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NSW Flower News

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Welcome

A highlight for 2006 has been the success of the Flowers 2006 conference on the Gold Coast. It was a great opportunity to meet new people and renew old acquaintances. The 'buzz' and energy that permeated the conference gave cause to be more optimistic about the future. Translating that vibe into real action to build a stronger Australian flower industry will be the challenge. The program certainly addressed many of the critical issues facing our flower industry. The insights provided by many speakers lingered long after the conference. The



Extensive variety trials were a highlight of the Flowers 2006 farm tour program

window into overseas trends in marketing provided by Veronica Richardson from the UK and Prof. Michael Reid (California) provided much food for thought. Several speakers noted the need to 'use all the tools in the post harvest box' to improve the results for customers and built a credible product image. The wonderful success was underpinned by a hard working committee, generous sponsorship and a fabulous trade show.

Overseas news indicates that innovation is thriving in the flower industry, if insights into this year's HortiFair are any guide – use of LED lights for supplemental lighting, equipment to apply drenches precisely to individual pots, valued added fresh flower merchandising and the rise of organic flowers in the marketplace. On the other hand, news from South America shows that the business is getting tougher. Dole's recent decision to close their flower operation in Ecuador and two of their farms in Colombia impacts on over 2,000 employees. The reasons behind the decision



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

given by John Amaya, president of Dole's Fresh Flowers (as quoted in *FloraCulture International* magazine's electronic newsletter) are a 'wake up call' – "The fresh flower business is highly fragmented and competitive. Industry oversupply has driven prices down, creating significant pressure on growers to improve performance. Latin American growers are also facing new competition from emerging markets in Africa and Asia." These comments apply equally well to Australian growers, except that their competition today comes from other products attracting the consumer dollar, but tomorrow may well be flowers imported from overseas, probably China. An article published in the New York Times in September outlined the massive government effort to make China 'the biggest flower producer and exporter in Asia in 10 to 15 years time, and possibly the world's largest after the Netherlands'.

So 2007 promises to be another challenging year for the flower industry. Fragmentation and disunity in the industry continue to leave it vulnerable and less able than other industries to face the challenges ahead – improving promotion, quality, profitability and access to water are just some of the issues common to everyone. There are encouraging signs of change - with national industry meetings held or planned – see later in this newsletter.

Flowers 2006 National Conference, Gold Coast. August 29-31.

The conference was well attended and voted a great success. Around 220 participants gathered to hear an excellent array of local and international experts. NSW DPI speakers were IPM specialists Stephen Goodwin and Marilyn Steiner, plant pathologist Len Tesoriero and industry development officer Bettina Gollnow.

Stephen introduced the keys to success with IPM (summarised later in this newsletter), while Marilyn shared the results of her research into side effects of pesticides on plants, growing media and plastics (it's a complex interaction). Len took the opportunity to brief the industry about a fairly new exotic *Phytophthora* species, *Phytophthora ramorum*, which has been

causing significant losses to the ornamental plant industry in the US and Europe, as well as killing large areas of native forest on the west coast of the US. It is a disease we absolutely don't want in Australia and hopefully our strong biosecurity focus will keep it out.

Bettina presented the final address on 'Future directions' summarising the conference highlights and key messages and proposing a way forward. She challenged the Australian flower industry to consider starting a new era of working together to deal with the many challenges facing the industry. The main concern for the Australian flower industry is to be more profitable by selling more flowers while reducing costs. But at the same time, growers must raise their quality and buyers' perception that flowers are special and worth paying for. A written version will appear in the next issue of Australian Flower Industry Magazine.

The conference also saw the presentation of the Australian Flower Industry magazine awards for the first time. Long time cut flower extension specialists Bettina Gollnow (NSW) and Gerry Parlevliet (WA) received the inaugural awards for services to the Australian cut flower and foliage industry.

If you missed the conference, you can buy a copy of the proceedings – contact FAQI at PO Box 327, Cleveland Qld 4163 or by emailing faq@flowersqueensland.asn.au



Florist Courtney Raven wowed the conference with her stylish designs

Find recipes for success at 2007 NSW wildflower conference

Commercial wildflower growers should register now for the 2007 NSW wildflower conference. It will be held in Port Macquarie over the weekend of February 24 and 25, 2007. This popular event brings together growers from NSW and interstate as well as marketers, allied traders and researchers. The event includes a one day conference, a conference dinner and a farm tour.

NSW DPI organiser Bettina Gollnow says invited speakers will cover a variety of on-farm management practises where relatively small changes will translate into big improvements and a more profitable business. Dr Dane Thomas from Forests NSW will share his knowledge of hydrogels, telling growers how they can use these products to increase plant survival and reduce transplant shock. Getting plants off to the right start is the key to maximising their productive life in a plantation.

Long time grower Brian Parry will give his perspectives on promoting the 'good bugs' in a commercial plantation setting. On his farm, Brian has trialled various approaches which aim to stimulate a healthy population of soil microbes. Brian says these help the plants perform much better and resist disease attack.

With more growers moving into more intensive container production of native crops under rain shelters, NSW DPI researcher Dr Ross Worrall has been comparing performance of flannel flower and kangaroo paws in different commercial style growing media. At the conference he will present the results and discuss which potting mixes give the best value for money. He will also outline the critical nutritional and plant disease interactions in these production systems.

The NSW state plan that covers native flora harvesting and licensing is currently under review and its requirements impact on both growers and marketers. During the conference, Brendon Neilly from the NSW Department of Environment and Conservation will highlight the critical areas

covered by the plan and answer growers' questions.

Several other presentations will expand the program. These include an 'on farm' discussion of the performance of various grafted species, led by researcher Jonathan Lidbetter. As well, Dr Audrey Gerber will share her knowledge on 'pruning for profit' and give a practical demonstration.

Discussion groups, which were very popular at the 2006 conference, will be another highlight of the 2007 conference. They will give everyone more opportunity to discuss key topics and issues raised during the morning talks. There will also be discussion groups focussing on current marketing issues on domestic and export markets.

As in previous years, a trade show will run in conjunction with the conference.

Registration is essential. For full details and a registration form, please contact Bettina Gollnow, NSW DPI, PMB 8, Camden NSW 2570, phone 02 4640 6437, email: bettina.gollnow@dpi.nsw.gov.au. Details will also be posted on our website www.dpi.nsw.nsw.gov.au under 'f' for flowers.

Industry news

National industry meetings aim to secure the future

1. Traditional flower industry.

The Flower Association of Queensland, with funding support from Horticulture Australia, hosted a national meeting in Sydney in late November. It was attended by almost 50 people representing the traditional flower industry in every state – there were growers, allied industry members, marketers, representatives from departments of agriculture and education and training providers. There was lively discussion about lots of issues affecting the flower industry, the fundamental question being 'how can we best progress the industry and ensure its ongoing prosperity?'

Australian flower growers currently have no official representation at the Federal level and as a result have no voice or influence over decision making that directly affects

their industry. As well there are *new issues* emerging that the industry is currently not in a position to deal with. As an example, there has been wide agreement that there is an urgent need to promote flowers to increase sales, and therefore everyone's profitability – but how do you do this? Isn't this something that can be achieved by everyone working together, because it is too hard to do on your own or by your state group?

The proposal to form a national industry peak body for the traditional flower industry is seen as the tool to secure the future. Its aim was defined by the meeting as follows - 'to represent and advance the interests of Australian flower growers to government and other organisations'. A national organisation can provide a means for dealing with issues that affect everyone, overcoming the current fragmentation and providing a central contact point for all. It can also access various government grants to fund industry programs.

The following issues were identified as needing action:

- * promotion of flowers to consumers - to increase consumption
- * national quality and grading standards – to increase buyer confidence
- * improved grower profitability – so there will be an industry for 'tomorrow'
- * development of a stronger industry profile – so that government and other organisations will listen to the industry

A steering committee made up of 2 representatives from each state and territory (except the ACT) was formed. Their job will be to discuss and develop options for the possible structure, funding, location and purpose of a national body. There are several existing and successful models around that the flower industry can explore – there is no need to 'reinvent the wheel' or revisit the divisions of the past. The NSW representatives and their contact details are given below – please talk to them and let them know what you think.

Sam Dominello spdom@bigpond.net.au
Nicole Bouery
nicole@florainternational.com.au



2. Wildflower summit

This summit has been postponed from late September 2006 until 2007. Several industry members have commenced debate via email and a chat site. The internet debate is an important 'sign of life' in the industry. To access the chat site go to www.igrow.com.au - you need to register as a user. There is a dedicated section on the wildflower industry discussions.

New native flora licensing plan to be released for comment

The new draft plan prepared by the NSW Department of Environment and Conservation (DEC) was discussed at length by the Cut Flower Industry Consultative Committee in late October. The committee includes commercial growers and managers of wild stands, along with representatives from NSW DPI (including State Forests) and DEC (Wildlife Management and Royal Botanic Gardens). The plan focuses on traceability, so that all product in the marketplace can be tracked back to the source, whether that is a licensed commercial grower who produces flowers or foliage from cultivated plants, a person who harvests from managed natural stands on his/her land or a licensed picker. Particular species are 'iconic' to NSW (e.g. waratahs, Christmas bells and Gynea lilies) and/or heavily harvested from wild stands. These especially need to be monitored to ensure continued harvest is sustainable and that no illegal product is offered for sale.

The previous NSW native flora management plan expired on June 30, 2006. It regulated wild harvest from a person's own or other people's land and also the harvest and commercial sale of cultivated native flora. A current NSW plan is also needed to gain export permits for native flowers. The federal department responsible for issuing export permits for cut flower species endemic to NSW and Australia (the Department of Environment and Heritage)

requires a current approved state plan and issues export permits on the basis of this. This is to comply with Australia's wildlife protection laws and our international trade in wildlife obligations.

The draft plan is a complex document and DEC aims to develop fact sheets for industry players as soon as possible in order to communicate the requirements more simply. Some commercial growers have very strong views on the plan. A number feel the need to be licensed, keep records, and label products is an unnecessary burden that eats into their profitability. Others are encouraged that in the longer term, they will have less competition from cheaper and lower quality bush harvested product.

Everyone in the industry should take the time to read the draft plan and make comments back to DEC during the 4 week period of public consultation. To find the draft plan (which will be released soon) go to www.dec.nsw.gov.au, select 'National Parks and Wildlife Service' and then 'licenses and business'. We plan to include a guest speaker from DEC on the program of the 2007 NSW Wildflower conference.

Leading the wildflower industry forwards – developing the next 5 year industry R&D plan

RIRDC has encouraged the Australian wildflower and native plants industry over many years through its support of R&D projects. An industry advisory committee works closely with RIRDC to guide this program.

A new R&D plan for the Wildflowers and Native Plants Program is now due. It will span the years 2007 to 2012. One of the key issues RIRDC has identified for 2006-07 is to 'work with industry to develop a new 5 year plan'. This plan will underpin the RIRDC objective - *to improve the profitability, productivity and sustainability of the Australian wildflower and native plant industry*. Bettina Gollnow from the NSW Department of Primary Industries has taken on the job of working with the industry to both review the results of the previous 5 year plan and to develop the new one. She needs your ideas!

It's probably true to say that many people don't fully understand exactly what R&D is. Luckily RIRDC has a very broad definition of R&D – research projects certainly, but also feasibility studies, training, dissemination of information, provision of advice or assistance and the publication of reports, periodicals, books or papers on research and development of activity. There is a lot of scope to help you solve your problems!

Bettina proposes the actively seek industry inputs for both the review and the future R&D plan, either by in person discussions, group meetings, surveys or a chat on the phone. Her plan is to gather views from as many in the industry as possible – growers, marketers, plant suppliers, allied industry members, researchers and educators. She will sort this information into a draft plan and take it to attendees at the proposed DAFF Wildflower Industry Summit for review. The summit is being convened by Ewan Colquhoun from Ridge Partners and the people attending will be representative of the diversity that makes this industry.

It's up to the industry to decide on the particular priorities on which the new plan will focus. Bettina wants to make sure that people in the industry, wherever they fit in the chain, are given a chance to contribute to the new plan. This is the only way we can be sure that industry needs will be met and also that industry people will be interested in implementing the plan and ensuring it succeeds. If you would like to know more, please contact Bettina Gollnow (contact details are at the end of this newsletter).

Plant disease proclamation

Proclamation P169 under the Plant Diseases Act came into effect in October and aims to prevent the introduction of Silverleaf whitefly and Tomato Yellow Leaf Curl Virus (TYLCV) into NSW. This action has been taken because diseases caused by similar strains of TYLCV cause severe economic losses in tomato crops overseas. Under the proclamation, there are strict conditions of entry into NSW for plants identified as hosts of the above pest and disease.

The hosts include lisianthus (*Eustoma grandiflora*), lobed croton (*Croton lobatus*), and poinsettias and related plants (*Euphorbia* species). Host plants must be accompanied by a Plant Health Certificate or Plant Health Assurance Certificate certifying that the plants meet the conditions of entry into NSW. You can find more information about this proclamation as well as a fact sheet on TYLCV on our website (www.dpi.nsw.gov.au).

Wildflowers NSW

This industry group met in September at Gosford. Projects supported for the coming year include a 'getting started' conference planned for 2007 to appeal to potential investors and the NSW product directory designed to promote NSW grown products and producers on the web. Please contact your local grower association if you wish to be listed in the directory.

Flowers dazzle at Parliament House

Several Hawkesbury region flower growers contributed to the displays at the Hawkesbury Harvest regional food and wine showcase held at State Parliament house in late November. Their flowers and foliage products were artfully arranged by Hawkesbury based florist Del Thomas. The event promoted the produce of the region to members of the hospitality and catering industry and associated media.



Bettina Gollnow (left) and Del Thomas at the display they set up at the Hawkesbury Harvest Regional Food and Wine Showcase. The display also highlighted the nursery and garden industry program 'Grow me instead' for which Del is the project officer. The program aims to reduce cultivation of ornamental plants with 'weedy' habits by offering alternative choices.

Research updates

Resistance management – help yourself!



Resistance is the ability of individuals in a pest population to survive a rate of pesticide (or farm chemical) that other individuals in the population cannot survive. This characteristic is inherited and the resistant survivors pass on the genes for resistance to their next generation. The more often we spray, the faster we remove the susceptible individuals and select for a population that has mostly resistant individuals. The pest can be an insect, and also a strain of a fungus or bacterium.

Some notable examples of resistant insects and mites are western flower thrips (WFT) and two spotted mites. Both have developed resistance to a number of key insecticides. When insects develop resistance, the grower needs to put on more frequent insecticide applications to kill the pest, as the registered rate of the insecticide starts to become less effective. More frequent applications don't just mean increasingly higher chemical costs (and higher labour and time costs). They also further speed up resistance development until eventually the old insecticide is pretty much ineffective and a new insecticide is needed.

But insecticides are expensive to develop and register, so replacement insecticides don't come along very quickly. So, it makes good sense to look after those insecticides that we do have available to us so that they stay effective for as long as possible.

Insecticide resistance is monitored and researched by a team led by Dr Grant Herron at the DPI's Elizabeth Macarthur Agricultural Institute. His studies focus on a range of pests in vegetable and cotton crops, especially western flower thrips, two spotted mites and aphids. In vegetables, WFT resistant to dichlorvos (a group 1B chemical), methomyl (group 1A) and spinosad (group 5A) have been recorded. High level spinosad resistance has also been documented in a flower crop.

Tips to keep resistance at bay

- keep your farm clean, so there are no places for pest insects or diseases to build up, for example on weeds and old crops.
- when using chemicals, always read the label and follow any resistance management guidelines
- rotate between different chemical groups
- don't use a chemical at a higher than label rate
- make sure you choose the right chemical for your target pest
- monitor your crops regularly and take action early, before pests or diseases build up (spot spray if possible)
- keep your spray equipment well maintained and look for ways to improve spray coverage (check your spray equipment and technique with spray cards, replace old equipment with better technology)
- if 'things are not working' ask for help – perhaps you need assistance in correctly identifying your target pest or disease, or perhaps the chemical you have used is not effective against your target pest
- for WFT, follow the 3 spray strategy – use **three sprays of the same chemical consecutively 3-6 days apart** to target all the individuals in a generation. This is because for part of its lifecycle, WFT is protected from chemicals you spray (while in the egg stage inside the leaf, and again during the pupal stage in the soil and crop trash). By applying 3 sprays, you are able to target existing larvae and adults, larvae as they hatch from the eggs, and adults as they emerge after pupating. Spray 1 targets existing larvae and adults, spray 2 targets adults hatched from pupae and larvae hatched from eggs and spray 3 cleans up any remaining larvae and adults. The time between each spray is determined by temperature, because WFT completes its life cycle more quickly at higher temperatures. The 3 spray strategy **should not** be used against

other pests – it may accelerate the rate of resistance in other insects. When temperatures are above 20°C, use the minimum time between consecutive sprays and leave a 2 week gap before you apply the next series of sprays, using a chemical from a different group – this is to make sure there is no overlap between generations.

IPM – the keys to success are waiting for you

Integrated pest management (IPM) is well known as an effective pest and disease management strategy. IPM has been around for a while, but there are still some who have not yet heard about it, while there are others who have, but don't really know much about it.

So, what is IPM? Integrated Pest Management covers insect and mite pests and plant diseases. It is a commonsense approach to pest and disease management. Anyone can use it, providing they know what they are doing. One of the drivers for growers to adopt IPM has been the development of insecticide resistance by their key pests.

So what do you need to know and where can you get the information? There are a few key principles around which any grower can fashion an IPM program for themselves.

1. Know what is in your crop.

You need to be able to identify what pests and diseases are in your crop. Correct identification is an absolute must. Bad diagnosis can lead to wrong treatments, which may have no effect, resulting in even more lost income and sometimes crop failure! Search for plant health diagnostic services at:

www.dpi.nsw.gov.au/agriculture/horticulture/pests.diseases.

2. Clean up your farm

You need to do whatever you can on your farm to prevent pests and diseases from occurring. We call this 'Risk Reduction'. Good hygiene is critical to keep diseases away. Make sure there is no stagnant water for some pests and diseases to breed in.

Control all weeds because many weeds are sources of a wide range of pests and diseases.

3. Make the most of your greenhouses

Greenhouse growers have some advantages to build on. Simple things will stop pests and diseases from entering your crops – for example, place insect-proof screening over vents including roof-vents and install double-entry doorways. Remember there are some important diseases such as tomato spotted wilt virus carried by insects! Greenhouse growers are much better off. They can buy biocontrol agents and release them into their greenhouses to manage pests. Much better than spraying.

4. Monitor your crops

If you have to spray your crop make sure there is a good reason. Regular inspections will tell you what is happening and when problems first occur. Use sticky traps as an early warning tool – they will trap small flying insects such as aphids, thrips, whiteflies and fungus gnats.



A practical scouting exercise during a meeting of the cut flower IPM group

5. Plan your actions

Know in advance what you are going to do if a serious pest such as western flower thrips or greenhouse whitefly arrives on your property. You usually don't need to spray your whole farm. Early detection means you can spot spray the small population. Select the correct pesticides for the job and make sure they are registered. Think about the damage they could do to your beneficial insects. Choose those that do least damage. Beneficial insects are an

important part of IPM. They can work for you in the field and do away with the need to spray in some instances.

6. Remember the benefits of not spraying

Unsprayed plants grow much better if left alone. Workers also do not like having to work in sprayed crops, especially in greenhouses. Overuse of pesticides can lead to chemical failure. This is called 'resistance'. For example, in the Sydney Basin there is high level resistance to one of the previously very good thrips pesticides Success®. Avoid resistance by adopting IPM!

How can you start with IPM?

There are IPM consultants available in all States. Find one near you and discuss your intentions with him/her. If you are close to Sydney, consider joining the IPM flower group. Formed in 2004, this group of growers shares an enthusiasm for IPM and works together to meet the challenges of converting to IPM. The activities of the group include training, networking, pesticide permits and peer support in adopting more disciplined approaches to pest and disease management. Members of the group are surveyed on their IPM practices each year. While this benchmarking is the basis for accreditation as an IPM grower, it also helps growers measure their progress and charts their successes. If you would like to know more about the group, please contact Bettina Gollnow.

Waratah specifications

NSW DPI has supported an industry initiative to develop product specifications for waratah blooms. Ross Worrall and Bettina Gollnow worked with members of the Waratah Industry Network and wholesaler East Coast Wildflowers to prepare draft specifications and instructions.



Sample of photos being prepared to help growers apply quality specifications

These were circulated to participating growers to apply their own waratah blooms during the 2006 harvest. At the peak of the season, the project participants met at the Sydney Flower Market to compare notes and review the quality of waratahs in the market.

NSW DPI scientific photographer Lowan Turton has been a crucial contributor to the project, producing high quality images of blooms at the various standards and recording common defects such as bract browning, grow through and insect damage. The images will be incorporated into a final package for growers to help them grade their waratahs more consistently across the industry.

The project is seen as a pilot study and NSW DPI hopes to gain funding support from industry and RIRDC to develop and roll out specifications for a number of wildflowers where there is currently inconsistent product offered to the market.



Participating growers met at the Sydney Flower Market to compare notes

RIRDC visits DPI

NSW DPI hosted a visit by members of the Rural Industries Research and Development Corporation (RIRDC) Wildflowers and Native Plants Committee, Program Manager Dr Roslyn Prinsley and Coordinator June Murphy recently. The current industry chairperson of this committee is Chris Horsman from South Australia. The committee was reviewing applications for projects for 2007 and beyond, and took the opportunity to find out more about current research conducted by DPI staff.



Ross Worrall (right) explains stem length of flannel flowers to committee members

Putting weeds to good use



Pasture establishment in trial plots treated with aquatic weed compost. Establishment was poor in the untreated plot (foreground) compared to the treated plot (other side of divider) where participants who attended a public seminar are standing.

Quality compost can be produced from aquatic weeds, is safe to use and beneficial for farmland. That's the finding of Australia's first large-scale scientific trial of the risks associated with recycling noxious weed material. The trial was undertaken on 35,000 cubic metres of aquatic weeds mechanically harvested from the Hawkesbury River after a major infestation occurred in the summer of 2004.

"The harvesting created a significant disposal problem and led to an 18-month research project to examine ways to recycle it," NSW Department of Primary Industries (DPI) research scientist, Dr Chris Dorahy said. "The weeds included Alligator Weed, which is invasive on land as well as water

and one of the big questions was whether an environmental risk remained from using this material, even though it had been composted.”

DPI conducted the research in collaboration with the NSW Department of Environment and Conservation (DEC) and Hawkesbury-Nepean Catchment Management Authority to evaluate the feasibility of compost-recycling aquatic weeds harvested from the Hawkesbury.

Tests on the quality of the compost were also undertaken. It was found to be comparable to compost made from organic garden material, though with lower concentrations of nitrogen, phosphorus and calcium, and higher amounts of inorganic material such as sand. The concentrations of heavy metals and chemical residues in the composted material were very low, indicating a low risk from other contaminants.

For further information see Primefact 229, available from the NSW DPI website, www.dpi.nsw.gov.au

Soil info



Soil biology basics is an information series describing basic concepts in soil biology. You can find it on the NSW DPI website, either by searching 'soil biology basics' or through the link below.

www.dpi.nsw.gov.au/aboutus/resources/factsheets/soil-biology-basics

The fact sheets cover a range of topics including 'how to conduct your own field trials', 'how to encourage soil organisms', 'nematodes', 'how to build organic matter in your soil' and 'questions to ask about soil biology products.'

How do you interpret your soil test?

Look for advice on how to make sense of your soil test report on the DPI website - see www.agric.nsw.gov.au/reader/soil-testing/interpret-soil-test.htm

Environment & climate

Methyl bromide update

The latest and final issue of the national Methyl Bromide Update (issue 15) includes a useful article on applying alternatives to methyl bromide via drip irrigation systems. Find it on the DPI Victoria website www.dpi.vic.gov.au/farming/horticulture/mb

A Guide to Soil Disinfestation in the Absence of Methyl Bromide

A reminder that the National Methyl Bromide Team have published the grower-focused guide, 'Getting the most from methyl bromide alternatives: a guide to soil disinfestation strategies in the absence of methyl bromide'. This guide is the culmination of ten years of research, bringing together the latest practical information on MB alternatives to provide growers with the tools to make informed decisions about their future soil disinfestation practices. An electronic version of the guide is available on the DPI Victoria website - www.dpi.vic.gov.au and search for 'MB'.

Climate change - drier and hotter for NSW

The Bureau of Meteorology latest seasonal outlook forecasts drier than normal conditions for South East Queensland and much of NSW, and above average three-month totals for western and northern Queensland and northwest WA, together with above normal daytime and night-time temperatures over the eastern half of the country. Read the outlook for NSW at <http://www.bom.gov.au/climate/ahead/ra/n.nsw.shtml>.

A study by the Australian Bureau of Meteorology has uncovered a pattern of recurring extended dry and wet periods in NSW. From 1900 to 1946 the state had a state wide average annual rainfall of 478 mm. In 1947 there was a marked shift to a higher rainfall regime, which persisted to 2000. Since then NSW and much of eastern Australia has had a dry and exceptionally warm period. The state's average rainfall for the past five years has been only 457.6 mm compared with the standard reference period (1961-90) average of 566.0 mm. The period 2001 to 2005 has been the driest

five-year period since 1968 and the warmest five-year period recorded for NSW since 1910 when reliable temperature records began over Australia. The only five-year period in the rainfall record (beginning in 1900) significantly drier than the last five years was in the mid-1940s (439.1 mm in 1942-46). Source:

<http://www.deh.gov.au/minister/ps/2006/psmr05jun06.html>.

Shelterbelts harbour beneficials

A study of insects in shelterbelts has found that shelterbelts with ground cover harbour beneficial organisms that suppress pest numbers in adjacent pastures. Read the abstract in the Australian Journal of Experimental Agriculture

<http://www.publish.csiro.au/nid/72/paper/EA05137.htm>.

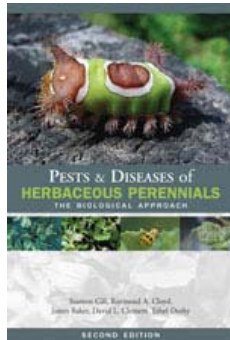
Dams lose almost half their water at night

WA research has found that night-time evaporation accounts for 40% of evaporation losses from farm dams. This far exceeds previous estimates, and forces a rethink on dam design and construction.

Read more at

http://www.lwa.gov.au/downloads/publications_pdf/ER061198.pdf.

NEW book



Pests & Diseases of Herbaceous Perennials, 2nd Ed 2006 The Biological Approach

by Stanton Gill, Raymond A Cloyd, James Baker, David L. Clement, and Ethel Dutky
Divided into five parts, Pests & Diseases of Herbaceous Perennials, 2nd Edition explains the concept of integrated pest management (IPM) and describes the insects and diseases that will attack perennials and how best to combat them. An added section discusses four important

perennial crops and their insects and diseases. The final part is a visual identification guide of damage to plants, aiding growers in identifying pest and disease problems.

Available from Ball Publishing, USA – see www.ballpublishing.com

Interesting websites

www.humanflowerproject.com

The Human Flower Project is an international newsgroup, photo album and discussion of how people live through flowers. It reports on art, medicine, society, politics, religion, and commerce. Articles are many and varied, and often quirky.

www.farmonline.com.au

This website has news, weather and market information from *The Land* and other leading rural newspapers and magazines. It's a good way to keep up to date with issues affecting rural Australia.

www.bom.gov.au/wat/

The Water and the Land pages of the Bureau of meteorology's website present an integrated suite of information for people involved in primary production, natural resource management, industry, trade and commerce.

www.floracultureintl.com/passport/default.asp

This monthly Email newsletter from Floraculture International Magazine is a great way to keep up with what's going on in floriculture around the world. Some reports are featured only in the electronic newsletter and not published in *Floraculture International* magazine.

Calendar 2007

* February 24-25. NSW Wildflower conference. Theme: 'Recipes for success'. Port Macquarie.

* July 28. What's NEW for flower growers update seminar - Dural



Do you grow grapes or buy fruit to make wine?

If you do, you need to know about grapevine phylloxera. This is a small yellow insect that lives and feeds on the roots of grapevines and sometimes on leaves. It is the most important pest of grapevines and a threat to the commercial grape and wine industries. It does occur in Australia, having been introduced on infested grapevines 130 years ago, but is limited in occurrence and kept out of phylloxera free areas via designated exclusion zones.

Phylloxera is spread mostly by people. This is how you can help limit its spread:

- Don't walk in and around vineyards
- Only buy grape bunches that are free of leaves and plant material
- Do not visit other vineyards after buying grapes
- Do not take grapevine plant material such as canes, leaves and grapevine rootlings or any soil out of a Phylloxera Infested Zone – it is against the law.

For more information, call 1800 084 881 or visit our website www.dpi.nsw.gov.au – if you search under 'phylloxera', you will find details of the 'Exclusion Zones' and the 'Infested Zones' including a map. Infested Zones include the Sydney Region and Albury/Corowa.

NSW flower grower associations and networks:

Australian Native Flower Growers & Promoters

PO Box 4327
East Gosford NSW 2250
www.anfgpa.com

Blandfordia Research & Extension Group

Contact: Greig Ireland
NSW Department of Primary Industries
PO Box 530

Coffs Harbour NSW 2450
Phone: (02) 6650 3111
Fax: (02) 6651 2780

Central West Flower Industry Association

Contact: Neil Jones
Phone: 0419 224 461

Coffs Harbour Flower Exporters

Contact: Jeff Eggins
PO Box 22
Corindi Beach NSW 2456
Phone: (02) 6649 2698 (ah)

Flower Growers Group of NSW (Inc.)

Contact: Nicole Bouery
c/- 1322-1340 Camden Valley Way
Leppington NSW 2179
Phone: (02) 9606 6222
Fax: (02) 9606 6841
www.nswflowers.net.au

Native Flower Grower's Association Inc. (Mid North Coast)

Contact: Harry Kibbler
Address: 23 Plover Lane
Kempsey NSW 2440
Phone/fax: (02) 6567 4266
www.australiannativeflowers.com.au

NSW Farmers Association

Level 10, 255 Elizabeth St
Sydney 2000
Phone: (02) 8251 1700
Fax: (02) 8251 1750
www.nswfarmers.org.au

Waratah Industry Network

Contact via Australian Native Flower Growers and Promoters

Wildflowers Australia – NSW Branch

(previously the Australian Flora and Protea Growers Association – NSW Branch)
Contact: Tim Bailey
Phone: (02) 4447 8016
www.wildflowersaust.net

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