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NSW Flower News

issue 4 December 2004

Welcome to the 4th issue of Flower News – updates on research and advisory activities from the NSW Department of Primary Industries. Read about current flower projects being led by our researchers and catch up on the highlights of several recent industry meetings. There is important information about restrictions on procymidone based fungicides because of concerns regarding human health, dietary and occupational exposure. We profile upcoming meetings and conferences – add them to your diary for next year. The latest western flower thrips management fact sheet for ornamental crops is attached as a separate document.

Research updates

Solving the waratah borer puzzle

The larvae of the waratah borer moth (*Xylorycta leutotactella*) cause serious damage to commercially cultivated waratah (*Telopea speciosissima*). The larval stage of the insect generally bores into the buds and stems of the plant. As buds are the favoured sites, the economic damage is direct and serious. The larvae can also bore into the stems and in many instances cause their subsequent collapse.

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Close up of damage caused by the waratah borer moth

To date growers have found successful control of this pest a major challenge. Some growers resort to regular spraying the crop with insecticides to protect the flowers from the damage by the larvae. Unfortunately the success rate of this preventive action is very low because there is no information available to growers about when to apply insecticides for best results. In their struggle to manage this pest, growers try a range of pesticides, some of which do not appear to be registered for this use pattern. An unpredictable side effect can include adverse effects



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on beneficial insects which may be keeping other pests in check, resulting in other insects becoming serious pests. In addition, because the larvae feed from inside the buds and stems, they are physically protected from most insecticides.

In order to resolve the situation, NSW DPI entomologist Dr. Victor Rajakulendran has been monitoring the population dynamics of 'waratah bud borer' on cultivated waratahs. This is because, for efficient control of this pest, growers need to know when the eggs are laid and the first instar larvae remain on the surface before they bore into the flower buds and stems and get protection from the sprays. Growers also need to know where on the plant to look for the first instar larvae. Although the timing of the appearance of the first instar larvae will vary in each climatic region, if this timing could be correlated to climatic data then this could be extrapolated to all the climatic regions. Just over 12 months ago, two plots of established waratah plants, which had been not treated with insecticides for more than a year, were identified. With the cooperation of the grower, all the plants were pruned after flowering and 25 plants were selected from each plot for regular monitoring. Weekly monitoring was carried out, examining about 550 locations on the 50 plants. Data collected for the whole season was used to determine the narrow windows of time in which the first instar larvae appear on the plants. Climatic data monitored at the farm using data loggers was used to relate these peaks to temperature and humidity.

Waratah growers will benefit from the study because the peak periods of first instar larvae appearing on the surface of the plant for this location will be identified and correlated to temperature and humidity. As a result growers will be able to schedule their spray programs to target the first instar larvae and should achieve better control of the pest with least amount of insecticides.

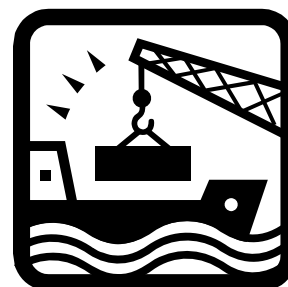
Exporting flowers by sea

A new two year project funded by RIRDC will examine the feasibility of exporting Australian flowers by sea. Based at Gosford Horticultural Institute (NSW DPI), this is a collaborative project with The Centre for Native Floriculture in Qld and a number of growers in northern NSW and Qld.

Researcher Dr Jenny Ekman aims to determine the maximum time that some commercially important species of native flowers and foliage can be stored and still have an acceptable vase life. In this way the

research can determine whether sea freight is possible and assess the risks associated with potential delays.

Storage life is affected by factors such as pre-harvest conditions, maturity, post harvest treatments and the storage environment. The large quantities and long transport times associated with sea freight make it vitally important to get these factors right. One task of the project will be to define these parameters, increasing confidence about out turn quality.



Why is sea freight of interest? Like Australian designer labels, our flower products are increasingly under threat from cheaper suppliers. This is a major problem for native cut flowers exported to competitive markets in Japan, the USA and Europe. Combined with increased air freight costs and a high A\$ this has already forced some growers out of the industry.

One way to improve profitability is to reduce the cost of transport. Cut flowers on the Australian east coast are currently exported by air, which represents >25% of total costs. Charges are based on volume as well as weight, so bulky species (such as banksias and Gynea lilies) are particularly expensive. In recent times, costs have further increased due to rising fuel and security surcharges.

Freight costs would be reduced by 50% or more if flowers were transported by sea instead of air. This saving would directly benefit growers. Moreover, better temperature control during sea transport could mean flowers arrive fresher than by air, even though the travel time is longer.

Even if it is physically possible to export flowers by sea, it is still not the full story. Getting the supply chain linkages right is absolutely essential. At least one trial shipment failed because the container was left sitting on the dock in Japan without power.

For this reason, the project will include investigation of the logistics of using sea freight for native flowers and foliage. It must be feasible for products to move

efficiently between farms, importing and exporting ports, agents and retailers if they are to reach the customer in good condition. Marketing issues relating to sea freight also need to be worked through. A supply chain is only as strong as the weakest link, so logistics and marketing are essential components of this project.

Sea transport of flowers is not a new idea. Australia started in a small way, sailing Christmas Bush down to Sydney from the Central Coast during the 1880s. More recently there have been several studies on the feasibility of exporting Australian flowers by sea. These trials had mixed results and sea freight is still not used commercially. So what has changed?

At the same time as problems associated with air freight have increased, the availability, reliability and speed of sea freight has improved. Ships can now travel to Japan from Sydney in 11 days or from Brisbane in only 8 days. Improved container technology means that temperature, humidity, and even the gas concentrations inside containers can be reliably and accurately controlled. In addition, better cool-chain management, new post harvest treatments and different packaging methods can mean flowers stay fresher for longer than previously thought possible.

Other countries are already using sea freight to export flowers. Several South American countries regularly send containers of flowers and foliage to the USA, Israel has successfully shipped products to Europe, Japan receives flowers from China this way, and South Africa regularly ships greens and foliages to Europe.

Another possibility involves combining air and sea transport. Representing a compromise between speed and cost, this method has been used successfully to transport fresh peaches and nectarines to Europe. For example, flowers flown to Suvic Bay in the Philippines could be shipped to Japan, other parts of Asia, or even the USA. Transport from Australia to Japan by this method would take 6-7 days and cost significantly less than flying direct.

Sea freight for native flowers and foliage therefore seems worth another look.

For further information, please contact Dr Jenny Ekman, Gosford Horticultural Institute, NSW DPI, (02) 4348 1900 or Dr Daryl Joyce, Qld Centre for Native Floriculture (07) 5460 1725.

The challenge posed by Christmas bush psyllids.

One of the success stories of the NSW native flower industry is the cultivation of Christmas bush, *Ceratopetalum gummiferum*, an Australian native plant, for both domestic and export markets. Many thousands of plants are commercially cultivated in plantations, mainly on the North Coast of NSW and large volumes of Christmas bush are sold in overseas markets like Japan and North America.



Dr Victor Rajakulendran applying pesticide treatments in the Christmas bush trial

Unfortunately, the Christmas bush psyllid, *Cerotrioza* sp., has emerged as a serious pest of Christmas bush and may have moved to new areas by ‘piggy backing’ on its host as growers have expanded their plantings into new areas. Psyllids are rarely found on Christmas bush in the wild, even in areas adjacent to heavily infested plantations. This may be because naturally occurring predators and parasites maintain the balance in the wild. Another explanation is that commercial plantations provide a very favourable environment for psyllids - many vigorously growing shoots high in nitrogen together with high humidity provided by the irrigation.

What are psyllids? They are small insects related to aphids, whiteflies and mealy bugs. They feed by penetrating the phloem tissue of the host plant. During feeding psyllids inject plant hormones called auxins into the plant tissue which can cause the leaves to curl. In addition their excreta, called honeydew, are rich in sugar. Sooty mould fungus often grows on this honeydew, spoiling the visual appeal of the product.

The young psyllids (nymphs) continue to feed under the curled leaves, protected from both predators and insecticides. The leaf curling resulting from a severe psyllid infestation makes the cut stems of the flowers less marketable and badly affected shoots may die

back. In addition, other insects such as aphids and even spiders seek protection under the curled leaves. This can become a quarantine issue as many overseas markets have a low or nil tolerance for insects. Eliminating a complex of insects and spiders hidden in the curled leaves is a task most growers would like to avoid.

For effective management of psyllids, growers rely on insecticides. Growers currently use several products to manage psyllids and report varying success. Chemicals with a contact mode of action are of limited use, particularly in warmer areas where several generations of psyllids occur annually, because regular sprays are needed to protect each flush of new growth. The other option is to use insecticides with a systemic mode of action, where the chemicals are carried in the conducting system of the plant and distributed into the foliage.

NSW DPI researchers Dr. Victor Rajakulendran, Dr Ross Worrall and Bettina Gollnow recently initiated a trial to compare the effectiveness of several insecticides against this pest. The trial includes chemicals commonly used by growers as well as some new products or product formulations. The work aims to identify the most effective product(s) available to manage Christmas bush psyllids, preferably those where a minimal number of applications will be needed in a full season, but which may allow any naturally occurring predators and parasitoids to perform their activities safely.

Psyllid numbers are being closely monitored by trapping them on yellow sticky cards and pesticide applications will be made as dictated by pest numbers, simulating grower practice. Eight different treatments are being compared.

NSW wildflower industry survey – don't miss your chance to contribute

NSW Department of Primary Industries together with Wildflowers NSW is about to undertake the third state wide survey of the NSW wildflower industry. Earlier surveys in 1998 and 2001 revealed that the industry is much larger and more complex than most people realise. We hope that growers will continue to give their support to the 2004 survey, especially those who have been involved in previous surveys, as this will allow changes in industry trends to be measured. Growers will receive their survey before Christmas by direct mail or via their industry association. If you miss out, please contact Bettina Gollnow (see page 10 for contact details).

Previous surveys have captured information from up to 40% of the total industry. Most growers were located on the North Coast, followed by the Central Coast/Sydney region and the South Coast. Many growers were well established in 1998 and continued their flower growing activities to 2001 while others made the leap from hobby farmers to commercial players.

North Coast growers had increased the diversity of crops planted from 13 genera in 1998 to 38 three years later. Two thirds of these growers were growing solely or mostly for the export market. The 2001 survey also showed a pronounced increase in the number of named varieties and cultivars being grown, reflecting the combined efforts of growers, plant breeders, selectors and propagators in offering superior forms to the market.



Banksia plagiocarpa is a new commercial flower crop being grown mainly along the NSW north coast.

Key crops being grown in 2001 included kangaroo paws, flannel flowers, NSW Christmas bush, rice flower and waratahs and these were also the major export lines. The investment in flannel flowers, kangaroo paw and Christmas bush (in terms of numbers of plants) doubled between 1998 and 2001. One new crop that has emerged on the North coast is *Banksia plagiocarpa*, the Hinchinbrook banksia.

The surveys have also been used to gather data on issues affecting the industry, for example frost incidence and perceived limitations to individual businesses. The DPI surveys are important because reliable statistics about the NSW cut flower industry or indeed the Australian industry are very sparse. The results assist wholesalers and exporters with information about future supply. Plant producers and growers benefit from having a more reliable basis for investment decisions on what to grow, how much, how and where.

Events

NSW wildflower meeting on again in 2005.

Late February 2005 sees NSW Department of Primary Industries again hosting this popular annual meeting, in conjunction with Wildflowers NSW, the state industry peak body. The meeting will be held over the weekend of February 26 and 27, 2005. This will be the seventh meeting, held for the second time at Coffs Harbour where there are many established growers.

The program includes a day of presentations on key issues affecting the industry and its future from researchers, marketers and growers. Confirmed speakers include plant breeder Angus Stewart, who will discuss 'Australian natives on the world stage – breeding new varieties', with special emphasis on new selections of kangaroo paws. Also contributing will be DPI researcher Dr Ross Worrall who will talk about electronic grading of Christmas bush and irrigation specialist Bill Yiasoumi who will explain how growers can optimise their irrigation systems. Day two of the meeting features visits to see a range of Australian native and protea crops on established commercial farms in the region.

To receive full details of the meeting contact:
Bettina Gollnow (see page 10 for contact details).

Brisbane to host 7th Australian Native Flower Conference

Held once every three years, this national conference provides an important opportunity for growers, propagators, wholesalers, exporters, researchers and allied input suppliers from across Australia to discuss the current issues and opportunities facing the native cut flower industry. The international keynote speaker will be Professor Abraham Halevy. Professor Halevy is one of the world's most distinguished horticultural scientists and was integral in developing the Israeli cut flower industry through his research work and industry leadership.

The program for the four-day event starts on day one with a tour of the University of Queensland research facilities and then visits to some of the local flower growing operations with a welcome BBQ to be held at the conference venue that evening. Days two and three will be filled with seminars, workshops, floristry competitions, a trade fair and conference dinner.

The conference's workshops will be run under the themes of:

- Nursery Accreditation & Plant Quality

- Water Management for Flower Growers
- Managing for Profit
- Marketing and Export Trends
- Post Harvest and Quality Assurance
- Value Chain Principles
- Integrated Pest & Crop Management
- New Growers

The conference will finish with another full day of farm tours visiting growers in the Sunshine Coast region. The conference dinner will be included in the price of registration.

Several DPI researchers are looking forward to contributing to the 2005 Conference. Dr Ross Worrall will present a paper on 'The effect of soil growing conditions and root diseases on growth and survival of flannel flowers', and Jonathan Lidbetter will discuss the benefits of grafting *Boronia heterophylla* for resistance to Phytophthora, a fungal disease responsible for significant plant losses in plantations. Dr Jenny Ekman has chosen the title 'When Banksias go boating' to profile her research into the feasibility of exporting flowers by sea. Bettina Gollnow has been invited to facilitate one of the conference workshops.

If you are thinking of attending please register your interest to be included on the conference mailing list by contacting Shane Holborn, on phone 07 3824 9516, fax 07 3286 3094 or email shane.holborn@dpi.qld.gov.au. See also www.flowersaustralia.asn.au

Narara research centre hosts November wildflower industry meeting

Industry leaders and NSW DPI researchers joined forces to present an interesting array of information to growers at an industry meeting held on November 21 at the National Centre for Greenhouse Horticulture, Narara. Many growers attending were impressed by the resources and diversity of research work conducted at the Centre.

Industry members Nola Parry and Jocelyn Jones spoke about their participation in 'Pacific Flora 2004' an international event hosted this year by Japan. Using many photos to capture the event, Nola and Jocelyn emphasised the amazing reaction by show visitors, who were mostly Japanese, to our Australian flora. Putting together this display of Australian flowers and foliage was an eye opener, as flower boxes arrived late and contained flowers ranging in

quality from 'perfect' to 'looking like they were 6 months old'. Most popular were the Gynea lilies, called 'Jumbo uri' or giant lily by the Japanese. The display aimed to promote the industry and tourism on the Central Coast and received a silver medal. The scale of the event was huge, with between 35,000 and 38,000 people walking by their stand....every day.

Plant breeder Angus Stewart updated growers about native flower lines being produced for commercial native flower growers and available from Ramm Botanicals. These are the 'Bush Gems' selections of kangaroo paws which Angus has been breeding for many years, and more recently *Ixodia*. Angus described new pink and purple forms of kangaroo paws under development, including 'ever blooming' varieties that produce flowers all year. With *Ixodia*, Angus is looking to collaborate with growers to do trials to develop this crop further for NSW.



NSW DPI researcher Jonathan Lidbetter (see photo above) gave a practical demonstration of how to graft native flowers and explained the benefits of grafted plants for commercial growers. Growers visited the post harvest laboratory where Jenny Ekman explained current vase life trials with Christmas bush, flannel flower and *Backhousia*. A tour through the flannel flower production area and the shadehouse provided further opportunities for discussion and questions on a range of topics.



Dr Ross Worrall answered growers' questions during the tour

Industry news



Wildflowers NSW meeting

A face to face meeting of the peak body Wildflowers NSW was in early August at Narara. **Affiliation** with another larger group to increase lobbying ability and obtain affordable public liability insurance and other benefits were discussed at length with invited speakers from the NSW Farmers Association (NSWFA), Frances Vella and Guy Hannan. The potential for forming a Wildflower growers branch of NSWFA is being explored in detail as are ways of achieving links between such a branch and existing wildflower industry groups.

The results of an earlier grower survey of **pesticide use** were discussed. Only 18 growers completed the survey so unfortunately for most crops the number of growers providing information is too small to justify seeking permits for 'off label' uses. Some trends were identified including:

- some additional chemicals are needed for important pests and diseases, such as mealy bugs and botrytis, as well as weeds
- effective controls for spiders and Monolepta are needed
- growers could use some already available products more – e.g. petroleum spray oils and newer products for caterpillars
- people are jeopardising some key chemicals through over use or unnecessary use (where alternatives are available) – especially imidacloprid and deltamethrin

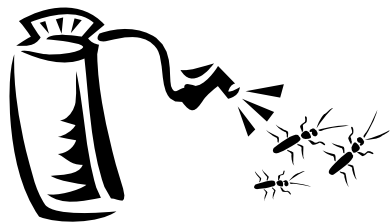
Member group feedback on **potential research & development** projects included the following:

- Waratah variety assessment
- Chemical registration
- Bud borer and leaf miner – effective chemicals
- What triggers flowering in waratahs and can that trigger be used to manipulate flowering time?
- Managing 'grow through' in Christmas bush
- Nutritional requirements of native flower crops

- A benchmarking study to look at the costs of growing

A range of **organisational matters** were also discussed including a review of Wildflowers NSW since its inception, industry statistics, promotion of activities between member groups and feedback received from TAFE floristry teachers. The industry survey conducted every three years was supported for the 2004 season.

Pesticide news



Procymidone restrictions

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has just imposed restrictions on procymidone based fungicides because of concerns regarding human health, dietary and occupational exposure. Recent assessments by health authorities have identified that procymidone can cause birth defects in laboratory animals and therefore may pose the same risk to humans under some circumstances associated with worker exposure.

As a result, the APVMA intends to suspend the registration of procymidone products and labels until 31 December 2006 during which time it will reconsider the available scientific data. The supply and use of procymidone products will still be permitted during this period, but only in a manner consistent with revised interim instructions. Product manufacturers will be required to recall and re-label procymidone products already in the supply chain and take all reasonable steps to make users aware of the revised instructions. In NSW, procymidone is registered for use on ornamental crops to control sclerotinia rot.

Procymidone products may only be supplied if a copy of the revised instructions is securely fixed to the container. Users will be required to read and follow the revised instructions for use.

Manufacturers will also be required to make arrangements for the surrender of product by users who choose to do this.

The proposed restrictions and revised instructions for use can be summarised as follows:

1. Procymidone has been rescheduled to a Schedule 7 pesticide and will have to carry the following warning statement - Contains procymidone which causes birth defects in laboratory animals. Women of child bearing age should avoid contact with procymidone.
2. The use patterns for green beans, lettuces, strawberries and tomatoes will be deleted from the label.
3. Use on stone fruit will be for control of blossom blight only, and not to be applied after shuck fall.
4. Use on grapes restricted to wine grapes only. Not to be used on table grapes or grapes used for the production of dried fruit.
5. The minimum withholding period (the time between last application and harvest) will be 9 days for all crops.
6. A 9 day crop re-entry period for workers will be imposed. Workers will not be able to enter treated areas for 9 days after spray application unless wearing cotton overall buttoned to the neck and wrist (or equivalent clothing), chemical resistant gloves and boots. Clothing must be laundered after each day's use.
7. Hand weeding, transplanting of turf, cutting of flowers should not be performed for 24 days after spray application unless wearing cotton overall buttoned to the neck and wrist (or equivalent clothing), chemical resistant gloves and boots. Clothing must be laundered after each day's use.

It is the responsibility of the APVMA and manufacturers to communicate these new requirements to users and promote awareness. Enforcing compliance with the new instructions for use is the responsibility of the Department of Environment and Conservation (DEC) under the Pesticides Act 1999.

Additional information on the review of procymidone, including a Review Scoping Document and some Frequently Asked Questions, is available on the APVMA website at www.apvma.gov.au/chemrev/procymidone.shtml

Minor use permits

The Federal Department of Agriculture, Fisheries and Forestry recently released its draft cost recovery impact statement. This covers the proposed cost recovery framework for the national registration scheme for agricultural and veterinary chemicals. Of particular relevance to flower growers is the proposal to charge for minor use permits.

Minor use permits allow the use of an agricultural chemical in a manner that is not on the product label and which would otherwise be illegal. Minor use permits are usually issued for the use of a chemical in small, merging or niche industries, and these are often horticultural industries.

The new provisions are that permit holders (usually growers or grower organisations) would pay a ‘nominal fee’ of \$320, to cover the administrative costs of the application. It is timely for the flower industry as a whole to consider how it will meet such charges in the future.

Pesticides under review

In addition to its registration functions, the APVMA also reviews concerns about existing registered products and approved actives. Users can be affected by the outcomes of such chemical reviews through changes to labels, restrictions to a product’s use, or even removal of products from the marketplace.

The APVMA is currently reviewing the following chemicals, many of which are used by flower growers:

1080	endosulfan
2,4-D	fenamiphos
CCA	fenthion
atrazine	fenitrothion
azinphos-methyl	fipronil
benomyl	macrolide antibiotics
carbaryl	maldison (malathion)
carbon disulfide	methidathion
chlorfenvinphos	methamidaphos
chlorpyrifos	methiocarb
diazinon	molinate
dichlorvos	omethoate
dimethoate	paraquat
dimetridazole	parathion-methyl
diquat	sheep ectoparasitocides
diuron	virginiamycin

Fumigation

Training for users

Some growers may be unsure about whether or not they need to complete formal training in fumigants before they can legally use them. The present situation in NSW is confusing and this article explains the current scene and what may happen in the future.

In NSW agricultural fumigation is controlled by both the EPA and WorkCover. To use any agricultural fumigant, you must be trained (either ChemCert or SMARTtrain) under the Training Regulation of the Pesticides Act as agricultural fumigants are pesticides. This is the EPA requirement. In addition, to use certain fumigants which are thought to pose a greater risk to health, you must have training on top of ChemCert/SMARTtrain. These fumigants are methyl bromide, phosphine, carbon disulphide and chloropicrin. To use these fumigants you must have a certificate of competency issued by WorkCover. To get this certificate, you have to do a specific TAFE course on fumigation (competency 11). However, with complete methyl bromide phase out imminent, the only fumigant growers are likely to want to use with the current training requirement is 1,3-dichloropropene + chloropicrin (registered as Telone C35®), as it contains chloropicrin.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has set training requirements for the fumigants metham sodium and dazomet which are not enforceable by state control of use legislation because the products are not restricted chemical products. If they are, you won't be able to purchase or use these fumigants without proof of training. The APVMA is discussing with the states such a reclassification. In the light of this, NSW DPI has joined TAFE NSW and the Victorian DPI in pressing for a common soil fumigation training requirement (in terms of a national competency) rather than a different training course for every product. Work is already underway to design such a course.

Dates for your diary:

February 27 & 28 Annual meeting of NSW Wildflower Growers. Coffs Harbour. Contact Bettina Gollnow (phone: 4640 6437, 0427 102 247).

May 25-28. 7th Australian Native Flower Conference. Bardon Conference Centre, Brisbane. See www.flowersaustralia.asn.au for more details.

July 30 What’s new for flower growers? 2005 Topic: disease management. Seminar and trade show. Dural Country Club. Contact Alan Merriman, Organic Fertilisers (phone 4773 4291, 0408 267 728) or Bettina Gollnow (phone 4640 6437, 0427 102 247).

New fumigant – ethanedinitrile

CSIRO and the global industrial gas company the BOC Group have signed a deal to deliver to the international market a new environmentally-safe fumigant for treating soil, insect pests, weeds and diseases. They have agreed to commercialise ethanedinitrile (EDN) as a fumigant to replace the ozone-depleting methyl bromide which is being phased out under the Montreal Protocol.

EDN is a fumigant discovered by CSIRO in 1994. Field tests have shown it to be more effective than methyl bromide in treating soil, timber and imported feed for livestock.

Mehrdad Baghai, CSIRO's Executive Director of Business Development and Commercialisation says "The global market for methyl bromide is estimated to be more than \$500 million. With the phase out of methyl bromide scheduled in 2006, organisations worldwide are racing to find suitable alternatives."

CSIRO Entomology Chief Dr Joanne Daly adds "In addition to being environmentally better, EDN is also more effective in penetrating soil and timber and more effective than methyl bromide in killing unwanted insects, moulds, bacteria and nematodes."

BOC is moving forward with the registration of EDN within the next two months and are in the process of finalising a supply agreement. Under the agreement, CSIRO will assist BOC and develop the efficacy data for the fumigant with BOC registering the product and identifying suitable manufacturers for ethanedinitrile. Both CSIRO and BOC have already received interest from a number of countries to trial and introduce applications of EDN.



Publications news

New farm chemical book available

SpraySense is a new booklet of information about safe and effective use of farm chemicals. It covers how to calibrate hand, airblast and boom sprayers, spray water quality, how to choose the right pressure gauge, how to read the label and keep spray records, what pesticides you can use, how to prevent and treat pesticide poisoning, safe pesticide transport and storage, fungicide use, disposal of empty containers, how to manage chemical spills, the role of pesticide

inspectors, how to assess spray coverage with water sensitive spray cards and testing for chemical residues.

NSW flower growers can receive a free copy by contacting Bettina Gollnow (see page 10).

Interesting websites:

National 'outbreak' website

See www.outbreak.gov.au

This Federal government initiative aims to keep Australians and trading partners better informed in the event of a pest or disease emergency. Some useful tips from the site for flower growers are:

If you suspect a pest or disease outbreak, or have seen something unusual, and you're not sure whether it's an exotic pest or disease, or a nondescript occurrence - report it.

Small signs may be an early indication that something's wrong. If you detect an unusual insect pest, plant pathogen (diseased material) or weed exotic, report it as soon as possible to your local agriculture department or primary industry agency and seek advice on what to do next.

If you have detected an unusual pest that you suspect to be exotic:

- do not touch or disturb the site to minimise spreading the risk;
- describe the detection site in sufficient detail to allow a person to return to the exact location if necessary;
- tag or mark the site with a non-degradable ribbon or flag to assist relocation;
- mark the site on a map or sketch a map to identify the detection site;
- take note of the symptoms and the plant on which you found the pest;
- clean any boots, clothes and equipment of soil and plant material you may have come into contact with at the site; and
- take reasonable action to isolate the problem area to avoid the risk of spreading the pest.

Insects on the web.

www.ento.csiro.au/aicn This website provides ready access to the correct scientific name of every insect or related creature for which there is a common (or vernacular) name in use in Australia. The site also enables the user to discover the common name or names used in Australia for a species for which the user knows only the scientific name. It includes illustrations and distribution maps.

Water recycling

This report provides information on water resources, water uses and technologies, and the current extent of water recycling in Australia and selected overseas countries. See

www.atse.org.au/index.php?sectionid=597

Small family farms

DPI Victoria is devoting substantial resources to the small farms sector, which makes a significant contribution to the rural economy, environment and social well being. See

www.dpi.vic.gov.au/farming/smallfarms

Met Bureau services for farmers

The Bureau of Meteorology is producing agricultural observations bulletins to give farmers details on maximum and minimum temperatures, Delta T (a parameter used by those involved with spraying pesticides), rainfall and solar radiation, soil temperature, sunshine hours, and evaporation rate for the past 24 hours. Find the NSW bulletins at

www.bom.gov.au/products/IDN65176.shtml

The Bureau has also produced a website history of Australian climate extremes – view ‘Drought, dust and deluge’ at

www.bom.gov.au/lam/climate/levelthree/c20thc/index20.htm

New agnote: Collecting and preparing plant specimens for identification. Agnote DPI-492, October 2004. Written by Andrew Storrie.

The key to accurate identification of plants (be they a weed or a plant of interest you have seen) is to supply the agronomist or botanist with a good quality specimen and enough information about the plant.

This agnote tells you how to do it and where you can send plants for identification. See

www.agric.nsw.gov.au/reader/weeds-general

Distribution:

Flower news is published on our website and sent to each industry association in NSW to be forwarded to members via the next mail out.

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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: Sal Russo

PO Box 10

Galston NSW 2159

Phone: (02) 9653 2380

Fax: (02) 9653 2569

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

Contact: Paul Dalley

Address: Mountain Nursery

Trappaud Rd

Kempsey NSW 2440

Phone: (02) 6562 7450

Fax: (02) 6563 1389

www.australiannativeflowers.com.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

Fax: (02) 4447 8017

www.wildflowersaust.net