

# NSW AGRICULTURE VEGIE BITES

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## Seedless watermelons in the Central West

By Tony Napier

Melon growers recently had the opportunity to see the first ever replicated variety trial of seedless watermelons in Australia. NSW Agriculture's district horticulturist at Bathurst, Stephen Wade, and Ace Ohlsson's vegetable specialist for the central west, Greg Kocanda, joined forces to conduct the trial at Jamie and Marie Schembri's property, "Greenview," 20 kilometres north of Cowra. About 35 people, including growers and seed industry representatives, attended the field day to inspect and compare the major varieties currently being grown and marketed in New South Wales.

Ace Ohlsson's vegetable specialist, Greg Kocanda said "Seedless watermelons have been grown for many years in Australia, but it was not until recently that improved varieties, aggressive marketing and increased consumer demand have helped to expand the market."

Mr Kocanda said "The central west is a rapidly growing production area for seedless watermelons, and is well suited to help supply the increasing demand. Growers from the Sydney basin are now being attracted to move to this area due to a favourable climate, water availability, land costs and proximity to the markets."

The field day held on the 11<sup>th</sup> February 2004 gave growers the chance to inspect 15 varieties of seedless watermelons. NSW District Horticulturist at Bathurst, Stephen Wade said "The reason for conducting the trial was to give growers an opportunity to compare all the major varieties side-by-side under the same conditions. A

seedless watermelon with dark green stripes on a medium green skin is the most recognisable type in the market and generally sells the best. Seedless watermelons with different skin colours may be equal in quality but may not sell as well. The market also prefers seedless watermelons to be round in shape, weigh about 8 to 10 kilograms, have a dark red flesh and a medium skin thickness of 10 to 20 millimetres," Mr Wade said.

The trial used Red Tiger as the seeded pollinator and Red Back (South Pacific Seeds) as the industry standard. "With its recognisable skin pattern, Red Back is one of the most marketable varieties in the trial, and I would recommend that growers retain it as one of their main lines," Mr Wade said. "Other varieties that performed well in the trial included Kryptonite (Terranova Seeds), Nightshade (Jarit) and Silhouette (South Pacific Seeds)."

Final trial results can be obtained from Stephen Wade at Bathurst research station on (02) 6330 1216.



Stephen Wade and Greg Kocanda discussing seedless watermelon varieties at the Cowra field day



NSW Agriculture

## Producing sweet rockmelons

By Gerard Kelly

About 40 people attended a melon field day held at Back of Bourke fruits, Bourke in mid January. The theme of the day was 'agronomic practices to produce rockmelons with higher sugars', and was based on a current research project. Growers, agents and researchers who attended had travelled from Bundaberg, Darwin, Brisbane, St George, Mildura, and Melbourne.

During the day there was inspection of both field trials and the packing shed. The field trials included irrigation, nutrition, seedling vs transplants, plastic mulch vs bare soil, plant density and crop load treatments.

In the packing shed the participants saw the NIRS brix testing unit, the CVS camera and the packing line. Fruit was also taste-tested. The Harvest Company representative, Henrick Christiansen, described how the 'Guaranteed Sweet' marketing program required improvements in melon agronomy to increase the number of sweet fruit and sweetness of fruit.

Results from the irrigation trials indicated that maintaining adequate soil moisture during fruit development and harvest is essential to producing sweet fruit. Sugar accumulation occurs in the last ten days of fruit development and water stress (eg delaying irrigation) at these times is detrimental to sugar levels in fruit. Irrigation and nutrition must be aimed at keeping plants healthy and working efficiently. Photosynthesis is the key to producing sugars in fruit. Phil Mansell, Manager of Back of Bourke Fruits, claimed that using these practices resulted in the farm consistently being able to produce rockmelons of 11-12 brix.

Project leader Dr Gordon Rogers explained the underlying principle in producing rockmelons of higher sugars was agronomic practices which established and maintained a healthy root system and healthy plants. Dr Rogers outlined agronomic



### NSW Agriculture's melon specialist, Gerard Kelly

guidelines to produce sweet rockmelon from an information booklet produced from the results of the research project. The guidelines cover information about a range of agronomic practices including nutrition (pre-plant & foliar), irrigation management (up to and during harvest) and maintaining a healthy root system.

The research project and field day were carried out with input and support from Horticulture Australia, Applied Horticultural Research, The Harvest Company and Back of Bourke Fruits. For more information contact Dr Gordon Rogers, Applied Horticultural Research (02) 9527 0826

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## CD compilation on irrigation best practice

Outcomes from a recently completed study into irrigation best practice in vegetable crops have just been released. Irrigation management guidelines for processing tomatoes, melons, carrots and onions were previously only available in manual form. This CD package contains the full version of research outcomes from the project in all four crops. Each manual outlines how to plan, design, manage and maintain different irrigation systems and includes case studies and economic analysis of the different systems. This was a joint project funded by the Murray Darling Basin Commission and carried out by NSW Agriculture staff at the National Vegetable Industry Centre, Yanco and the Institute of Sustainable Irrigated Agriculture, Primary Industries, Tatura.

For a free copy of the Vegetable Irrigation CD, please contact Mark Hickey at Yanco on (02) 6951 2523



## Sowing onions in the MIA

By Tony Napier

Onions are biennial, meaning that they normally take two years to grow from seed, flower and set seed again. Onions first grow 'vegetatively', forming roots, leaves and other plant growth. After these basics are established and the correct environmental conditions are reached, the onion will begin to bulb. Once the onion bulb is formed, there are enough nutrients stored for flowering, or "bolting," usually occurring during the second year of an onion's two-year life.

Bulbing is initiated primarily by photoperiodism (day length) and not by the age of the plant. Regardless of when an onion is planted, it is the amount of dark and light that it is exposed to that influence when it will begin to bulb. Once initiated, warmer temperatures will hasten bulb growth. The day length required for bulb formation differs, depending on variety. The varieties of onions that require a shorter period (11 to 13 hours) of daylight to bulb are termed 'short day' onions. Those that require the longest period of daylight (14 hours per day or more) to form bulbs are known as 'long day' onions. Those with intermediate requirements (from 13 to 14 hours of light per day to bulb) are called 'intermediate' onions.

Bulbing and flowering are not closely related. Temperature is the controlling or triggering factor in the bolting and flowering process and the plant generally requires the temperature fluctuations of 2 years to initiate flowering. If an onion plant is planted too early in the season it can be deceived by temperature fluctuations into believing it has completed two growth cycles or years of growth and run up to seed in the first year.

Different day length varieties need to be planted at different times to achieve maximum yields. The optimum sowing dates for the Riverina is the 1<sup>st</sup> to 15<sup>th</sup> May for early hybrids and Gladalan types (short to intermediate day types). The 15<sup>th</sup> May to 30<sup>th</sup> June is the optimum sowing time for the Creamgold types (long day type). Earlier sowings may result in quick germination and growth but bolting could be a problem. Late sow Gladalan types will result in a reduced yield and smaller bulbs (you are better to swap to a longer day variety). If late plantings of long day types cannot be avoided, plant establishment should be encouraged as much as possible with pre-plant fertiliser and more careful use of herbicides. For further information contact Mark Hickey, District Horticulturist at Yanco Agricultural Institute on (02) 6951 2523.

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## Lettuce BMO trials

By Andrew Creek

A series of Best Management Options (BMO) trials for spring lettuce have been recently completed by the IPM project team at Yanco Agricultural Institute. The trials were completed in the Central West and Hay growing districts of NSW and compared conventional grower practices of regular synthetic insecticide applications to the implementation of a full IPM program. Crop monitoring and the selection of 'softer' insecticides are considered key components of successful IPM programs. These BMO trials were conducted to see whether their adoption would be of benefit in these two regions, where they are not widely adopted.



- Regular monitoring is important in pest and disease control.
- Early fungicide applications are important for sclerotinia management.

The full results of these trials are available on the NSW Agriculture's web site at <http://www.agric.nsw.gov.au/reader/veg-lettuce>. For more information contact Andrew Creek at Yanco Agricultural institute on (02) 6951 2653.

## Trial results

- Using older-generation chemistry was effective for heliothis control during spring when *Helicoverpa punctigera* was the predominant species.
- Using the newer generation insecticides cost more. However, they did preserve the beneficial insect population.
- The benefits of preserving the beneficial insect population was not shown in these trials.

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## Spray sense

*Spray Sense* is a series of leaflets which focus on providing up-to-date information on a range of pesticide issues. Everyone 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 Agricultural Horticultural 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.

There are 17 information leaflets available, including advice on calibration, water quality, what pesticides you can use and testing for residues. These leaflets can be found on the NSW Agriculture's website at [www.agric.nsw.gov.au/reader/spray-sense](http://www.agric.nsw.gov.au/reader/spray-sense). For further information contact your local District Horticulturist at NSW Agriculture.

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## APVMA newsletter

The Australian Pesticides and Veterinary Medicines Authority (APVMA) are now producing a monthly newsletter, *Minor Use News*. The newsletter aims to provide monthly updates on new Minor Use &

Emergency Use Permits issued, general Minor Use news and other information. The newsletter can be obtained via the APVMA website at [www.apvma.gov.au](http://www.apvma.gov.au)

The APVMA would welcome any feedback and/or suggestions. Contact Alan Norden, Senior Evaluator, Pesticides Division Ph: (02) 6272 3726 or Email: [alan.norden@apvma.gov.au](mailto:alan.norden@apvma.gov.au)

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## Organic growers meeting standards

By Dr Greg Howell

The July 2003 issue of *Vegie Bites* reported on the start of the RIRDC project DAN - 217A: Organic Vegetable Seedling Production. The NSW Agriculture-coordinated project aimed to investigate the preparedness of organic vegetable growers for the end of a derogation on January 1, 2004, which had allowed them to use conventionally sourced propagative material (seeds, seedlings, tubers, corms, rhizomes cuttings etc). Until now the integrity of the organic production system has been open to question because it has relied on the conventional sector to supply or supplement its propagative material. Growers will now have to prove that they were unable to source certified organic propagative material for their crop as part of their annual audit.

In September 2003, as part of the project, a series of workshops were held around Australia to increase awareness of the requirements for organic vegetable seedling production, and to identify opportunities and threats that may arise as a result of this requirement. In addition, the workshops provided the necessary technical and regulatory information to producers of vegetable seedling and other propagative material to permit the production of organic certified stock.

A telephone survey was recently conducted to investigate how informed growers are of the changes to the standard, and to invite them to participate in a database which would match seed or seedling demand with production and give Australian growers equivalency with a similar database under construction by European Economic Union countries.

88% of growers surveyed claimed to be aware of the change to the derogation, and when asked how to implement such a rule change, 95% were able to correctly state the situation and procedure for using non-certified seed or seedlings. It appears that the Certification agencies have done a good job informing growers about the rule, and have also educated them to be able to implement changes to the production

standard in order that they remain compliant with the rules governing certification.

As a group, organic growers are only marginally concerned about the impact of the removal of the derogation on their production system, with 44% indicating that it will not affect their business. This possibly reflects the dedication of many growers to the ethos of organic production - with many already compliant. Of those who believe that their business will be affected by the change, a significant minority (43%) chose not to specify what the effect would be. The remainder nominated: lack of compliant inputs, planting material and increased costs, as impacting on their production. When asked directly, 59% indicated that they had only a poor chance of obtaining compliant seed and will continue to rely on exemptions from their certification body.

The final stage of the project is now under way. This involves a telephone survey of providers of inputs to the organic seed and seedling industry (including seed and seedling merchants and manufacturers of fertilisers, potting media and pest and disease control products) and the completion of the database.

For further information contact Robyn Neeson, Organic Farming Liaison Officer at Yanco Agricultural Institute on (02) 6951 2735.



Delegates from the Queensland workshop enjoying a short break from the day's proceedings.