAA's internet site. For more information about what NIVAA has to offer visit their web page at:

<http://www.nivaa.nl/nivap/index.html>



Bruce Beattie
☎ (03) 6421 7640 and
Leigh Walters
☎ (08) 8232 5555

TATER-TOONS



ResuscitATER



Protected varieties on the shelves

If you're thinking of doing anything with supermarket-bought potatoes apart from eating them, check the bag first! A range of potato varieties protected under the Plant Breeders Rights Act 1994 are now available in some supermarkets. This means that unauthorised commercial production or sale of these potatoes is illegal. The protected varieties include *Royal Blue*, *Symfonia*, *Latona* and *Gold Star* - these are available in 2kg packs with information on flesh colour and appropriate cooking methods.

Andrew Henderson
Technology Transfer, Potatoes
 Agriculture Victoria (DNRE)
 ☎ (03) 9210 9222



Farewell Bruce

After 36 years working in the vegetable and potato industries with the Department of Primary Industry and Fisheries, Tasmania, Bruce Beattie is set to retire.

Over those years Bruce has been involved in the establishment of the export onion and the poppy industries in Tasmania and undertaken research into variety evaluation and agronomy of a number of vegetable crops, including potatoes.

During the last sixteen years he has become more focussed on potatoes and has led the development of the mini-tuber production system in Tasmania. He also was heavily involved in the survey work to establish Tasmania's freedom from PCN after the mainland outbreaks in the early 1990's.

With the date set for mid July, Bruce says that he is planning to spend a lot of time as a voluntary worker at the Tasmanian Arboretum and also to do a bit of plant breeding in his back yard.

"I feel like when I was 12 and starting Christmas holidays, only its better because school isn't going to start again," he says.

Editor

Checking the fingerprints on your varieties

For a number of reasons, potato varieties can get mixed up. This can occur at any part of the production chain, from the tissue culture laboratory to the grower.

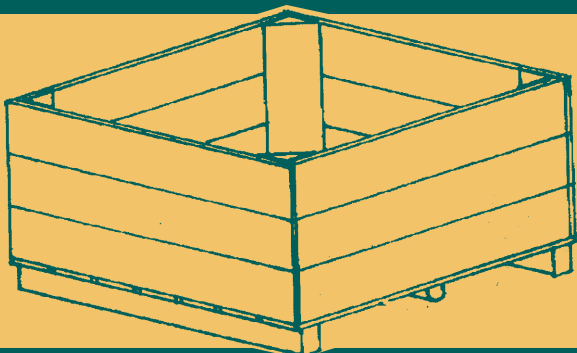
The earlier the varieties are mixed up, the greater the consequences, particularly with some of the new methods being developed to produce mini-tubers, and the possibility of litigation arising from mistaken identity. Therefore, methods that can rapidly identify and differentiate varieties will be beneficial to the potato industry.

Researchers at the Institute for Horticultural Development in Victoria, with funding from the potato levy and government, are developing methods to produce DNA "fingerprints" of potato varieties.

In the 12 months since the project started, there have been some important developments. Already, methods have been found to differentiate varieties, and this can be very useful if you think that two varieties have been mixed. Using the DNA fingerprinting method, scientists at IHD can tell if two plant samples are the same or different.

This service is being offered by Crop Health Services at IHD. For further information, you can contact CHS on ☎ (03) 9210 9222.

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Benchmarking of financial performance

The results of the Agriculture Victoria (DNRE) study of financial performance in the seed and French fry sectors have been reported back to grower groups. The reaction to the studies was generally positive, and both sectors expressed a desire for follow-up studies in future years, which would enable growers to monitor their progress.

Some of the main points to emerge from the studies were that:

- both sectors showed a wide range in net returns achieved per saleable tonne of potatoes
- there is a need to increase saleable yields (which includes the reduction of waste)
- there is a need to reduce both variable and overhead costs
- in terms of variable costs, seed, fertiliser and fuel and oil need particular attention
- the greatest overhead cost was depreciation
- increasing the scale of operation is critical to reducing overhead costs.

A more detailed report on the benchmarking studies will be published in this year's *Potato Australia*.

Andrew Henderson
Technology Transfer, Potatoes
Agriculture Victoria (DNRE)
☎ (03) 9210 9222

Bigger bins save time

The Western Potatoes newsletter, *Our Growing Business*, reports that several WA growers are now transporting their potatoes in 1.2 tonne bins rather than the standard 1/2 tonne bins.

The bins save time in both loading and unloading and are slightly cheaper to produce per tonne of potatoes.

The wash packers who have suitable equipment also report savings in time when using these bins.

Out & About



The Gatton pilot group developing QA in fresh potatoes visited South Australia and Victoria looking at requirements for Quality Assured packing sheds. In Victoria they met up with a group from Atherton looking at seed crops at Thorpdale and Colac.



Atherton group (L to R): Graeme Windolf, Craig Pieper, Kerry Houser, Mike Hughes, David McNeil, Vince Crannie, Eric Coleman, Frank Cuda, Richie Cuda, Matthew Gay and Philip Cuda.



Guyra growers at a fieldwalk at John Holmes property. The day was organised by Sandra Lanz and focussed on IPM issues.

The potato industry in South Australia

Market sectors

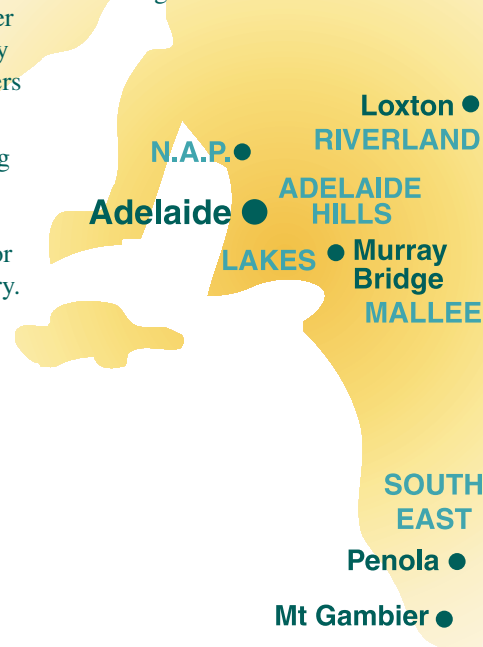
Fresh

The main white-skinned fresh market variety grown in South Australia is *Coliban*. There is interest in the newly named variety *Shine*, and small areas of *Crystal* are grown. Red-skinned varieties include *Desiree*, *Pontiac*, *Red La Soda* and *Bison*, with interest in the newly named *Ruby Lou*.

The fresh washed sector of the South Australian industry has grown significantly because:

- Growers are producing high quality, bright white tubers that are very appealing to the consumers. South Australian washed *Colibans* are setting the national benchmark in the marketplace.
- Emergence of large vertically integrated grower/washer/packers and marketers capable of investing in large infrastructure and marketing systems.
- Movement of production onto low cost sandy soils and water resources in climatic zones suited to autumn, winter and spring production - this enables growers to be very cost competitive.
- Grower/washer/packers are able to produce fresh potatoes over most months of the year, thus providing continuity of supply to the large supermarket chains.
- Excellent research and development back-up to industry.

This quality and cost competitiveness has enabled South Australian growers to gain market share in the Eastern seaboard markets, from Victoria and NSW Riverina growers.



Overview

The potato industry has emerged as a major horticultural industry in South Australia's rural economy. In 1995-96 the state's potato industry had a farm gate value of \$99 million, with the total Australian potato industry being valued at \$411 million. The state produced 273,000 tonnes out of the nation's 1.3 million tonnes. Thus, South Australia produces 21% of Australia's potato crop, but accounts for 24% of the crop's value.

This level of production has only been achieved recently. In fact, South Australia's potato industry has grown from 199,000 to 273,000 tonnes over the past 5 years (ABS 1995-96 data). This is equivalent to 37% growth. The expansion has occurred primarily in the fresh washed industry, with modest growth in the French fry sector. By comparison, the Australian potato industry over the same period has grown 13%, from 1.15 million to 1.30 million tonnes.

This growth has been associated with steadily declining grower numbers. This effect is due primarily to the rapid development of large scale fresh market operations in the Mallee & Riverland production districts, and to a lesser extent, a consolidation of supply contracts in the crisping and French fry industries.

Regions

Mallee & Riverland

Over one third of South Australia's potato production is now grown in the dual cropping Mallee & Riverland districts. These districts combined have grown by 105% over the past 5 years. Most of this expansion has been in the fresh washed sector.

The Mallee and Riverland districts are similar to the Northern Victoria and NSW Riverina districts, in terms of sandy soil types, scale of operations and production seasons. In the Mallee, irrigation water is extracted from deep (and limited) groundwater reserves, whilst in the Riverland, most irrigation water is pumped from the Murray.

South East

The South East region is at a similar latitude to Ballarat and Gippsland in Victoria. The soils are generally sandy, and all irrigation water is drawn from the extensive groundwater reserves stored in the limestone aquifer.

Over 70,000 tonnes of French fry potatoes are grown in this region, and a small amount of *Atlantic* is grown for crisping. The fresh market sector is predominantly red-skinned varieties, as it is difficult to produce white-skinned potatoes with the same bright skin finish as is achieved in the Mallee & Riverland. Planting occurs in October/November, and harvesting proceeds from February to May.

Adelaide Hills, North Adelaide Plains, and Lakes districts

The Adelaide Hills have historically been an important district for potato supply into Adelaide, but now accounts for only a small percentage of the state's crop. The North Adelaide Plains (NAP) expanded rapidly in the 70's and 80's and is now an important base for state-of-the-art washing/packing sheds.

In this district, approximately 70% of the crop is planted in May through to August, with growers aiming for a November/December harvest. A smaller amount of potatoes are planted in February for harvesting in June/July.

The Bolivar pipeline to Virginia has been commissioned and treated effluent water from Adelaide will become increasingly available to potato and vegetable growers on the North Adelaide Plains.

The other district of importance is along the lower reaches of the Murray River. All three districts are important production areas of crisping potatoes for the Smiths Snackfoods' Adelaide factory.

French Fry

The French fry industry is concentrated on the McCain's (Safries) plant at Penola, with some product being shipped from South Australia to McCain's Ballarat factory. Production throughput has been growing steadily at the Penola plant, and is currently approximately 68,000 tonnes per annum.

Russet Burbank is the major French fry variety, and performs best in the milder climate of the lower South East. *Shepody* and *Kennebec* are successfully grown in the "earlier" Upper South East, and *Kennebec* is capable of good yields in the Mallee.

Alternative varieties which have performed well in recent replicated variety trials in the lower South East include *Riverina Russet*, *MacRusset* and *Umatilla*.

French fry variety trials are being done in the dual cropping systems in the Mallee. If suitable varieties can be found which perform well in this district, then freshly harvested French fry stock could be supplied over an extended period - which could save on storage, and make the South Australia French fry industry more internationally cost competitive.

Crisping

Production for the crisping sector has been relatively static in recent years, as locally manufactured crisps are not gaining additional market share in the snack food market. Smiths Snackfoods continue to be the major centre of crisp manufacture from their Adelaide factory, with some small manufacturers operating.

Seed

Traditionally South Australia has sourced the majority of its seed from Victoria. Small amounts of *Coliban* and other fresh market varieties are obtained from the Crookwell district of NSW, and some *Russet Burbank* seed is obtained from Tasmania. There is a very small certified seed scheme in South Australia, with two certified seed growers supplying two seed buyers.

The seed requirements of the South Australian potato industry are large. The French fry growers in the South East alone import approximately 5,000 tonnes of seed. In the Mallee & Riverland especially, (but also in other districts), large amounts of "one-off" seed is produced by fresh market growers for

their own use. South Australian growers produce approximately 10,000 tonnes of "one-off" seed annually. One-off seed is one field generation after certification. (ABS 1995-96 data - likely to be an underestimate.)

Many South Australian growers are able to continually access "clean ground" for a five year rotation, and are thus highly sensitive to disease levels in seed consignments. Ongoing problems with the level of soil borne disease in traditional supply districts has meant there is increasing interest in seed production in South Australia.

Rapid multiplication technology and limited generation seed production capacity, as pioneered by Technico Pty Limited, is of keen interest to the South Australian potato industry. Second field generation (G2) seed, derived from TECHNITUBER® seed, will be used by some commercial potato growers in South Australia in the next planting season.

Future

Whilst potato growers are able to continually find "fresh ground," access good quality irrigation water and find markets for their product the South Australian potato industry appears set to expand.

McCain predicts that the supply needs for their Penola plant will grow roughly in line with domestic sales of French fries (approximately 5% per annum), and could be in the order of 150,000 tonnes by 2010.

Fresh market growers are exposed to the long term risk of per capita potato consumption declining. The recent rapid growth can be expected to plateau by 2000, as small growers in other states adjust to the industry. Export opportunities must be developed for this sector to maintain long term growth.

Overall, the South Australian industry is well positioned to continue to grow well into the next century.

Ben Dowling (Technico) and Chris Williams (South Australian Research and Development Institute)

Tours to seedgrowing districts

These days all seed growers and all seed buyers know that our industry is demanding higher standards. Buyers are insisting on high quality seed that meets their specific requirements. Seed growers also require better information from their buyers so that these requirements for seed can be met.

The key to mutual success here is communication. The Victorian Certified Seed Potato Growers' Committee (VCSPGC) encourages buyers to visit their seed grower. Such visits allow buyers to not only visit individual seed farms, but to make informed decisions about which seed growing districts are best able to fulfill their requirements. By meeting and discussing mutual interests and problems, both seed growers and buyers can benefit enormously.

Over the past two years, groups of seed growers have visited the Atherton Tablelands and South Australia. These tours are to be followed up by visits to other potato growing districts in the future.

Many seed buyers intend to visit their seed growers, but time often gets away when people are busy. Perhaps an easier way to do this is to pre-plan a group tour. The VCSPGC encourages groups of seed buyers to visit our seed growing districts and meet our growers.

To organise a tour, contact one of the district representatives listed on page 13 of the 1998 Seed Buyers' Directory (which was sent out with the December Eyes On Potatoes), or contact the VCSPGC Executive Officer ☎ (03) 5622 3025.

State ROUND-UP

Western Australia

The harvest at Manjimup/Pemberton, the major potato production area of Western Australia, is almost complete. This area supplies early and main crop French fries, the fresh market and crisps.

The spring rains disappeared early last year and the season ended up being the driest on record. Although rainfall was down, there was a high level of insect damaged tubers, particularly from black beetle and white fringed weevil.

There was a two week period of poor quality in March due to early rains, but since then high quality tubers have been available on the fresh market.

Next season quotas during the hot period will be reduced by 10% to allow supply to better match demand. The consistently better performance of *Nadine* compared with *Delaware* means that production next season will increase to 70% of the summer pool, up 10% from last season. Growers are producing less oversize *Nadine* tubers which means the marketing challenge has diminished. (Large *Nadine* tubers are not suitable for the fish & chip trade.)

Planting of fresh market crops in the metropolitan area is about to start.

A review of the statutory marketing of fresh potatoes is currently underway. Submissions are closed and the report may be available for the next issue.

The March rains which affected fresh market quality also affected the harvest of French fry crops at Scott River. Without drainage, it appears that pivots are too large to avoid some losses in low lying sites due to late or early rains.

Brent Searle, who recently joined The Smith's Snackfood Company, reports the March coastal late summer/autumn planted crops are in full leaf and looking good.

As well as the domestic crisp market there is also an export trade of seed and raw product. This amounts to about one third of the crisp industry. Exports are to Asia but the trade appears to be affected little by the economic downturn.

Peter Dawson
Development Officer, Horticulture
Agriculture WA

New South Wales

Widespread rainfall during April brought some relief from the serious drought conditions experienced across the State since February. Welcome falls of 50 to 100 mm occurred in both Tableland and inland districts. However these falls produced very little run off and water levels in the State's major irrigation dams remain very low.

Digging of summer crops was delayed by the autumn break. Yields averaged 35 tonnes per hectare, though some late sown crops lost yield due to water shortages. Demand for potatoes firmed in late April with prices going from \$180 to \$220 per tonne (bulk, on-farm, dirty) by early May.

Certified Seed prices have remained unchanged with the Crookwell Potato Association recommended price set at \$430 per tonne (on-farm).

Sowing of the autumn crop started in February, with Tableland growers being delayed by the dry conditions. Crop areas are similar to last year. While most districts had reasonable crop establishment, the dry weather slowed early growth. The April rains freshened up crops during the second half of the season.

Water restrictions were imposed on many growers this year. Most Tableland growers were unable to irrigate crops from their farm dams because they were not licensed under the new State Government water reform policies. Murray growers also had reduced irrigation allocations with the low Hume Weir levels and many had to buy water to maintain production.

As a result only average autumn crop yields of 25 tonnes per hectare are expected in most districts this season. Dorriggo growers should start digging in late May and Riverina growers are anticipated to start harvesting in mid June.

Stephen Wade
District Horticulturist
NSW Agriculture

South Australia

Harvesting of the French fry crop in the South East has just been completed. Growing conditions throughout the season were generally mild, leading to above average yields. Early planted crops benefited most from the long, mild summer days with, for example, a *Russet Burbank* crop in the Robe district averaging 74 tonnes per hectare. A number of growers produced well in excess of their contract tonnage of *Russet Burbank*.

It was also a very good year for tuber quality in general. Most quality measures, including SG, fry colour, tuber shape, etc, were above average for this season's deliveries.

In the Mallee and Riverland, growers are currently hoping that frosts will hold off until later in June. Rain on Anzac Day (up to 50mm in some places), and follow-up rain since then, has given some crops a lush green appearance. However petiole sap nitrate levels are only just adequate in some cases. Dew is forming over most nights and target spot is beginning to take hold.

Growers will commence harvesting potatoes from June through to early October, depending on market prices. A portion of these crops may be ground-stored until September/early October - when prices are expected to improve. Black dot (*Colletotrichum*) and black scurf (*Rhizoctonia*) can reduce the quality of these ground-stored potatoes.

Prices for fresh market potatoes were generally good in March and April, with some growers achieving \$500-600/tonne for premium grade. However in recent weeks prices have fallen.

In the crisping sector, the Adelaide Hills growers have now completed their harvest, with quality and yields reported to be above average. The "Lakes" district is now midway through their harvest period. SG's are a little lower than normal, due to hot conditions in February and March, and windy weather more recently. Harvesting is due to commence on the Adelaide Plains.

Ben Dowling
Horticultural Development Officer
Technico

Victoria

Around Ballarat the season has been one of high sunlight hours and warm, relatively stable weather, without many cool changes or windy periods. Most of the Ballarat potato district received at least 40mm of rainfall in two events in early November, which topped up many water storages. Other rains during the season eased the pressure on growers and benefited crops.

Early planted Russet Burbank crops grew quickly in the early stages and quality will generally be good, as no major cold periods occurred during tuber formation. Nutrient levels were down on previous seasons, but growers who had their crops monitored were able to manage the situation. High yields are expected.

Seed growers appear to be experiencing a slight reduction in tuber numbers, believed to be due to the seasonal conditions (dry during late November and early December, when there is normally a decent rainfall). Common scab has been the most prominent disease identified this season, mostly in *Desiree* crops. Otherwise, seed crops are expected to be of good quality.

In the Otways, seed crops were generally very healthy, with minimal downgrading after inspection. Again, tuber numbers were down as a result of the dry season, but some timely rain made conditions easier for digging.

Seed crops around Thorpdale have also produced lower yields due to the dry season.

Yields of crisping potatoes in Gippsland have been good and the major snackfood companies have received their required tonnages into storage. *Atlantic* crops have tended to yield better than other varieties and have been of good quality, with reduced bruising. Specific gravities have generally been lower and there has been pink rot in some crops, both of which may reflect the heavier watering required during the very dry season.

A seedgrower discussion group has been formed in the Ballarat area, complementing those in the other districts. Current activities with these groups include demonstrations by Agriculture Victoria of Instrumented Sphere technology, which can indicate the “hotspots” for mechanical damage on grading lines and other machinery. The demonstrations are proving to be valuable because once the problem areas are identified, they can often be cheaply solved with the use of padding.

Andrew Henderson
Technology Transfer, Potatoes
Agriculture Victoria

Tasmania

At the end of the irrigation season everyone breathes a sigh of relief and this dry year was no exception. More crops than usual have shown second growth (dumbbells and pear shaped tubers), tuber moth grub damage, scab and pink rot. Some crops were damaged by over-watering late in the season with resulting ‘water rots’ (I wonder whether the growers concerned were using tensiometers).

Most people didn’t have enough water to keep soil wet to reduce moth/grub damage, so chemicals were used by some growers. In one seed crop on a lumpy black clay loam most grub damage was found down to 25 mm but one tuber was attacked at 70mm! There needs to be a concerted effort to clean up all those waste piles and paddock residues immediately after harvest to reduce next season’s moth load.

Although sufficient rain has fallen to grow grass, I imagine growers will be looking to extend water storages in anticipation of another tough season in the future.

Seed supplies will be affected by drought and grubs. The cutters should be pleased next season because there are two businesses size grading crops to the desired seed cutting weights. After a slow beginning the Seed Export Network has made its first sales interstate, but their chairman, Andrew Baker, thought that overseas exports were still some way off.

Harvest Moon and Sunrise Agriculture are two local firms that have links with the Dutch breeders ZPC and Hettema respectively and are actively promoting new fresh market varieties to the Australian consumer.

Yields of processing tubers of 75 - 85 tonnes per hectare were harvested by both McCain and Simplot. High SG’s have also been reported which points to high quality chips. There should be about 300 000 tonnes processed this season and over half will be cool stored. Both companies will finish storing potatoes by the middle of May.

As this will be my last report I wish all in the industry the very best for the future.

Bruce Beattie
Senior Horticulturist
Department of Primary Industry and Fisheries

Queensland

The summer growing season was unusually hot in south-eastern Queensland with the hot conditions extending well into April. Growers cannot recall a summer of such consistently hot and humid weather. The minimum daily soil temperatures recorded for March were about 26^o C and maximum daily soil temperatures were consistently in the range of 30-34^o C.

Crop yields on the eastern Darling Downs, harvested in January and February, were considerably lower than expected and in some instances total losses were recorded. The specific gravity values of some processing crops was also down some 10 points.

Emergence and vigour in the Darling Downs (planted January and February) and Lockyer and Fassifern Valley crops (planted February and March) were also reduced. In some instances crop emergence was reduced by up to 50%.

Despite these early stressful conditions, autumn planted crops subsequently received low to moderate rainfalls which, combined with mild temperatures, has resulted in a marked improvement in crop appearance. Planting of the spring harvest crop began in early May.

Good summer rain created small flows in the upper parts of the Lockyer Creek but did not reach the middle to lower parts of the Lockyer. This has relieved some pressure on underground water supplies, however, substantial flows are still required.

In northern Queensland crops using one off certified seed were planted in February under fairly hot and dry conditions. The March rainfall was 30% of the long term average. Planting of crops grown from certified seed began in April and were planted under hot dry conditions.

Members of a pilot group developing QA in fresh potatoes, undertook a tour of southern states to evaluate supply requirements for Quality Assured packing sheds. The group visited Victorian seed production areas, retailers of fresh potatoes and the Adelaide and Melbourne Markets.

The tour gave growers an insight into where merchants are at with regard to implementing Quality Assurance, which will assist them in developing an approved supplier program.

For smaller growers it highlighted that the requirements to become an approved supplier were not as complicated as implementing more complex QA systems such as ISO9002 and SQF2000.

Stephen Harper
Development Extension Officer
Department of Primary Industries

Potato terminology **revisited**

David Montgomery has sent us this poem in response to Frank Mulcahy's great literary effort on potato terminology in our last issue. Thanks David.

*Why is Frank Mulcahy confused?
Generally our language is abused
He asked for flake..... It could be shark
Our fisho's keep us in the dark.
No worse though, than the greengrocer
When asked for Delaware
I saw the customer pick them up.....
Russett Burbank, I declare.*

David Montgomery -March 1998

Information directory & industry plans

Due to the directory not being completed in time it will be sent out separately to *Eyes on Potatoes*.

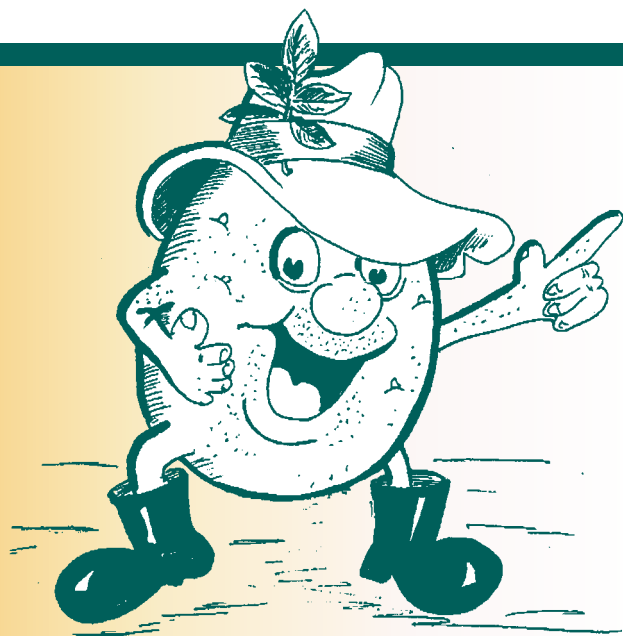
The APIC R&D Committee is finalising a draft of the new industry & R&D plans . These should be available soon for industry comment.

Leigh Walters
Technology Transfer Project
☎ (08) 8232 5555

HRDC projects

At the time of going to press the Research & Development proposals for new projects starting in 1998 were still being finalised by the HRDC Board. Descriptions of new projects will be included in *Potato Australia*.

Jonathan Eccles
HRDC Program Manager Potatoes
☎ (02) 9418 2200



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Or comments can be sent directly to me at this address:

Nathalie Jarosz - Editor
Department of Primary Industry and Fisheries
PO Box 303
Devonport Tasmania 7310
Fax: (03) 6424 5142
E-mail: Nathalie.Jarosz@dpif.tas.gov.au