



Weedscene

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Texas needle grass in the spotlight

A field day organised in central Victoria by Campaspe region farmer Will Elliott has stimulated greater public scrutiny of the invasive weed, Texas needle grass (*Nassella leucotricha*).

The field day, held during late March at Barfold near Kyneton, was attended by about 50 people, including landowners, council and Catchment Management Authority (CMA) employees concerned with weed control and various public servants. David McLaren and Charles Grech of the Department of Primary Industries (DPI) addressed the gathering about Texas needle grass (TNG) and research being conducted on Chilean needle grass, before the group visited two sites infected with the grass. The overwhelming message of the day was the extreme difficulty in controlling the weed once it becomes established.

TNG is related to Chilean needle grass and serrated tussock, but has received very little public attention despite having a potential distribution estimated at 4.8 million ha and DPI's concern over its 'potential to cause major economic and environmental damage' because of 'its invasive growth, vigorous reproduction, and potential for long distance dispersal'.

A recent map on the DPI's web site shows that much of western Victoria has a high potential for infestation from TNG.

This region contains the Victorian Plains Tender Project, which aims to protect native grasslands using public funds to pay land holders to manage such areas for biodiversity benefits. Thus, it seems that Victoria's remnant grasslands are under direct threat from TNG.

The Barfold field day sites illustrated these dangers well. One large paddock contained almost nothing but TNG, while another was bare after Will's attempts to kill the weed – spraying with flupropanate did not work, thistles and TNG remained (see photo)*.

In an interview published in The Weekly Times (18 May 2005), Will said that 'Texas is the only plant left behind when the stock move on to another paddock. Our cattle won't touch it voluntarily. They will only eat it under sufferance... My concern is that it is unpalatable. We can't kill it and it is spreading at an unbelievable rate.'

Will is lobbying for more funds to be spent on controlling the grass. 'There is plenty of money being spent on Chilean needle grass, but Texas gets very little. It is not even rated as a declared noxious weed, but I reckon it should be'.

Ian Penna, Meredith, Victoria

***Editor's note:** flupropanate is not registered for control of thistles or TNG.



Thistles and TNG remain after spraying

BOOK NOW before it's too late...

Second Victorian Weed Conference
17–18 August 2005

The aim of this series of conferences is to provide information on the latest weed issues relevant to Victoria, particularly for those people unable to attend the Australian Weeds Conference.

- Early detection and response. How can we prevent new weed problems, especially those arising from gardeners and their desire for that different plant?
- Integrated weed management. Includes a look at the Australian situation and its relevance.
- Successful monitoring. We need to know whether our control measures are successful or not.
- Getting technical. What is new and successful in the weed control field?

To register contact the Secretary, Weed Society of Victoria (Ros Shepherd), PO Box 987, Frankston, Vic 3199, or phone/fax 03 9576 2949, or email secwssv@surf.net.au.

CHECK IT OUT!

The new WSV website is now up and running: www.wsvic.org.au

Inside this issue...

| | |
|---|---|
| TNG in the spotlight | 1 |
| Victorian Weed Conference | 1 |
| International Flower and Garden Show 2005 | 2 |
| The National Asparagus Weeds Workshop | 2 |
| Plant Collection Award | 2 |
| National Conference of the ANPC | 3 |
| Herbicide injury to soybeans | 3 |
| PhD Proposal | 3 |
| IPM for Weed Management | 4 |
| WSV Directory | 4 |

Melbourne International Flower and Garden Show 2005

The Melbourne International Flower and Garden Show (MIFGS) was held 6–10 April 2005. The Victorian Departments of Primary Industries (DPI) and Sustainability and Environment (DSE) presented a weed awareness display at MIFGS, with support from the Nursery and Garden Industry Victoria (NGIV), the Royal Botanic Gardens Melbourne (RBG), the CRC for Australian Weed Management and the Weed Society of Victoria. The primary objective of the display was to increase awareness (public, as well as the garden and landscape industry) of pest plant issues related to ornamental horticulture.

In Australia, many garden plants have escaped to become some of our worst weeds, and it is vital that the understanding and co-operation of home gardeners is gained to succeed in preventing the

further spread of invasive garden plants, and the introduction of new ones.

An extensive team comprising of DPI and RBG staff assisted in the set-up, staffing, and dismantling of the MIFGS display. DPI produced show-specific publications, as well as general environmental weed publications and postcards.

The Victorian Minister for Agriculture, The Honourable Robert Cameron MLA, opened the display. The exhibit at the Show was in the form of a Garden Centre entitled 'Future Choice Garden Centre'. This theme was an ideal context to exhibit invasive garden plants alongside less-invasive, safer alternatives. This also highlighted the role of plant nurseries as a responsible and authoritative source of knowledge. The display incorporated a series of compact display vignettes. This

allowed a focus on a variety of quite different garden themes within one site that would be far more difficult to achieve in a single unified garden design. The vignettes comprised safer plants for coastal, shade, grass, succulent, and water gardens. Visitors were able to collect corresponding postcards with planting guides for each of these garden beds. Future Choice Garden Centre received a Highly Commended Award from a panel of judges.

Approximately 130,000 people attended the show. Feedback from members of the public was overwhelmingly positive. The opportunity to engage with large numbers of gardeners (private and industry) and the horticultural media from around Australia was invaluable.

Daniel Joubert
DPI Frankston



The National Asparagus Weeds Workshop

Plant Research Centre Auditorium,
Waite Campus, Adelaide
10–11 November 2005

The workshop will bring together scientists and land managers targeting bridal creeper and other *Asparagus* weeds. Recent advances in biocontrol, herbicides, ecology, impacts, taxonomy, detection and regional management will be presented. Workshop sessions will enable interactions between scientists and managers to determine future research directions and define current best practice management.

The field trip will show biocontrol, eradication and containment activities within the Adelaide region.

Download workshop brochure from www.weeds.org.au/WoNS/bridalcreeper or request more information from Dennis Gannaway, National Bridal Creeper Management Coordinator, Tel. (08) 8303 9748, Mob. 0428 100 951, Email gannaway.dennis@saugov.sa.gov.au

Plant Collection Award

Sarah McCormack recently received the Weed Society Plant Collection Award at Longerenong College. Since leaving the college she worked for the Victorian Police in Central Data Entry Bureau for Accident Records in a contract position for three months. Since then she has obtained a sales and merchandising position with the Horsham Branch of Landmark. She hopes to widen her knowledge on all aspects of farming and specialise in agronomy within the company. Congratulations to Sarah on her award.



National Conference of the Australian Network for Plant Conservation

Plant Conservation –
the Challenges of Change
26 September–1 October 2005
National Wine Centre, Adelaide

The Australian Network for Plant Conservation and the South Australian Department for Environment and Heritage invite you to exchange ideas and to participate in discussions on the challenges that currently face us all in plant conservation.

Whether these be challenges of changing climates, changing environmental conditions, changes in government and policy focus, or confronting scientific information, this conference will stimulate consideration and participation.

The subthemes include:

1. Extreme policy changes
2. Urban ecology
3. Using revegetation to achieve ecological outcomes
4. Indigenous interests in conservation.

The conference will appeal to all those involved in plant conservation from the on-ground practitioners to researchers and policy makers. All are invited to share experiences in managing for conservation in times of change and uncertainty. The Conference will be held at the National Wine Centre (www.wineaustralia.com.au), in the environs of the Adelaide Botanic Gardens.

A three day scientific program and two days of post-Conference workshops are planned with plenty of opportunity to enjoy Adelaide's fine food and wine.

For further information visit www.plevin.com.au/anpc2005/index.htm.

Herbicide injury to soybeans

A new, full colour, on-line fact sheet offers a quick guide to herbicide injury on soybean. The 2005 document can be freely downloaded from www.ipm.uiuc.edu/pubs/soyinjury.pdf and illustrates 'typical' stages and symptoms resulting from applying herbicides with varying modes of action. Close-up photos help define the nature of specific injury to soybean plant parts such as stunting, leaf appearance, stem lesions. D.E. Nordby, Crop Science, University of Illinois, 1102 S. Goodwin, Urbana, IL 61801, USA. Phone: +1 217 244 7497. Email DNordby@uiuc.edu.

IPMNet News

PhD Proposal

Genetic variability of wheel cactus (*Opuntia robusta* s.l.) in the mid-north and Flinders region of South Australia: implications for weed spread and biological control

- Three-year program.
- Competitive scholarship with operating and travel funds.
- Industry orientated and practical outcomes.
- Location - University of Adelaide. Field trials will be undertaken predominantly in the Flinders Ranges, upper North and Mid-Murray regions of South Australia but will involve travel within Australia to source samples of *Opuntia* or biocontrol agents already released in Australia. Some travel to Mexico and South Africa is envisioned in order to collect relevant genetic material and investigate possible alternate biocontrol agents.

Background, significance and relevance

There are 43 cactus species known to be naturalised in Australia and some of them have the potential to become serious invasive pests in agricultural and natural ecosystems. Cactoblastis and cochineal insects have featured as biocontrol agents of weedy *Opuntia* species around the world and several releases of these species have occurred in Australia. The spectacular biocontrol of prickly pear (*Opuntia stricta*) is a matter of history (Dodd 1940). This success provided hope that other *Opuntia* species would also be controlled using suitable biocontrol agents. This belief is particularly pertinent in Australia, given there are no native cacti species, making them a group that could be readily targeted for long term biological control.

Biological control may also be the most economical and effective management method because there must be access to a long term method to prevent the continued invasion of *Opuntia* spp. in Australia. In fact, this approach is critical because controlling cacti by using herbicide over wide areas and in difficult habitat will be well-nigh impossible and has the potential for non-target damage. Single herbicide treatments are also unlikely to achieve long-term control, as high recruitment levels generally follow initial treatments. Additionally, in some pastoral areas, such as the mid-north of South Australia, it is more expensive to treat the problem using current formulations of herbicide and surfactant than it would be to purchase the land itself.

Although there are also infestations

of *O. robusta* in other States and other cactus species have recently been highlighted as potential aggressive invaders into the Australian ecosystem (Hosking 2005), the *O. robusta* in South Australia provides a model system representing the problems caused by other cacti species threatening Australia. There have already been some releases of biocontrol agents in Australia that have had some impact on *O. robusta*. However, this success is patchy and variable. It has been hypothesised that this variation in ability to control the weed is a reflection of the failure to adequately match biotypes of the *Dactylopius opuntiae* with specific *Opuntia* biotypes (see Hoffman *et al.* 2002) or that heavy predation by ants or other generalist predators (Peter Bailey personal communication) prevent the biocontrol agents building to sufficient numbers to control the weed.

In order to address the questions surrounding the variability of control achieved by *D. opuntiae* this project aims to investigate the genetic diversity of *O. robusta* s.l. and *D. opuntiae* species in Australia relative to other centres of known infestation (South Africa and the centre of origin, Mexico). This will clarify the situation, taxonomically and in terms of genetic diversity, for *O. robusta* s.l. in Australia and advance the search for a more suitable biological control agent. Such knowledge would be relevant to both the immediate matching of suitable biotypes of biocontrol agent and weed and to advancing the search for more suitable biocontrol agents, should that prove necessary.

Proposed outline of PhD program

1. Review the current literature and history of all the biocontrol agents tested for *O. stricta* and *O. robusta*, including reviewing the status of Australian releases.
2. Field test earlier Australian releases of biocontrol agents under different environmental conditions to determine if the agents for *O. stricta* will also work on *O. robusta* and investigate the factors, if any, that limit the success of the agents.
3. Liaise with key stakeholder groups and collaborators for the collection of samples nationally and internationally (e.g. Blinman and Parachilna Progress Association, Upper North and Mid-Murray Animal and Plant Control Boards, SA Department of Water, Land and Biodiversity Conservation, Victorian Department of Primary Industries-Frankston, NSW Department of Agriculture, Escuela Nacional de Ciencias Biologicas,

Instituto Politecnico Nacional y Universidad Autónoma de Queretaro Mexico.

4. Assess the genetic diversity of plants that have been called *O. robusta* s.l. and of *Dactylopius* spp., in Australia, South Africa and the American centre of origin using molecular methods such as ISSR or AFLP.
5. Have collaborative input into sourcing suitable new biotypes of *Dactylopius* spp. for control of *Opuntia* spp. currently not being controlled.
6. Have collaborative input into the process of selection of any biological control agent for the control of *Opuntia* spp. in Australia.
7. The student will be expected to contribute their own ideas and interests into the research thesis.

Location of research and supervision

Collaboration will exist between CRC Australian Weed Management, the University of Adelaide and the Department of Primary Industries. The supervisors will be Drs Jeanine Baker and Michael Keller (Adelaide).

IPM for Weed Management

Weeds, although they usually do not chew, crawl, or buzz, can be managed under an IPM approach parallel in philosophy to IPM applied to pest insects. In a recent series of meetings, growers and specialists developed a list of tactics for weed IPM.

Some of the key steps for IPM weed management are:

- scout fields, including boundaries, for weed emergence;
- keep records of where and when which weed species appear;
- act promptly to prevent infestations;
- utilise crop rotation to thwart weed colonisation;
- take action to keep weeds from going to seed and spreading;
- plant cover crops when feasible to suppress weed emergence;
- if applying fertiliser, use methods such as banding to make it available primarily to crop plants and not to weeds;
- use no-till or minimum tillage if possible, full tillage only when necessary;
- consider other means of decreasing weeds' impact such as mowing or rolling;
- if herbicides are used, be knowledgeable and cautious with the product – apply herbicides strictly according to label specifications and only under appropriate weather conditions;
- use appropriate means to eradicate any herbicide-resistant weeds;
- apply field hygiene to avoid transferring weed seeds from one area to another;
- combine various weed management methods in an overall strategy.

Interpretively and loosely excerpted, with thanks, from: Integrated Weed Management, Michigan State University, extension bull. E-2931, 2005 (reviewed in IPM-net NEWS #138, June 2005).

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