

Weedscene

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Newsletter of the Weed Society of Victoria Inc.

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Not going to the 13th Australian Weeds Conference?

**Don't miss out totally –
reserve your copy of the
proceedings NOW!**

Organized by the Plant Protection Society of Western Australia Inc. for the Council of Australian Weed Science Societies at the Sheraton Perth Hotel, Perth, Western Australia, 8–13 September 2002.

Papers will cover: Weed management, ecology and economics, weed modelling, invasion and eradication, biological control, biology and genetics, novel techniques, mapping, herbicide resistance, education, training and community links, policy and planning, and integrated weed management.

If you are not attending this conference order your copy from R.G. and F.J. Richardson, PO Box 42, Meredith, Victoria 3333, Australia. Tel/fax 03 5286 1533, email richardson@weedinfo.com.au. Copies will not be available until after the conference.

Proceedings of the 13th Australian Weeds Conference 'Weeds – threats now and for ever?' (ISBN 0 9581111 0 3), published in 2002 by the Plant Protection Society of Western Australia Inc., soft cover, 750+ pages, edited by Helen Spafford Jacob, Jon Dodd and John Moore.

Price: \$A77.00 plus \$A10 postage within Australia (or \$A30 postage overseas airmail).

Final Notice

Please note that IWSS fees are due immediately.

If you wish to become, or continue as, a member of the IWSS send your subscription fee of \$20 to the WSV Secretary NOW!

WEED ALERT! New Weed Incursions and How to Respond

Keeping Victoria Free of Alien Invaders

**One day seminar on 17 October 2002
Burnley Campus, The University of Melbourne**

New weed species are entering Australia via many means, and at an increasing rate. The Department of Natural Resources and Environment (NRE) has just developed a plan that aims to prevent new weeds from entering Victoria and deal with new incursions of those weeds that do enter the State. The plan relies on a network of 'spotters' to report these new aliens. NRE and the WSV are co-hosting this one day seminar which will explain how you can be part of the network.

Topics to be covered include:

- The role of the weed spotter.
- The types of weeds we should be looking for.
- Where these weeds are likely to occur and how they are getting here.
- How to take samples and where to send them.

- The structure of the Weed Incursion Rapid Response project.
- Case studies: aquatic, crop, garden, pasture, and bushland weeds.
- How the NRE project fits into the national response.
- Implications for local government.

If you are involved in parks management, a bushwalker or Landcare person, a water manager that needs to maintain water quality, an industry representative with farmer clients, a plant propagator, or just interested in weeds, then this seminar will be of immense interest to you.

To attend, simply fill out the enclosed brochure and return it, together with your remittance, to the Secretary (address details on back page).

Herbicide use in cropping areas

NRE VIDA has produced two charts that will guide herbicide users in the choice of chemicals to use in their particular cropping situation. The first chart covers weeds in cereal crops and the second covers weeds in pulse crops. It is intended that they will be updated and produced annually. For this year they are free.

The guide will not replace the information needed to be obtained from the label or from your agronomist or reseller, but will be an indication of which products may be suitable for your purpose, and are registered for use on the common cropping weeds in Victoria.

The charts also include information on how to read product labels, sketches to help identify weed seedlings and information on chemical use legislation pertinent to Victoria.

People wishing to obtain copies should email Wendy Bedggood on wendy.bedggood@nre.vic.gov.au or phone her on 03 5362 2330.

Weedspotters wanted Can you help?

NRE in Victoria is starting up a Weed Alert Network of Weed Spotters across the State to help report potential, new and emerging weeds. It might be a sighting of a new weed in an agricultural, horticultural or bushland area, perhaps a potential weed being sold at a weekend market or nursery.

This network is being established as part of the NRE 'Victorian Weed Alert! Rapid response plan for potential, new and emerging weeds in Victoria'. If you are willing to assist locate these potential, new or emerging weeds, please send the information requested below to: Kate.Blood@nre.vic.gov.au or fax 03 5349 2687.

Once the network is established, Weed Spotters will be offered training and access to information. Confidentiality will be important.

Kate will need your first and surname, email, organization (if applic.), postal address, postcode, day-time phone/fax/mobile, and any speciality areas you would like to highlight.

EUREKA! AgResearch Pty. Ltd.

EUREKA! AgResearch Pty. Ltd. is a privately owned R&D company servicing the Agricultural Chemical Industry in Australia. EUREKA! commenced business in April 1999 and offers a wide range of services.

Product Formulation

EUREKA!'s comprehensive laboratory facility allows them to offer an extensive range of formulation services, to suit every company's needs. Of particular interest to Australian companies is their ability to formulate quality water dispersible granules (WDGs), water soluble granules (WSGs), or Wettable Powders (WPs). They also develop SCs, ECs plus various emulsions. They have developed a wide range of novel formulations including; controlled release, reduced leaching, specialized dry granules, controlled release granules, various coating techniques, UV stabilization, volatile loss control and rainfastness.

Laboratory Product Physical and Chemical Tests

- Extensive battery of tests including CIPAC methods required for NRA registration.
- Suspending, resuspension, suspension stability, foam and burden, granule crush strength, granule attrition, storage stability, crystal morphology.
- Water soluble bag breakout and dispersion test in fish tank, with video footage if required. Full scale tank performance trial at 1000 L capacity.

To date EUREKA! has formulated over 35 products which are either fully commercialized or in the final stages of registration.

Product Testing

EUREKA! also operates an extensive biological testing facility. They have greenhouse facilities and four controlled environment growth chambers that allow them to mimic a wide range of growth conditions (e.g. cold wet conditions may reduce herbicide uptake, waterlogging may increase the extent of crop damage and high temperatures may exaggerate volatility).

KEY EQUIPMENT

Laboratory Tracksprayer

- three nozzle boom spray
- speed up to 15 km per hour
- nozzles, pressure and flow rate can be selected to mimic the conditions your company needs trialed
- Effluent is treated through an approved Sentinel Filtration and Extraction System.

Benefits: Allows agricultural chemicals to be applied under controlled conditions that closely simulate those of a typical spray application. This equipment has considerable versatility and can cater for a wide range of spray situations.

Rainfall Simulator

- Australia's most efficient and reliable rainfall simulator.
- A variable depth header tank, filled with over 3000, hypodermic needles (droplet makers), 5 metres above the target surface, ensures that drops reach terminal velocity prior to impact and that droplet size and rain intensity are controlled.
- The target surface is on a conveyer belt that takes pots through the rain zone at a predetermined speed. This allows for accurate control of the amount of rain applied and ensures that each pot is exposed to drops from hundreds of individual needles. The result is consistent and accurately controlled rainfall.
- Used to compare products and adjuvants for their rate of uptake into the plant and rainfastness.

Benefits: It is impossible to determine the effects of rainfall on a product successfully in the field. There is far too much

variability and unreliability in rainfall. The rainfall simulator is used to investigate rainfastness, wash-off, sticker performance, leaching, product incorporation by rain or irrigation, degradation by rain (e.g. with baits), and to investigate the rate of product uptake through leaves.

Greenhouse

Temperature controlled greenhouse with a temperature range of 12–26°C.

Benefits: In Australia, field trials are traditionally used to

obtain data on product performance. However, that data is notoriously ambiguous and there is a substantial risk that climatic or other factors will jeopardize the success of the trial. Field trials are critical to registration data. However, greenhouse trials can offer far more reliable, more rapid and less ambiguous results than field trials. Some crops and weeds can be grown throughout the year. Most are suitable for spraying for six to twelve months of the year rather than for six weeks in the field.

Controlled Environment Rooms

- Four rooms that can be set at varying temperatures and day lengths.

Benefits: These rooms are used gather valuable data on products under specific conditions. The range of situations is substantial. For instance some products cause problems under cold wet conditions, others damage crops when applied in hot dry conditions, some products damage crops when applied to leaves previously damaged by insects or previously sprayed with another product.

Bioassay Techniques

- Have an extensive stable of bioassay techniques for the bio-efficacy and crop safety of herbicides and insecticides.
- Have an extensive library of weeds and insects that can be used in these tests
- The results from this work are used in product registrations, for advertising and promotions, to improve product understanding and to handle product complaints.
- We offer fast turnaround of results.

Benefits: Few formulators know the extent of testing that can and should be done in the laboratory when developing a new product. Even more importantly few companies have the facilities to test their product performance in larger scale equipment. Development formulations can be screened and if necessary reformulated before expensive field trials are commenced.

Scale-up and manufacture

EUREKA! can provide comprehensive scale-up services that are particularly important to smaller companies where facilities may be limited or for low volume products. They can also offer toll manufacture some products, particularly in the WDG area.

Benefits: For some companies this removes the problem of bringing the technology within the company where resources to do so may be limited. It can also solve the problem of capital expenditure required to get a new product into the market place.

AIMS FOR THE FUTURE

The growth of generic products in the agricultural chemical industry in Australia means that companies are becoming increasingly more dependent on new and novel products to improve their profitability. EUREKA! aims to provide these companies with the means to develop these products with the minimum of risk, difficulty and expenditure. We offer a one-stop shop for new product development and image formulation development.



Chelsea Flower Show Award for invasive species display

Invasive alien plants are causing havoc in our natural landscape, but gardeners can play a key part in stopping their spread.

That's the view of Imperial College Wye, which was exhibiting at this year's Chelsea Flower Show. The College stand outlined the threat caused by alien or non-native plants introduced intentionally from overseas, usually as garden plants. The main culprits – including *Rhododendron ponticum*, giant hogweed and Japanese knotweed – are not only threatening native species, but also causing human health problems such as skin rashes. These plants can also cost millions of pounds to control.

And invasive plants are not only a threat to the UK's natural habitat. British species, which have been transported overseas with disastrous consequences, include gorse and broom in Australia and New Zealand and purple loosestrife in the US.

Scientists from Imperial College Wye are working alongside experts

internationally, via the Global Invasive Species Program, to identify the world's most invasive species and recommend practical ways of preventing their introduction or controlling them.

Chairman of GISP, Professor Jeff Waage is also Head of the Department of Agricultural Sciences at Imperial College Wye. He says: 'Many of these alien invasive plants have been introduced for good reasons including their spectacular colour, smell or shape. Only a tiny few pose an invasive problem. But these few are becoming an increasing menace both in this country and overseas. Our exhibit will highlight some of the most destructive species and also give practical advice on how gardeners can help by becoming more aware of invasive plant risks and more selective in what they buy and plant.'

Imperial College Wye has been an exhibitor at Chelsea Flower Show for more than 50 years. It was awarded a Gold Medal last year for its display with Quest International on why plants talk to insects.

INVASIVE SPECIES HEAD 'UNWANTED' LIST

Lax legislation, warmer weather and a blooming gardening trade are putting Britain at increased risk from alien plants, says Grant Edwards, Agroecology Research Group, Imperial College Wye. Plants chosen to look pretty in gardens can become choking weeds in the wild, with disastrous environmental and economic consequences. Britain has been very lucky, he says, with only 'a really small number of bad plants'. Frequent frosts kill off most potential invaders, but climate change could remove that buffer.

Awareness among British gardeners is low, says Edwards. A recent 'BBC Gardener of the Year' award was won for a display of one of the country's most notorious alien invaders, giant hogweed, he recalls. Giant hogweed is a 'notifiable plant' in Britain. Under the 1981 *Wildlife and Countryside Act*, it is an offence to allow the plant to grow in the wild. Originating in the Caucasus, giant hogweed was introduced to Britain in the 19th century by gardeners impressed by its height (10 to 15 feet). It disperses seed widely, spreads quickly, clogs up waterways and produces an irritant that can cause severe blistering.

Legislation in the UK is 'lax' compared with that of other countries, says Edwards, a native of New Zealand. In NZ, the issue is recognized under the *Biosecurity Act*. The Act includes a list of species classified as 'Unwanted Organisms', says Susan Timmins, a plant ecologist for the NZ Department of Conservation (DOC). 'These species cannot be sold or traded by plant

nurseries, nor passed around from one gardener to another'.

There is no equivalent in the UK, where Edwards hopes that a voluntary code of conduct can be agreed upon. The issue is more pressing in NZ. More than 10% of the country's wild flowers are recognized weeds, says Timmins, of which about three-quarters were introduced for horticulture or ornamental use. The DOC operates a National Weeds Database to monitor spread, and is about to establish a National Weed Awareness position, she adds. 'We know that we can't hope to win the war against weeds without soliciting the help from the public, either to actively help us in managing weeds or simply to slow the progress of weed incursion and spread'.

The economic impact of plant invasion is considerable, says Dave Richardson at the University of Cape Town's Institute for Plant Conservation. 'A huge amount has been done and is underway on this issue in South Africa'. More than 100 biological control agents have been used against 46 weed species in South Africa, and 22 species have now been brought under control. The financial losses as a result of weed growth amply justify the cost, he says. It cost \$51,000 to bring the red water fern, *Azolla filiculoides*, a native of Australia, under control in South Africa. The plant was imported for ornamental purposes, but spreads rapidly through waterways and is estimated to have cost \$58 million in lost water resources and livestock.

17 May 2002 BioMedNet News

Voracious goats – heroes in the hills

Herd clears tinder from Hetchy pipeline path, San Francisco

Cars slowed and local joggers halted to gawk, as if the sight of goats in a semiurban area Thursday signalled a return to a pastoral era – or maybe somebody was making a movie. A herd of 400 goats was munching its way up and down the steep slopes near Redwood City, along a stretch of pipeline that delivers drinking water from Hetch Hetchy to San Francisco and a host of other towns in the Bay Area.

Their mission: fire prevention. Eat it before it can burn.

Mindful of the start of wildfire season, the San Francisco Public Utilities Commission has hired the goats, from Goats-R-Us based in Orinda, to quietly eat their way through dense brush and weeds.

Although this is the first time they have been used along the commission's pipeline on the Peninsula, goats are an increasingly popular form of fire prevention. Last year, San Francisco hired goats to work near Twin Peaks and Glen Canyon in the Glen Park neighbourhood.

Commission officials are worried that overgrown dry brush poses a fire hazard not only to neighbouring residences but to the pipelines themselves. 'The goats won't be able to do the job alone, but combined with mowing and weed whackers, we think this will be highly effective,' said Jane Herman, the commission's rights-of-way manager, who is responsible for 30 acres of land containing increasingly dry brush.

'Their little legs take them where no man or mower can go,' Herman said. 'If it works like we think it will, we expect to expand this to our watershed areas along Crystal Springs Reservoir and other areas.'

The table set for the goats Thursday included nasty exotics like fast spreading star thistle and Scotch broom, which crowd out native plants, as well as poison oak and blackberry brambles.

**Michael McCabe, Chronicle
Friday 21 June 2002**

WSV Turf Day Proceedings

Available from
the Secretary

\$5.00 per copy
including postage

New spraying technology for real-life pest distributions

by Dr. Terry Mabbett, Hertfordshire, United Kingdom

With increasing field size and larger sprayers to suit, uniform application over large areas has become the order of the day. But the field distribution of pests, diseases and weeds is never uniform and decidedly patchy due to a combination of physical and biological factors and those related to other farm inputs.

Weed germination and growth is directly affected by differences in soil structure, moisture and fertility and indirectly by the effect of these differences on crop germination and growth (and therefore plant competition).

Patchy distribution of weeds may be caused by uneven crop seeding or planting, giving more room for weeds to develop in particular areas, or due to inadequate weed control in the previous crop leaving more weeds with the window of opportunity to flower and seed.

The net result is an uneven distribution with some areas of the field being virtually weed-free while others show sizeable patches of weed growth. Couch grass (*Agropyron repens*), black grass (*Alopecurus myosuroides*), wild oats (*Avena fatua*), cleavers (*Galium aparine*) and perennial thistles (*Cirsium arvense*) are notable among weeds that show patchy distributions and are difficult to control.

Nematodes, which are soil-dwelling and root-invading roundworms, are clearly affected by soil differences. This is especially true for the potato cyst nematode (*Globodera* sp.) which appears in well-established 'hot spots'.

Insect pest distributions are similarly conditioned, and especially those for soil and root pests including wireworms (*Agriotes* sp.), cutworms (*Agrotis* sp.), the wheat bulb fly (*Delia coarctata*), cereal flies (*Opomyza florum*) and cabbage root fly (*Delia radicum*), but above ground factors may play an important part too. Female moths are known to preferentially lay eggs on the tallest and healthiest looking plants in the field leaving patchy distributions of their leaf eating larvae.

Distribution of crop diseases, originating from infections in the seed and soil, will be influenced by a variety of factors including number and pattern of infected seeds drilled and the distribution of crop debris, as well as the physical condition of the soil itself.

Even more complex are interactions involving weeds and crop pests and diseases where the weeds are alternative hosts and therefore act as a reservoir and focus for crop invasion and infection.

Soil differences invariably mean fertility differences with patches of

crop that grow and develop at different rates and nutrient deficiency symptoms if particular elements and minerals are lacking through low soil concentration or unavailability. These differences may additionally impact on pests, diseases and weeds.

In the days of smaller fields and smaller sprayers farmers knew their land, appreciated and understood any differences and were, by and large, able to compensate and deal with patches of pests, diseases and weeds.

With the removal of hedgerows, cultivation of larger crop areas and use of increasingly big sprayers this intimate knowledge of the land has largely been lost and with it the versatility for compensatory control of uneven distributions of pests, diseases and weeds.

The 'PatchSpray' system

Silsoe Research Institute in conjunction with Micron Sprayers Limited originally developed a unique electronic control system, to match the mechanics of spray application with the biology of pest, disease and weed distribution.

In conjunction with ROS Technology Limited, the UK's leading farm electronics company, Micron have developed the Patch Spray ProSeries variable rate controller. This unique spray controller automatically varies the volume of spray applied to a field according to a treatment map.

Spray is targeted at particular areas to deal with patches of weeds, aggregations of insect pests or groups of diseased plants, thus simultaneously optimizing the level of control and the amount of chemical used.

PatchSpray is the first variable rate controller to be commercialized for European arable farming that provides comprehensive control over the volume output (up to 5:1 ratio), and therefore the dosage applied to a particular area of soil or crop.

Extensive field-testing and evaluation has demonstrated huge potential gains from adopted precision of spray application. With the closest control on chemical input and reduction of waste to an absolute minimum, farmers achieve the most cost-effective control and produce the least environmental hazard.

Control of the PatchSpray system is from a treatment plan created on an office computer and transferred to a smart card to the spray controller. Position of the sprayer in the field is calculated and determined from the distance travelled down tramlines or from a satellite based global positioning system, which links with the controller.

For use of this system the sprayer boom is equipped with two or more spray lines each with different nozzles. By automatically selecting the correct combination of nozzle and pressure the controller regulates spray output yet maintains spray quality, despite varying speed or volume rates.

The PatchSpray system can therefore select, via pneumatic or solenoid valves, the appropriate combination of specific size nozzles and the line pressure to achieve the required dose necessary for control in that particular area, as read from the treatment map. The sprayer can deliver a defined dose every 2 m of travel.

Selection and delivery of different doses to different areas by varying the volume applied and not the pressure that is used, allows the PatchSpray system to maintain close control over droplet size distribution.

Optimum spray quality, which is essential for the achievement of biological efficacy with the avoidance of unnecessary spray drift, is therefore maintained throughout the spraying operation.

The PatchSpray controller is mounted on the sprayer with a separate control unit in the tractor cab. This allows the operator to simply select the combination of nozzles required for a specific spraying task (e.g. liquid fertilizer, herbicide, insecticide, nematicide or fungicide) or to operate the sprayer entirely in the manual mode. Characteristics of the spray nozzles fitted to the boom are pre-programmed into the PatchSpray controller.

Potential applications and benefits

Potential applications for the PatchSpray system are:

Liquid fertilizers – selective application to the soil or growing crop, including nitrogen top dressings and micronutrients, according to treatment maps developed from soil mapping and crop condition including the pattern of deficiency symptoms

Herbicides – selective application of an appropriate herbicide for optimum, cost effective control of patchy weeds such as couch grass, black grass, wild oat, cleavers and thistles. Treatment maps derived from data on weed maps are used to target patches of these weeds and avoid 'blanket' whole field sprays with cost savings up to 50%. Research has shown that most weed patches only move short distances (up to 3 m) due to the effects of combining on weed seed spread and therefore re-mapping needs only to be done every three or four years. Awned seeds such as that of wild oat get stuck

in the combine and may move much further (up to 30 m) requiring annual re-mapping.

Fungicides – variable rates of fungicide can be applied by utilizing treatment maps based on differences in the leaf area index of the crop or crop colouration as affected by differences in soil fertility and/or leaf necrosis, collapse and defoliation caused by fungal pathogens.

Nematicides and insecticides – regulation of soil applied chemicals using treatment maps based on soil testing to identify conditions that result in 'hot spots' of infestation.

The PatchSpray system's control over volume using different nozzle combinations to vary the dosage rate, for particular areas of the field, has overcome the real constraints of using pressure only through a single nozzle to vary output. The latter type of system can adversely alter droplet size distribution and therefore spray quality. In addition, it is limited to a flow rate variation of only $\pm 20\%$ of the nominal output and is therefore inadequate for most precision spray applications.

The PatchSpray system with its ability to provide variations of at least $\pm 75\%$ of the mean dose applied over the whole field is eminently suited and applicable to precision farming systems.

In addition to its precise control over the spray volume and dosage, the

PatchSpray system has the ability to record operations. This capacity can be used as an integral part of the record keeping and management requirement stipulated for farm quality assurance schemes. In addition, it allows spray operators to meet specific legislative requirements relating to spraying near surface water resources as well as generally avoiding waste and unnecessary environmental pollution.

PatchSpray is relatively low cost, can be produced as retrofit kit for existing sprayers or built-in as an integral part of new sprayers. At the end of the day agriculture is about the production of living things which conform to biological principles of which non-uniformity clearly plays a major part.

So much of the new technology introduced and invested into agriculture seems to work against biological principles. The PatchSpray system is an example of the latest technology, designed to work with the biology of crops and the pests, diseases and weeds that invade them.

Further info: Micron Sprayers Ltd., Bromyard Industrial Estate, Bromyard, Herefordshire, HR7 4HS, UK. Tel: +44 (0) 1885 482397, fax: +483043, email: micron@micron.co.uk or Dr. Terry Mabbett Consultants, 2 Albemarle Avenue, Potters Bar, Herts EN6 1TD, UK. Tel/fax: +44 (0) 1707 644953. E-mail: DrTerryMabbett@btinternet.com.

CONFERENCE ANNOUNCEMENT

Food for the Future – Opportunities for a Crowded Planet

**New Parliament House Theatre,
Canberra, 8 August 2002**

An ASTE Crawford Fund free annual development conference. There is no question that feeding the world's growing population is a serious challenge that requires all that science and technology has to offer if greater food security, world stability and sustainable development is to be achieved.

This event:

- will raise the range of options and issues related to increasing food production;

- inform and generate debate on the opportunities for conventional breeding technologies, biotechnology, and GM foods to bridge the gap between the future food supply and demand; and
- canvas a range of technical, humanitarian, social, ethical issues associated with this technology.

Keynote speaker will be Dr. Gordon Conway, the President of the Rockefeller Foundation. Other speakers include: Dr. Clive James, Chairman of the International Service for the Acquisition of Agri-biotech Applications, to explain current trends and prospects for GM crops; Louise Sylvan, President of Consumers International and Director of the Australian Consumers' Association, to present consumer attitudes; Raul Montemayor, Executive Member of the International Federation of Agricultural Producers, to present farmer attitudes; Prof. Ken Fischer, Land and Food Sciences, University of Queensland on the issues surrounding ownership of genes; and Beris Gwynne, Foundation for Development Cooperation, to present the ethical issues surrounding GMOs.

Further info and online registration at website www.crawfordfund.org.

Letter to the Editor

Introduced or Native?

Recently I was databasing some of the introduced plants held at the Herbarium and came across a specimen of **Schoenoplectus erectus* (Poiret) Palla ex J. Raynal (Cyperaceae), collected by Banks and Solander in 1770.

Gradually it began to sink in as to what I was looking at, a plant collected 230 years ago, the oldest plant that I had come across in the Herbarium! It had been collected on Cook's Voyage of Discovery, but the only details on the label said 'New Holland', with the exact location unknown. But what was this doing in the introduced section? Surely to have been collected then it was not an introduced plant? If it was, how did it get there? And when was it introduced?

Maps of Terra Australis produced prior to Cook's Voyage of Discovery in 1770 were produced in 1680 or earlier, and showed Terra Australis as the country from Cape York west to half way across the great Australian Bight. These maps were the result of the Dutch and Portuguese explorers charting the country from the East Indies south and east. It was not until 1798 that maps, produced as a result of Cook's voyage in 1770, showed Terra Australis' east coast, from Endeavour River to Point Hicks.

So how do we have an introduced species being collected in 1770? Were the Vikings here as was suggested, by way of explanation, by one of the curatorial staff or are some of the Cyperaceae cosmopolitan and not introduced?

The next query the same day involved **Schoenoplectus lineolatus* (Franch. & Sav.) T. Kotyama (Cyperaceae), collected by W. Forsyth in 1899 at 'the Nepean River' and designated as a co-type. Is it possible to have a co-type (lecto-type) of an introduced species and collected from Australia in 1899 and be designated as such in 1913? I suppose that it is, otherwise it would not be there.

A few interesting conundrums... Any comments?

R. Shepherd

MEMBERSHIP RATES

Weed Society of Victoria Inc.



Students	\$20.00
Ordinary	\$35.00
Corporate	\$80.00

Thorny issue at the Waite

While thousands of Australians were out planting and hugging trees on National Tree Day, Sunday 28 July, Adelaide scientists are bringing out the chainsaw.

The University of Adelaide and Cooperative Research Centre for Australian Weed Management are casting a long, hard critical look at some of the exotic trees planted some years ago at the Waite Campus and their potential to go feral. In particular it's thumbs down for one South African species, *Acacia karroo*, and its two specimens in the renowned Waite Arboretum.

Manager of the Waite Arboretum, Dr. Jennifer Gardner, explained that scientists felt they now knew enough about the tree and its behaviour to make the decision to remove it. 'It's a difficult decision to remove specimens from our valuable Arboretum collection', said Dr. Gardner. 'But all the evidence now points to this species being a potential time bomb as a weed in Australia.'

Dr. Gardner pointed out that *Acacia karroo*, also known as mimosa thorn and sour thorn, was the subject of a long and expensive eradication campaign at the Western Plains Zoo, Dubbo, NSW. Werribee Open Range Zoo and Kings Park in Perth had also decided to remove its specimens.

The tree is one of the most widely distributed in South Africa, and its seeds are easily spread in animal dung. Seeds are also very heat resistant and establish well after fire. It had the potential to spread very widely in the temperate and semi-arid zones of Australia and its long thorns and its propensity to form dense thickets make it unattractive to stock.

The Arboretum will be replacing these two specimens with a new planting of 42 trees over the winter, all much more friendly to the environment, Dr. Gardner said.

Obliging with a chainsaw, the Chief Executive Officer of the CRC

for Australian Weed Management, Dr. Rick Roush, pointed out that botanic gardens have frequently been the unintended source of such problems. The most notorious example was *Mimosa pigra*, the giant sensitive plant from South America that is believed to have escaped from the Darwin Botanic Gardens after its introduction there in the 19th century.

'That plant alone has cost the taxpayer millions of dollars', Dr. Roush said. 'It continues to have a massive impact on wetlands in the Northern Territory. It's been a real environmental disaster.'

Dr. Roush said that private gardens and plantings in public spaces are the main source for almost all of Australia's serious environmental weeds. 'As researchers we are tackling the issue of how to make the initial judgement about what might be a weed before it gets established in Australia. We need to make decisions about what plants to let in as imports, and we are trying to help AQIS do this better', Dr. Roush said. He applauded the tough decision made by the Waite Arboretum to remove species that could pose a future threat to the environment. 'This is a highly responsible and far-sighted decision and the Waite Arboretum deserves our congratulations and support', he said. 'It's a blow struck for the future.'

'Let this be an example to botanic gardens and home gardeners everywhere.'

Dr. Roush said that public gardens and home gardeners should seek advice from nurseries and other professional sources if in doubt about species they should plant. Many of Australia's worst weeds are listed on the Natural Heritage Trust web site at <http://www.nht.gov.au/programs/weeds.html>.

Dr. Jennifer Gardner
University of Adelaide
Phone: (08) 8303 7405

FERAL OLIVES a warning

The Weed Management Society of South Australia Inc. (WMSSA) has released an Olive Position Paper which can be viewed at the Society's web page: <http://www.ssn.flinders.edu.au/geog/weeds/WeedSociety.htm>.

Much of the current distribution of feral olives in South Australia is sourced from orchards abandoned during the late 1800s/early 1900s after low prices made harvesting uneconomic. Feral olives cause major reductions in biodiversity with a loss of greater than 50% in the species richness and abundance of native vegetation having been measured in the Adelaide Hills. The olive industry is undergoing a significant expansion in South Australia, with considerable small and large-scale enterprises being established in many regions. There are concerns over the long-term economic viability of small and/or isolated orchards, particularly with respect to cheap imported oil.

The WMSSA held an open forum in 2001 addressing concerns of industry, government and community groups about olive management in South Australia. The outcome of the forum was the Olive Position Paper. 'The paper outlines responsibilities and actions by local Councils, State Government and the Olive Industry', said Dr. Mary Rieger, weed scientist from Adelaide University, who organized the open forum. The WMSSA has requested responses from local government, the Minister for Agriculture, Food and Fisheries; Minister for Small Business, Science and Information Economy; the Minister for Environment and Conservation; and Olives South Australia to the issues raised in the position paper. The feedback received will help strategic management of the Olive Industry and protection of natural resources in South Australia.

Susan Lawrie, Weed Management
Society of South Australia Inc.

WSSV HOME PAGE: <http://www.vicnet.net.au/~weedsoc/>

DIRECTORY – Weed Society of Victoria Inc.

Correspondence and Enquiries

Weed Society of Victoria Inc.
PO Box 987
FRANKSTON VIC 3199
Telephone (03) 9576 2949

Secretary

Ros Shepherd
PO Box 987
FRANKSTON VIC 3199
Telephone/Fax (03) 9576 2949
email: secwssv@surf.net.au

Weedscene

Bob Richardson
R.G. and F.J. Richardson
PO Box 42
MEREDITH VIC 3333
Telephone/Fax (03) 5286 1533
email: richardson@weedinfo.com.au

Editorial and Advertising: Telephone/Fax (03) 5286 1533